

PaperVision[®] Capture Administration Guide [®]

Version 85.0



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Digitech Systems, LLC
8400 E. Crescent Parkway, Suite 500
Greenwood Village, CO 80111
Phone (303) 493-6900 Toll Free (866) 374-3569
www.digitechsystems.com

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CHAPTER 1

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Welcome

The PaperVision Capture Administration Console provides a single location for global, system, and job administration. This tool helps you manage jobs, batches, statistics, user and group profiles, and automation service settings. The Job Definitions window provides detailed control over image-capture settings when you define PaperVision Capture jobs and job steps, as well as the users and groups who are assigned to these steps.

Terms You Should Know

This section contains definitions for terms that are used throughout the documentation and online help. Knowing this terminology will help you use the product and its documentation more effectively.

Batch

A batch is a collection of documents and their associated index name-value pairs and statistics that are moved as a logical unit of work through a job.

Batch Priority

Batch priority establishes the order for the appearance of batches awaiting ownership in the Operator Console and the processing of batches by the automation service. The following values are assigned by PaperVision Capture administrators to calculate the overall batch priority.

- Job age priority is a number associated with the job and is multiplied by the number of elapsed minutes since the batch was created.
- The job step's age priority is a value associated with the current job step and is multiplied by the number of elapsed minutes the batch has been waiting in the current step.
- The job step priority is a value associated with the current job step and assigned by a PaperVision Capture administrator.
- Administrative priority is a value associated with each specific batch. To have a significant impact on the overall calculation, PaperVision Capture administrators can assign a wide range of values (0-999,999) to this priority.

PaperVision Capture administrators assign numbers to indicate batch urgency and assist with scheduling and resource allocation. The system uses these numbers, which range from 0 (not urgent) to 100 (urgent), to schedule system resources and assign higher-priority batches to users. Batch priority helps PaperVision Capture administrators efficiently manage job loads and enables the system to automatically assign prioritized batches to operators in a round-robin fashion. The overall batch priority is calculated as follows:

$(\text{Job age priority} \times \text{elapsed minutes since batch was created}) + (\text{step age priority} \times \text{elapsed minutes batch has been waiting in current step}) + \text{job step priority} + \text{administrative priority}$



NOTE

If all priority values are set to zero, the overall calculated priority will remain at zero (regardless of how long batches await ownership on the **Batches Waiting** grid).

Detail Sets

Detail sets expand the capabilities of standard index fields because they define “many-to-one” relationships, which allow multiple sets of field data to reference a single document. In a many-to-one relationship, an index field contains a value that references another field or set of fields that contain unique values.

EXAMPLE

In an accounts payable job, index fields are set up for the check number, check date, payee, invoice number, and invoice date. If the same check is used to pay multiple invoices from the same vendor, a single document may be represented as follows:

Original Index Fields

Check Number	Check Date	Payee	Invoice Number	Invoice Date
12345	08/30/2015	ABC Corp	A0001	08/01/2015
12345	08/30/2015	ABC Corp	A0002	08/07/2015
12345	08/30/2015	ABC Corp	A0003	08/14/2015

The first three index fields (Check Number, Check Date, and Payee) are duplicated per changing invoice number. Rather than duplicating the information in the first three fields, you can represent the first three fields as index fields and assign the remaining two fields, Invoice Number and Invoice Date, as detail sets.

Index Fields After Detail Sets Are Created

Check Number	Check Date	Payee	Document ID *
12345	08/30/2015	ABC Corp	654

* The system Document ID is generated behind the scenes, hidden from your view.

Created Detail Sets

Invoice Number	Invoice Date	Document ID *
A0001	08/01/2015	654
A0002	08/07/2015	
A0003	08/14/2015	

Document

A document is the equivalent of a file folder within a filing cabinet. A document holds all of the pages for a given set of index values.

Forms Magic Communication Server

The Forms Magic Communication Server manages communications between all clients and Forms Magic Workers. The FM Communication Server uses Microsoft WCF Duplex Communication technologies to build a communication network that facilitates real-time communication among all FM Designers and FM Worker servers. This also allows all users working in Forms Magic to communicate with each other using a built-in chat service. There can be only one Forms Magic Communication Server per system-wide installation.

Forms Magic Project

A Forms Magic Project is a collection of form types, classification information, and extraction data. Form Magic requires at least one Forms Magic Project, but you can create as many as you need.

Forms Magic Worker

The Forms Magic Worker is a required service that processes tasks within Forms Magic. Only one Forms Magic Worker service can be installed per machine. Additional FM Worker servers can be easily added to the communication network by simply installing them on additional machines. The correct worker, either 32- or 64-bit, will be automatically selected during installation. FM Worker servers are load balanced to optimize performance.

Image

An image is a visual representation of a picture or graphic, such as an electronic file with the extension bmp, jpg, or tiff.

Index

An index is a value that users apply to a document for reference and retrieval.

Job

A job is a defined process comprised of one or more job steps through which batches are processed. At a minimum, each job must contain a start step. Each job is unique by name within an entity.

Job Step

A job step is an automated or manual operation that is performed on a batch. Manual job steps are performed by assigned users through the PaperVision Capture Operator Console; automated job steps are completed by the automation service, and require no user intervention.

Master Batch Repository

The Master Batch Repository is the centralized storage area where PaperVision Capture stores all captured images. When installing PaperVision Capture in an environment containing multiple PaperVision Capture Gateways or PaperVision Capture Automation Servers, this location should be a network accessible location (for example, `\\SERVER\SHARE`).

MVX

Forms Magic stores all the OCR-generated data in a Metadata Vector XML file for each document. This file consists of all the words, characters, their locations, and confidence values. Forms Magic uses this information for clustering and classification. In most operations, you have the option to use previously generated MVX files to save processing time, or have Forms Magic generate a new one.

Page

One or more images (files with extensions bmp, jpg, or tiff) comprise a single page within a document. For example, a page can include the originally captured image and a manipulated version of the image after noise removal.

PaperVision Capture Administration Console

The PaperVision Capture Administration Console provides administration and job configuration capabilities.

PaperVision Capture Automation Service

The automation service is a Microsoft® Windows service that performs automated tasks and batch processing at specified time intervals. Examples of work performed by the automation service include the compilation of statistics when an operator completes a batch and the processing of automated job steps. Multiple automation services can be installed on distinct machines or multiple automation service processes may be configured to run on the same machine.

PaperVision Capture Data Transfer Agent Service

The PaperVision Capture Data Transfer Agent Service is a Microsoft® Windows service that moves batches in local temporary batch repositories to/from the Master Batch Repository.

PaperVision Capture Gateway Server

The PaperVision Capture Gateway Server is an application server that enables communication between PaperVision Capture modules and provides access to databases and the Master Batch Repository in distributed deployment scenarios.

PaperVision Capture Operator Console

The PaperVision Capture Operator Console provides scanning, indexing, and batch processing capabilities.

Supported Users in the Administration Console

The robust security architecture in PaperVision Capture grants control of nearly every aspect of your entity's access to an entity administrator, who configures the entity's users and groups, security policies, and PaperVision Capture jobs and job steps.

Entity-level security - Entity-level security policies in PaperVision Capture grant entity administrators the ability to define general security settings for system users and groups.

User-level and group-level security - User- and group-level security defines which jobs and job steps users can access and which tasks they can perform within those jobs and job steps. Additionally, administrators can limit which data users can search for, view, and alter.

The PaperVision Capture Administration Console supports the following types of users:

- **Global administrators** can configure all settings for all entities.
- **System administrators** can administrate all settings for a particular entity.
- **Capture administrators** can administrate an entity's job settings, including the configuration of jobs and job steps within the entity.

System Requirements

This content describes the minimum software and hardware requirements for PaperVision Capture.

Minimum Software Requirements

The following table shows the minimum software requirements for PaperVision Capture and its optional components.

Software	Version
Operating Systems (Client)	Windows® 7, 8, 8.1, and 10 (32- and 64-bit operating systems are supported)
Operating Systems (Server)	Windows® Server 2008 R2, 2012, and 2012 R2
Microsoft® .NET Framework	Version 4.0 or later (included on the installation media)
Windows Installer	Version 4.5 or later (included on the installation media)
Microsoft® SQL Server	SQL Server 2008 or later NOTE: Optionally, you can install Microsoft SQL Server 2008 R2 Express Edition (included on the installation media)

Minimum Hardware Requirements

Most enterprise software is capable of operating on a basic hardware configuration that includes a current processor and 4 GB of memory for desktops and 8 GB of memory for servers. However, each organization and their intended use of PaperVision Enterprise are unique. The intended workload, (including the maximum number of users, and the quantity and types of operations performed within a specific periodicity, etc.) coupled with security and redundancy requirements will dictate the hardware requirements for each implementation.

PaperVision Capture has the distinct capability to scale both up and out. You can configure most of the functions performed by PaperVision Capture to take advantage of powerful hardware configurations, such as those with many processor cores and hundreds of GB of memory (scaling up). Additionally, PaperVision Capture can spread its processing requirements across numerous computers (scaling out).

PaperVision Capture products are designed and tested for specific operating systems, not hardware environments. Numerous customers successfully run PaperVision Capture in virtual environments, including VMware® and Microsoft® Hyper-V. While this technology has matured over the years, issues have occurred with common software (other than PaperVision Capture) not operating properly or efficiently because of the virtual environment. In the cases that Digitech Systems' Technical Support has witnessed, the issue was with the virtual environment, not our software.

If our technical support believes that the hardware environment (including virtual environments) is contributing to an operational or performance issue, they may request that you ensure the issue exists in a different (or non-virtual) environment.

If you intend to use a virtual environment for your PaperVision Capture implementation, carefully consider the implications of running in a shared environment. Remember, you are not just sharing processors and memory. You are also sharing network and disk resources with the other virtual environments on the same hardware.

Sharing a Database with PaperVision Enterprise

If you want to share a common database between PaperVision Capture and PaperVision Enterprise, PaperVision Enterprise R60 or later must be installed.

Supported Scanners

PaperVision Capture supports more than 300 ISIS-compatible scanners. If you need additional scanner drivers, please contact Digitech Systems' Technical Support at support@digitechsystems.com or by phone at (877) 374-3569. If the driver is available, our support personnel will help you get it.

Alternatively, PaperVision Capture also supports the use of TWAIN scanners. The use of TWAIN scanners is generally intended for extremely low-volume scanners, as ISIS drivers are available for most scanners on the market.

Maximum Image Sizes

This topic outlines the approximate limits in image sizes that can be imported into PaperVision Capture and processed through the Nuance and Open Text Full-Text OCR, Zonal OCR, and Image Processing steps.

The Thumbnails windows, in both the Administration and Operator Consoles, can handle substantially larger images. Additionally, images only stored in memory or simply ingested by PaperVision Capture (therefore not viewed in the Thumbnails windows or processed through the Nuance or Open Text Full-Text OCR, Zonal OCR, or Image Processing steps), can also be significantly larger in size.



IMPORTANT

These dimensions are provided only as estimates to identify size limits in importing, viewing, and processing images in PaperVision Capture. Variations in technical environments may cause maximum image sizes to fluctuate across systems.

Maximum Image Sizes in Pixels	
Stored Images	10,000 x 10,000* *These dimensions can be greater in bitonal images.
Thumbnails	32,768 x 32,768
Image Processing	10,000 x 10,000* *These dimensions can be greater in bitonal images.
Nuance Full-Text OCR and Zonal OCR	8,400 x 8,400
Open Text Full-Text OCR and Zonal OCR	32,000 x 24,000* *The maximum supported image dimensions that can be processed through the Open Text engine vary with resolution. For example, the maximum supported image dimensions at 300 dpi are approximately 106 inches x 80 inches. Images that are processed through the Open Text OCR engine must contain matching horizontal and vertical resolutions.



NOTE

There is also a size limit on images created by PaperVision Capture. The maximum size of TIFF and image-only PDFs is 2 GB.

Getting Product Support

Digitech Systems takes great pride in providing software that is simple to use, feature-rich, and flexible in architecture and integration capabilities. If you experience any difficulty, please contact us toll free at (877) 374-3569 or direct at (402) 484-7777 to experience our legendary customer service. Additionally, you may contact us at support@digitechsystems.com. Our technical support staff is available to serve you between the hours of 8:00 AM and 6:00 PM Central Time.

In addition to our legendary technical support staff, we also offer the following resources to help you answer questions and resolve issues.

- **MyDSI** - MyDSI is an interactive tool for all Digitech Systems customers. Log in to MyDSI at <http://mydsi.digitechsystems.com> to download product updates, license purchased software, view support contract renewals, and check the status of your software support cases and requests. If you are a Digitech Systems reseller, there are sales and marketing tools available for you to download
- **User Forums** - Log in to the User Forums at <http://forums.digitechsystems.com> to exchange answers and ideas with other users in our moderated community.
- **Knowledge Base** - Log in to search our extensive Knowledge Base at <http://kb.digitechsystems.com> for articles on all Digitech Systems products.
- **Documentation** - For documentation describing the use and features of the PaperVision Capture Administration Console, refer to the *PaperVision Capture Administration Guide*. For documentation describing the use and features of the PaperVision Capture Operator Console, refer to the *PaperVision Capture User Guide*. To access the online help and manuals from the Administration and Operator Consoles, click the **Help** menu.

Additional Contact Information

- **Enhancement Requests** - Digitech Systems' product features and enhancements are driven by you, our customer. If you have an idea for a future product feature or enhancement, please send an e-mail to dev@digitechsystems.com.
- **Products and Services** - You can also contact our sales team at sales@digitechsystems.com to discuss our latest products and services with one of our dedicated Client Development Managers (CDMs).

Logging In to the Administration Console

When you log in to the PaperVision Capture Administration Console, the system authenticates your access based on the user name and password you provide. If your site uses multiple entities, you will also need to provide the correct entity ID.

To log in to the PaperVision Capture Administration Console

1. Double-click the **PaperVision Capture Administration Console** icon.
2. In the **PaperVision Administrator Login** dialog box, type your user name and password.
If this is your first time logging in, the user name and password are both **ADMIN**.
3. If you want to log on as a global administrator, select the **Global** check box.

If this is your first time logging in, select the **Global** check box.

4. Click **OK**.

Logging Out of the Administration Console

When you log out of the Administration Console, if you have any unsaved changes, you are prompted to save those changes before you are logged out.

To log out of the PaperVision Capture Administration Console

- On the **File** menu, click **Exit**.

CHAPTER 2

Global Administration

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Overview

Global administration encompasses the overall functionality of PaperVision Capture that affects all entities. To access global administration settings, when you log in to the Administration Console (with the appropriate global administrator credentials), ensure that the **Global** check box is selected on the **PaperVision Administrator Login** dialog box.

Only a global administrator can set items located under the **Global Administration** area on the Administration Console. These settings apply to the software as a whole and are separate from entity settings.

To access global administration settings

- After you have logged in as a global administrator, on the left pane, expand **Global Administration**.

As you work with global administration items, you can use the following three methods to access options.

- Click the **Action** menu, and then select the option.
- On the toolbar, click the icon for the option.
- Right-click the item, and then select the option from the menu that appears.

See the following sections for information about the tasks you can perform from the **Global Administration** area.

- See "Automation Service Status" on the facing page for information about working with the automation servers connected to the PaperVision Capture database.
- See "Email Queue" on page 39 for information about the tasks you can perform from the **Email Queue**.
- See "Global Administrators" on page 40 for information about creating and managing global administration accounts.
- See "Licensing" on page 42 for information about creating and managing software licenses.
- See "Maintenance" on page 47 for information about the **Maintenance Queue** and **Maintenance Logs**.
- See "Process Locks" on page 50 for information about viewing and deleting process locks.
- See "System Settings" on page 51 for an overview of all the available system settings.
- See "Configure Automation Service Scheduling" on page 54 for information about configuring automated processes.

Automation Service Status

The automation service is a Microsoft Windows® service that performs automated tasks at a specified time interval. For each automated task, there is a specific operation to perform it, and you can specify the schedule for each operation. (See "Configure Automation Service Scheduling" on page 54 for information about creating schedules for operations.)

The **Automation Service Status** area displays the current status of all automation servers connected to the PaperVision Capture database. You can configure multiple automation service operations to run on a single physical machine. (See "Configuring Multiple Automation Service Processes" on the next page for more information.)

Your automation service operations were configured when the software was installed, but you can change the configuration. This content describes the tasks you can perform from the **Automation Service Status** area. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To determine which automated processes are running

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Automation Service Status**.

The right pane shows a listing of automation server processes and their current state, operation, and date and time.

To start an automation server process

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Automation Service Status**.
3. On the right pane, click the server process you want to start, and then do one of the following:
 - On the **Action** menu, click **Start**.
 - On the toolbar, click **Start**.
 - Right-click the selected item, and then click **Start**.

To stop an automation server process

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Automation Service Status**.
3. On the right pane, click the server process you want to stop, and then do one of the following:
 - On the **Action** menu, click **Stop**.
 - On the toolbar, click **Stop**.
 - Right-click the selected item, and then click **Stop**.

To delete an automation server process

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Automation Service Status**.
3. On the right pane, click the server process you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.



NOTE

The **Delete** command does not delete the process itself; rather, the status of the process is deleted from the database.

To refresh an automation server process

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Automation Service Status**.
3. On the right pane, click the server process you want to refresh, and then do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Configuring Multiple Automation Service Processes

You can configure multiple automation service processes to run on a single physical machine so that one machine can process multiple batches of work simultaneously. In this scenario, each automation service process is specified in a `SERVERNAME_INSTANCE` format. The instance sequence starts with zero and increments by one for each added instance.

EXAMPLE

If your system had three simultaneous automation service processes configured on a machine named `SERVER`, the **Automation Service Status** listing would show the following under the **Automation Server** column.

```
SERVER_0  
SERVER_1  
SERVER_2
```

Your automation service processes were configured when the software was installed, but you can change the number of simultaneous processes through the **PaperVision Capture Setup Tool**.

To increase the number of simultaneous processes

1. On the applicable machine, start Windows.
2. On the taskbar, click the **Start** button, and then on the **Start** menu, click **All Programs**.
3. Click the **Digitech Systems** folder, and then click **PaperVision Capture Setup Tool**.
4. If a **User Account Control** dialog box appears, click **Yes** to allow the configuration utility to make changes to the computer.
5. On the left pane of the **PaperVision Capture Setup Tool**, click **Automation Service**.
6. On the right pane, in the **Simultaneous Processes** box, specify the number of the simultaneous processes you want to use, and then click **Save**.
7. On the **Automation Service** dialog box, click **Yes** to restart the service. If you click **No**, you must manually restart the service. Your changes will not take effect until the service has been restarted.

Email Queue

When email notifications are sent via custom code, they are placed in the **Email Queue** where they will be processed by the automation service that will actually send the email messages. The **Email Queue** lists the email notifications that are waiting to be sent. For the system to send items in the **Email Queue** you must:

- Schedule an **Email Queue** operation. (See "Configure Automation Service Scheduling" on page 54 for instructions to schedule this operation.)
- Configure email settings. (See "Email System Settings" on page 53 for instructions to configure email settings.)

This content describes the tasks you can perform from the **Email Queue** area. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view the Email Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Email Queue**.

The right pane shows for each email message: the entity ID from which it was sent, the date and time it was created, the sender and recipient, and the subject.

To view the properties of an item in the Email Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Email Queue**.
3. On the right pane, double-click the item you want to view.

An **Email Queue Properties** dialog box displays the contents of the email message.

To delete an item from the Email Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Email Queue**.
3. On the right pane, click the item you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.



NOTE

When an item no longer appears in the **Email Queue** either because it was sent or manually deleted, any associated attachments are removed from the Attachment Path. (See "Email System Settings" on page 53 for information about where this path is defined.)

To refresh the Email Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Email Queue**.
3. Do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Global Administrators

Global administrators can control every aspect of configuration for PaperVision Capture (including configurations for all entities). They can also access the settings for each job and job step for all entities. You can create and manage global administration accounts from the **Global Administrators** area.

This content describes the tasks you can perform from the **Global Administrators** area. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view global administrators

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Global Administrators**.

The right pane shows the user and full name for each global administrator.

To create a new global administrator

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Global Administrators**.

3. Do one of the following:
 - On the **Action** menu, click **New Global Administrator**.
 - On the toolbar, click **Create New Global Administrator**.
 - Right-click the selected item, and then click **New Global Administrator**.
4. In the **New Global Administrator** dialog box, in the **User Name** box, type the name that will be used to log in.
5. (Optional) In the **Full Name** box, type the user's full name. This name is the one that will be referenced on reports.
6. (Optional) In the **Email Address** box, type an email address for the user.
7. In the **Password** box, type the initial password to access the system. (Passwords are case sensitive.)
8. In the **Confirm Password** box, type the password again to confirm it.
9. Click **OK**.

To set a password for a global administrator

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Global Administrators**.
3. On the right pane, select the global administrator, and then do one of the following:
 - On the **Action** menu, click **Set Password**.
 - On the toolbar, click **Set Password**.
 - Right-click the selected item, and then click **Set Password**.
4. On the **Set Password** dialog box, in the **New Password** box, type the new password. (Passwords are case sensitive.)
5. In the **Confirm Password** box, enter the password again to confirm it.
6. Click **OK**.

To delete a global administrator

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Global Administrators**.
3. On the right pane, select the global administrator, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.
4. On the **Delete Global Administrator** dialog box, click **Yes** to confirm the deletion.

To edit properties of a global administrator

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.

2. Click **Global Administrators**.
3. On the right pane, select the global administrator, and then do one of the following:
 - Double-click the selected item.
 - On the **Action** menu, click **Properties**.
 - On the toolbar, click **Properties**.
 - Right-click the selected item, and then click **Properties**.
4. On the **Global Administrator Properties** dialog box, you can make changes to the user name, full name, and email address.
5. Click **OK**.



NOTE

The changes take effect the next time the global administrator logs in to the Administration Console.

To refresh the Global Administrators list

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Global Administrators**.
3. Do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Licensing

PaperVision Capture provides Global, Entity, Concurrent, and Named licenses.

- Global licenses are assigned to a single database for unlimited entities.
- Entity licenses are assigned to an entity and are available to any users for that entity.
- Concurrent licenses are assigned to a specific entity and are restricted to a single user at any given time. Concurrent licenses provide the greatest flexibility since a license is consumed only when a user is logged in to the PaperVision Capture Operator Console. If no licenses have been added in the Administration Console, the user receives a messages that no licenses are available.
- Named licenses are assigned per machine or per process and not to individual users. Named licenses are consumed only by the machine or process to which they are assigned. To ensure that a specific machine is always available to process automated tasks, assign a named license to your automation server. In this case, a named license is required for each instance of an automation server.

When an automation service process is executing custom code that adds new documents to a batch, then the process requires the appropriate licenses based on job configuration. You can configure

multiple automation service processes to run on a single physical machine. When named licenses are used, each automation server process consumes a license.

EXAMPLE

If three automation service processes were running on a machine named WINPC, you would need three named licenses as follows:

1. WINPC_0
2. WINPC_1
3. WINPC_2

Conversely, for concurrent licensing, each automation service process still requires a license, but the naming scheme is not relevant.

In most scenarios, a license is consumed when a user works on a manual step in the PaperVision Capture Operator Console. A license is released when a user logs out and when a user session either times out or is "killed" via the **Current Sessions** area in the Administration Console.

If you have many licenses to add, you can do a bulk import of them from a text file to save time. If you want to use this feature, contact customer support to get a text file that contains your licensing information, and then go to "To bulk import licenses" on the next page and complete the procedure.

If you are integrating with PaperVision Enterprise, a global administrator can also add licenses in the "thick" PaperVision Administration Console.

This content describes the tasks you can perform from the **Licensing** area. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view existing licenses

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Licensing**.

The right pane shows for each license: the product, version, quantity, serial number, assigned entity, license date, and if applicable, the named system.

To add a new license

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Licensing**.
3. Do one of the following:
 - On the **Action** menu, click **New License**.
 - On the toolbar, click **Create New License**.
 - Right-click the selected item, and then click **New License**.

4. In the **New License** dialog box, in the **License Code** box, type the license code that was included with your product documentation and media.
5. Do one of the following:
 - Click **Web Authorization** to get the license key online.
 - Click **Phone Authorization**, and then follow the instructions on the **Obtain Authorization Code** dialog box.



NOTE

You must provide the serial number and identifier before the license key will be given to you.

6. In the **Obtain Authorization Code** dialog box, type the authorization code, and then click **OK**.

To bulk import licenses

1. If you haven't already done so, contact customer support to get a text file that contains your licensing information, and save this file to a location you can access from the Administration Console.
2. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
3. Click **Licensing**.
4. Do one of the following:
 - On the **Action** menu, click **Bulk License Import**.
 - On the toolbar, click **Click to bulk Import licenses from a text file**.
 - Right-click the selected item, and then click **Bulk License Import**.
4. In the **Open** dialog box, select the text file that contains the license codes you want to import, and then click **Open**.

Each license code that was successfully imported appears on the right pane. If a license code does not import successfully, a prompt appears asking if you want to do a phone authorization. If you click **Yes**, the **Obtain Authorization Code** dialog box appears with the information you need to complete the authorization by phone.

To refresh the list of licenses

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Licensing**.
3. Do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

To delete a license

1. After you have logged in to the Administration Console as a global administrator, on the left pane,

expand **Global Administration**.

2. Click **Licensing**.
3. On the right pane, click the license you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.
4. Click **Yes** to confirm the deletion.

To edit license properties

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Licensing**.
3. On the right pane, select the item you want to view, and then do one of the following:
 - Double-click the selected item.
 - On the **Action** menu, point to **All Tasks**, and then click **Properties**.
 - On the toolbar, click **Properties**.
 - Right-click the selected item, and then click **Properties**.
4. To assign a license to an entity, click the **Assigned To** list to select another entity.
5. To assign a license to a specific computer, do one of the following:
 - In the **Named System** box, type the machine name.
 - Click the ellipsis button to locate, and then select the machine name.

Demonstration Licenses

Two types of demonstration licenses are available for PaperVision Capture: the Watermark Demo license, and the Capture Demo Click license. Please contact Digitech Systems' Technical Support to obtain the appropriate demonstration license key. Both licenses include all global administration features and PaperVision Capture functionality (except for Forms Magic and the EDI business rule). These licenses cannot be combined with the concurrent or named license types.

The Watermark Demo license applies a watermark on all images that are scanned or imported into the PaperVision Capture Operator Console for the entire duration of the batch process. Because the application writes a watermark onto each captured image, non-repudiation is not supported. The Watermark Demo license is designed specifically to show the features and functionality of the product, and is not designed for high-volume, performance testing.



C A U T I O N

All images will be watermarked if a Watermark Demo license is present. Removing the watermark is a violation of the PaperVision Capture End User License Agreement (EULA).

The Capture Demo Click license has much of the same functionality as the Watermark Demo license, except that it expires after a set number of pages are processed instead of applying a watermark on the

images. Since no watermarks are applied to images, non-repudiation is supported. Capture Demo Click license functionality is limited to one machine, and does not work across a gateway server. Additionally, you cannot create or populate batches via automated custom code with a Capture Demo Click license. The number of clicks remaining on the license is displayed in the **Click License Properties** dialog box, see "Click Licensing" below more information.

Click Licensing

Forms Magic requires a Capture Forms Processing license. This license contains information regarding the number of clicks you have purchased, such as the number of clicks used, and the number of clicks remaining. Clicks are consumed during different operations in Forms Magic and reported to Digitech Systems for accounting and billing purposes.

To view the number of clicks remaining or used

1. After you have logged in to the **Administration Console** as a global administrator, expand **Global Administration**, and then click **Licensing**.
2. On the right pane, select the **Capture Forms Processing** license, and then do one of the following:
 - Double-click the selected item.
 - On the **Action** menu, point to **All Tasks**, and then click **Properties**.
 - On the toolbar, click **Properties**.
 - Right-click the selected item, and then click **Properties**.
3. In the **Click License Properties** dialog box, you can view the general license properties on the left pane, and the following click license properties on the right pane.
 - **Last Server Update** - shows the last time Forms Magic successfully connected with Digitech Systems to report click usage.
 - **Time Since Last Update** - shows the length of time elapsed after the last successful connection with Digitech Systems.
 - **Max Offline Time Allowed** - shows the length of time allowed before the system will lock your license. This ensures that Forms Magic processing can continue in the event that the system is unable to communicate with Digitech Systems.
 - **Report Interval** - shows the length of time that may pass before click usage is reported to Digitech Systems.
4. In the grid, you can view the number of clicks used and the number of clicks remaining (for a countdown license). Clicks are reported in the following manner.
 - **Character** - A click is consumed for each keystroke extracted from a field.
 - **Classification** - A click is consumed every time a document is processed by the Forms Magic engine.
 - **Field** - A click is consumed for each index or detail field populated on a form during Forms Magic extraction.
 - **Page** - A click is consumed every time Forms Magic creates an MVX file.
5. (Optional) Click **Refresh** to update the dialog box with the most current information.

Maintenance

Under **Maintenance**, you can access functions to assist you with monitoring current and completed maintenance tasks.

To access maintenance functions

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**. For information about the items under **Maintenance**, see the following:
 - See "Maintenance Queue" below for a description of how the **Maintenance Queue** works and the related tasks you can perform.
 - See "Maintenance Logs" on the next page for a description of the **Maintenance Logs** and the related tasks you can perform.

Maintenance Queue

The **Maintenance Queue** lists batches that are submitted and other tasks that are queued for processing by the automation service. (See "Configure Automation Service Scheduling" on page 54 for information about scheduling the **Maintenance Queue** operation.) After a task is completed, it is automatically removed from the queue.

This content describes the tasks you can perform from the **Maintenance Queue**. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view the Maintenance Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Queue**.
The right pane shows for each item: the date and time of the submission, and the name of the operation, for example, **SUBMIT BATCH**.

To refresh the Maintenance Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Queue**.
3. Do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

To view the properties of an item in the Maintenance Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Queue**.
3. On the right pane, double-click the item for which you want to view the properties.

The **Maintenance Item Properties** dialog box displays the date and time of the submission, the name of the operation, and the associated XML data.

Deleting Maintenance Queue Items

Before you delete an item from the maintenance queue, view the **Maintenance Logs** and Windows Event Viewer to identify and troubleshoot any processing errors. (See "Maintenance Logs" below for a description of the **Maintenance Logs** and the related tasks you can perform.)

If you delete a **SUBMIT BATCH** queue item, the batch will remain waiting for automated processing. To remedy this, go to the **Batch Management** area to change the status of the batch to **Not Owned**. (See "Change Batch Status to Not Owned" on page 638 for instructions.) Changing the batch status allows another operator to assume ownership of the batch and to repeat the current job step.



I M P O R T A N T

When a job step is repeated for a batch, some changes made by the previous operator may be retained, but batch statistics for the previous operator's work are deleted.



C A U T I O N

Deleting a **Maintenance Queue** item can have unexpected results on data integrity and should be used only as a last resort. Before proceeding, you may want to consult with the Digitech Systems' Technical Support.

To delete an item from the Maintenance Queue

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Queue**.
3. On the right pane, click the item you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.
4. Click **Yes** to confirm the deletion.

Maintenance Logs

The **Maintenance Logs** record information about the maintenance jobs performed by the automation service. (See "Configure Automation Service Scheduling" on page 54 for information about scheduling the **Maintenance Log Cleanup** operation.)

This content describes the tasks you can perform from the **Maintenance Logs**. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view the Maintenance Logs

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Logs**.

The right pane shows for each log entry the:

- Date and time when the operation was started.
- Final status of the operation.
- Associated message that provides details about the operation.

To view the properties of an item in the Maintenance Logs

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Logs**.
3. On the right pane, double-click the item for which you want to view the properties.

The **Maintenance Log Properties** dialog box displays the:

- Workstation on which the operation was run.
- Final status of the operation.
- Date and time when the operation was started and when it ended.
- Name of the operation.
- Associated XML data.
- Associated message that provides details about the operation.

To filter the Maintenance Logs

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Logs**.
3. Do one of the following:
 - On the **Action** menu, click **Filter**.
 - On the toolbar, click **Filter**.
 - Right-click the selected item, and then click **Filter**.
4. In the **Maximum Record Count** box, type the maximum number of log entries you want to appear on the **Maintenance Logs**.

To export log entries to an XML file

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Logs**.
3. On the right pane, select the item(s) you want to export, and then do one of the following:
 - On the **Action** menu, click **Export**.
 - On the toolbar, click **Export**.
 - Right-click the selected item, and then click **Export**.
4. In the **Export Maintenance Logs** dialog box, select the location where you want the export file placed.
5. In the **File Name** box, type a name for the export file, and then click **Save**.

To delete log entries

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Logs**.
3. On the right pane, select the item(s) you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item(s), and then click **Delete**.
4. Click **Yes** to confirm the deletion.

To refresh the Maintenance Logs

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Expand **Maintenance**, and then click **Maintenance Logs**.
3. Do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Process Locks

Process locks prevent multiple operations from running the same process simultaneously. When an operation runs a process, it creates a “lock” so that another operation cannot start the same process. If a process is unable to complete, for example, if a power failure occurs, the process lock may not be released. In such a case, you may have to manually delete the process lock.

This content describes the tasks you can perform from the **Process Locks** area. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view process locks

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Process Locks**.

The right pane shows for each process lock: the workstation on which the process is running, the process identification, and the date and time when the process lock occurred.

To refresh the list of process locks

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Process Locks**.
3. Do one of the following:
 - On the **Action** menu, point to **All Tasks**, and then click **Refresh**.
 - On the toolbar, click **Refresh**.

- Right-click the selected item, and then click **Refresh**.

To delete a process lock

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **Process Locks**.
3. On the right pane, click the process lock you want to delete, and then do one of the following:
 - On the **Action** menu, point to **All Tasks**, and then click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.
4. Click **Yes** to confirm the deletion.

System Settings

Under **System Settings**, you can access functions to assist you with configuring global system settings and the schedule for the automation service.

To access system settings functions

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **System Settings**. For information about the items that appear on the right pane, see the following:
 - See "Configure System Settings" below for an overview of system settings and how to set them.
 - See "Configure Automation Service Scheduling" on page 54 for a description of automation services and how to configure them.

Configure System Settings

System settings configure operations that are global and not specific to a particular entity. The system settings content describes the tasks you can perform from the **Configure System Settings** area. To perform these tasks you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To access system settings

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**, and then click **System Settings**.
2. On the right pane, double-click **Configure System Settings**.

The **System Settings** dialog box appears with tabs that organize the system settings into categories. For information about the settings on each tab, see the following:

- See "General System Settings" on the next page for information about specifying utilization limits and client ping increments.
- See "Email System Settings" on page 53 for information about configuring email settings.

General System Settings

General system settings let you configure options for utilization limits, and client ping increments. Each option is described in the following procedures.

To set utilization limits

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**, and then click **System Settings**.
2. On the right pane, double-click **Configure System Settings**.
3. Click the **General** tab.
4. In the **Utilization Limits** area, you can set the following items:



NOTE

The **Max. Full-Text database results per query** option is currently not used in PaperVision Capture.

- **Max. Global Session idle time (minutes)** - This global setting specifies the maximum number of minutes that a user session can remain idle before the automation service automatically logs the user out of the system. You can also set this value at the entity level (with the **Max. Session Idle Time** setting under **Entity Security Policy**). (See "General Security Policy" on page 64 for instructions to set this option at the entity level.) If both of these items are set, the global setting determines the maximum value, and the entity setting determines what the value is actually set to, although this value cannot exceed the global setting.
- **Max. Maintenance Log Age (minutes)** - This setting specifies the number of minutes that maintenance logs can remain in the system before the automation service automatically deletes them (provided that the **Maintenance Log Cleanup** operation has been scheduled for completion). (See "Configure Automation Service Scheduling" on page 54 for information about scheduling the **Maintenance Log Cleanup** operation.) The default setting is 40,320 minutes which equals 28 days.

To set the client ping increment

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**, and then click **System Settings**.
2. On the right pane, double-click **Configure System Settings**.
3. Click the **General** tab.
4. In the **Communication** area, you can set the following item:
 - **Client Ping Increment (secs)** - If you are running PaperVision Capture in a client workstation and server computer configuration. This setting specifies the interval in seconds between each "ping" the client application sends to the server. When a user logs in, if their client application can ping the server, the server instructs it to do so at the interval specified here. This background ping verifies that the client application is open and keeps the user session active. If a client has not sent the expected ping within 60 seconds of the specified ping interval, the session is automatically terminated. This feature releases licenses used by

applications that were closed without logging out the user. Without ping validation, the user session does not terminate until the session times out.

To set the maximum rows displayed

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**, and then click **System Settings**.
2. On the right pane, double-click **Configure System Settings**.
3. Click the **General** tab.
4. In the **Max. Rows Displayed** area, you can set the following item:
 - **Admin Console - Batch Management** - This setting specifies the maximum number of batches displayed on the Batch Management pane in the Administration Console. Type **0** (the default setting) to display all batches. (See "Batch Management" on page 632 for more information.)
 - **Operator Console - Batches Waiting** - This setting specifies the maximum number of batches displayed in the Batches Waiting pane in the Operator Console. Type **0** (the default setting) to display all batches.

Email System Settings

Email system settings let you configure options for email that is sent from a **Custom Code** step. Within any **Custom Code** step, you can call the **TrySendEmail** API method and assign specific parameters such as senders and recipients. For example, you can use this method to send email messages with error notifications or batch statistics to an administrator. Email messages generated through custom code are placed in the **Email Queue** until the automation service processes them using the **Email Queue** operation.

- For API documentation, see the **PVCaptureBatchAPI.chm** help file located on the drive where PaperVision Capture is installed under:
`Digitech Systems\PaperVision Capture\Docs`
- See "Email Queue" on page 39 for information about the tasks you can perform for items in the **Email Queue**.
- See "Configure Automation Service Scheduling" on the next page for information about scheduling the **Email Queue** operation.

Each email configuration option is described in the following procedure.

To configure email settings

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**, and then click **System Settings**.
2. On the right pane, double-click **Configure System Settings**.
3. Click the **Email** tab.
4. In the **Email Settings** area, you can set the following items:
 - **SMTP Server Name/IP** - This setting specifies the SMTP server name or IP address the system will use to send emails.

- **SMTP Server Port** - This setting specifies the port number used to communicate with the SMTP server. The default value is 25.
- **SMTP User Name** - This setting specifies a valid user name if the SMTP server requires authentication prior to sending an email.
- **SMTP Password** - This setting specifies the password if the SMTP server requires authentication prior to sending an email.
- **Send Email From** - This setting specifies the email address from which automated emails are sent.
- **Attachment Path** - This setting specifies the path used by the automated email engine to temporarily store email attachments until the email is sent. Ensure that this path is accessible from all PaperVision Capture servers that generate emails using automated custom code and send them. We recommend that you use a Universal Naming Convention (UNC) path (for example, \\Servername\Sharename). To set the attachment path, do one of the following:
 - In the **Attachment Path** box, type the attachment path.
 - Click the ellipsis button next to the **Attachment Path** box, select the attachment path, and then click **OK**.



N O T E

If an email message is deleted from the **Email Queue**, either because it was sent or manually deleted, any associated attachments are removed from the attachment path.

5. (Optional) If you want to test your settings, click **Send Test Message**, type the email address to which a test message will be sent, and then click **OK**.

Configure Automation Service Scheduling

The automation service automatically runs the operations you add to its schedule. If operations are not set up, no automated processes will run and back-end work, such as processing submitted batches, will not be completed. For each operation, you can configure the start time, schedule, and the rate of repetition. Where operations appear on the **Automation Service Schedule** determines the order in which the automation service evaluates them. When the automation service evaluates the operations, it begins with the item at the top of the schedule and compares the value listed in the **Next Run Time** column to the current date and time. If the **Next Run Time** is earlier than the current date and time, it moves to the next operation in the schedule. If the **Next Run Time** value is equal to or later than the current date and time, the automation service runs the operation, records the run time in the **Last Run Time** column, and then sets the value in the **Next Run Time** column based on the schedule you specified for the operation. The automation service then repeats this process with the next operation on the schedule. When you modify the **Automation Service Schedule**, your changes take effect as soon as you save them.

This content describes the tasks you can perform from the **Configuring Automation Service Scheduling** area. To perform these tasks, you must be logged in to the Administration Console as a global administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

Available Operations

The following operations are available for you to configure:

- **Maintenance Queue** - This operation processes any maintenance items listed in the **Maintenance Queue**. These items involve one-time operations such as processing completed batches or updating a list of predefined index values for a job step. (See "Maintenance Queue" on page 47 for information about the tasks you can perform from the **Maintenance Queue**.)
- **Maintenance Log Cleanup** - This operation deletes maintenance log entries that are older than the number of minutes specified in the **Max Maintenance Log Age** setting. (You can modify this setting under **Global Administration > Systems Settings > Configure System Settings > General** tab.)
- **Process Batch** - This operation runs automated job steps.
- **Destroy Batch** - This operation deletes batches that are scheduled for destruction. (See "Set Batch Destruction Date" on page 637 for more information.)
- **Session/Grant Cleanup** - This operation removes sessions that have remained idle longer than the value specified by the **Max. Session Idle Time** setting. (You can modify this setting under **Entities > Entity Name > General Security > Security Policy > General** tab.)
- **Email Queue** - This operation processes items in the **Email Queue**.

To open the Automation Service Schedule

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **System Settings**.
3. On the right pane, double-click **Configure Automation Service Scheduling**.

The **Automation Service Scheduling** dialog box displays the name of the operation, the schedule on which it runs, the next run time, the last run time, and the resulting status of the operation after the last run time.

To add an automation service operation

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **System Settings**.
3. On the right pane, double-click **Configure Automation Service Scheduling** to open the **Automation Service Scheduling** dialog box.
4. If your site is configured to use multiple automation servers, from the **Automation Server** list, select the server that will run the configured operations. (See "Configuring Multiple Automation Service Processes" on page 38 for instructions to set up this configuration.)
5. Click **Add** to open the **New Automation Service Schedule** dialog box.
6. From the **Operation** list, select the operation to add to the **Automation Service Schedule**. (See "Available Operations" above for a description of each operation in the list.)
7. In the **Start Time** box, type the date and time for the operation to start running according to the schedule you are setting up.

By default, this box displays the date and time when you clicked **Add**.

8. From the **Schedule** list, select the unit of time on which to base the schedule.
The option in the **Repetition Schedule** area is automatically updated to reflect your selection.
9. In the **Repetition Schedule** area, specify the frequency of repetition for the operation.
10. Click **OK** to add the operation to the **Automation Service Schedule**.
11. Click **Save** to save your changes and close the **Automation Service Scheduling** dialog box.

To edit an automation service operation

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **System Settings**.
3. On the right pane, double-click **Configure Automation Service Scheduling** to open the **Automation Service Scheduling** dialog box.
4. In the **Automation Service Schedule** area, click the operation you want to modify, and then click **Edit**.
5. In the **Edit Automation Service Scheduling** dialog box, you can change the operation, its start time, schedule, and rate of repetition. (See "To add an automation service operation" on the previous page for information about setting each item.)
6. Click **OK**, and then click **Save** to save your changes and close the **Automation Service Scheduling** dialog box.

To change the evaluation order for an automation service operation

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **System Settings**.
3. On the right pane, double-click **Configure Automation Service Scheduling** to open the **Automation Service Scheduling** dialog box.
4. In the **Automation Service Schedule** area, click the operation you want to move, and then use the arrow buttons to move the operation up or down.

When the automation service evaluates the operations, it begins with the item at the top of the schedule and then moves down through the listed operations.
5. Click **Save** to save your changes and close the **Automation Service Scheduling** dialog box.

To remove an automation service operation

1. After you have logged in to the Administration Console as a global administrator, on the left pane, expand **Global Administration**.
2. Click **System Settings**.
3. On the right pane, double-click **Configure Automation Service Scheduling** to open the **Automation Service Scheduling** dialog box.
4. In the **Automation Service Schedule** area, click the operation you want to remove, and then click **Remove**.
5. Click **Yes** to confirm the removal of the operation from the schedule.
6. Click **Save** to save your changes and close the **Automation Service Scheduling** dialog box.

CHAPTER 3

Entity Administration

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Entity Administration Overview

An entity is a body such as a company, corporation, or organization. Each entity is autonomous and administers its own users, groups, and jobs that are not shared among entities. Only global and system administrators can configure an entity's properties. You can perform entity administration remotely or from a direct database connection. In general, most PaperVision Capture installations, including large enterprise installations, use only one entity. However, you can configure two entities for a distributed, multiple user scenario.

EXAMPLE

One office (entity) is located in Denver, Colorado, and the other is located in Lincoln, Nebraska. Each entity has a separate database, and manages jobs, users, and batches solely for that entity. Both locations are monitored by a single global administrator. This scenario can alleviate network congestion since each location is a separate entity. If the Denver office becomes inundated with work and needs assistance from Lincoln, you can create Lincoln user accounts for the Denver entity so users can be assigned to Denver jobs. As a result, Lincoln users can log in to the Denver entity and process jobs for Denver.

The need for multiple entities can arise in the following specific circumstances.

- In a hosting environment where an on-demand provider is hosting data for multiple companies and each company wants to administrate itself and its users.
- In a large enterprise that has different departments or cost centers that want to administrate themselves (separately from other departments) without having to involve a central IT organization.

See the following sections for information about the administrative tasks you can perform for entities.

- See "Entity Configuration Tasks" below for information about adding and deleting entities, and setting entity properties. Entity properties determine how the server handles system-level functions related to that entity.
- See "General Security Overview" on page 61 for information about entity-level security and user management tasks you can perform.
- See "Current Activity" on page 74 for information about monitoring and managing user sessions and license use.

Entity Configuration Tasks

This content describes the tasks you can perform from the **Entities** area. To perform these tasks you must be logged in to the Administration Console as a global or system administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To view existing entities

- After you have logged in to the Administration Console, on the left pane, click **Entities**.
The right pane shows for each entity: the entity ID number, the name of the entity, and the date and time the entity was created.

To add a new entity

1. After you have logged in to the Administration Console, on the left pane, click **Entities**.
2. Do one of the following:
 - On the **Action** menu, click **New Entity**.
 - On the toolbar, click **New Entity**.
 - Right-click the selected item, and then click **New Entity**.
3. In the **New Entity** dialog box, in the **Entity Name** box, type the name for the company or organization.
4. In the **Database Settings** area, click **Configure**.
5. In the **SQL Data Source Information** dialog box, if you want to use the most recent previously used settings, click **Last Used**. Otherwise, set the following items:
 - **Server IP/Name** - This setting specifies either the IP address or the machine name where the database resides.
 - **Database** - This setting specifies the database name.
 - **User Name** - This setting specifies the user account for the SQL database.
 - **Password** - This setting specifies the password associated with the user specified in the **User Name** box.



N O T E

If you leave the **User Name** and **Password** boxes blank, the database connection will use Windows Authentication credentials. Entering a user name and password for the database will supersede the Windows Authentication credentials.

- **Connection Type** - This setting specifies the connection type used to access the database. If you select TCP/IP, then type the applicable port number in the **TCP/IP Port** box.
 - **TCP/IP Port** - This setting specifies the applicable port number.
6. Click **OK** to save the database information and return to the **New Entity** dialog box.
 7. In the **Entity Paths** area, set the following paths. In each box, you can type the path, or click the ellipsis button to browse to, and then select the location. (The following paths are also used by PaperVision Enterprise.)
 - **Data Group Path** - This setting specifies the location where PaperVision Enterprise copies data groups and writes new documents and versions.
 - **Migration/Backup Path** - This setting specifies the location where migration jobs or backup packages are processed.
 - **Full-Text Path** - This setting specifies the location where full-text database indexes are stored.
 - **Batch Path** - This setting specifies the location for the batch repository where batches created by PaperVision Capture are stored.
 8. If you want to prevent any users (including administrators) from logging in to the entity, select the **Disable Entity** check box.

9. Click **OK** to save your settings.

The entity you added appears in the entity list.

To delete an entity



CAUTION

Deleting an entity removes all traces of its existence from the database, and removes any full-text databases and data groups from PaperVision Enterprise (depending on the global system settings specified in PaperVision Enterprise).

1. After you have logged in to the Administration Console, on the left pane, click **Entities**.
2. Do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.
3. To proceed with the deletion, click **Yes**.

To modify entity properties



CAUTION

Database settings include configuration settings for the database where the entity resides. After the entity is created, database settings should not be changed unless you are moving the database to a different server. Changing these settings to another database or server for an existing entity will NOT create new entity tables, and the server will expect them to already exist. You must create a new entity to create new entity tables in the database.

1. After you have logged in to the Administration Console, on the left pane, click **Entities**.
2. On the right pane, click the entity, and then do one of the following:
 - On the **Action** menu, click **Properties**.
 - On the toolbar, click **Properties**.
 - Right-click the selected item, and then click **Properties**.
3. In the **Entity Properties** dialog box, make your changes.
See "To add a new entity" on the previous page for a description of each setting.
4. Click **OK** to save your settings.

To disable an entity



NOTE

Disabling an entity prevents any users (including administrators) from logging in to the entity.

1. After you have logged in to the Administration Console, on the left pane, click **Entities**.
2. Do one of the following:
 - On the **Action** menu, click **Properties**.
 - On the toolbar, click **Properties**.
 - Right-click the selected item, and then click **Properties**.
3. At the bottom of the **Entity Properties** dialog box, select the **Disable Entity** check box, and then click **OK**.

To refresh the list of entities

1. After you have logged in to the Administration Console, on the left pane, click **Entities**.
2. Do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

General Security Overview

Under **General Security**, you can access functions to assist you with setting encryption keys and security policies, and creating and maintaining system groups and users. To set these items, you must be logged in to the Administration Console as a global or system administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To access general security functions

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**. For information about the items under **General Security**, see the following:
 - See "Encryption Keys" below for a description of how encryption keys work and the related tasks you can perform.
 - See "Security Policy Overview" on page 64 for instructions to set up the available security policies.
 - See "System Groups" on page 68 for instructions to add and manage groups of users.
 - See "System Users" on page 69 for instructions to add and manage users.

Encryption Keys

You can create encryption keys to protect your data while it resides within PaperVision Capture. After an encryption key is created, you can use it to encrypt batches, images, indexes, and full-text OCR

data. After a batch is encrypted, its data is accessible from within PaperVision Capture (even when the encryption key is modified or deleted), but you can't open batch images with any viewer. When encryption is enabled, images, indexes, and full-text OCR data that are exported from PaperVision Capture are decrypted during the export. Generally, encrypted batches may impact overall system performance.



NOTE

Encryption keys created in PaperVision Capture can be used in PaperVision Enterprise and vice versa.

PaperVision Capture's encryption process uses the following design:

- Algorithm: Rijndael – AES (256-bit)
- Encryption Mode: CBC (Cipher Block Chaining)
- Padding Method: FIPS81 (Federal Information Processing Standards 81) scheme (ISO10126)
- Secret Key Generation: User-defined pass phrase is passed through the SHA-2 algorithm (Secure Hashing Algorithm) to generate a 256-bit hash



NOTE

After an encryption key is added, you can edit only its description. This prevents any previously-encrypted data from becoming unreadable.

To view encryption keys

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **Encryption Keys**.

For each encryption key, the right pane shows the encryption key name and type.

To add an encryption key

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **Encryption Keys**.
4. Do one of the following:
 - On the **Action** menu, click **Add Key**.
 - On the toolbar, click **Add Key**.
 - Right-click the selected item, and then click **Add Key**.
5. In the **Add Encryption Key** dialog box, in the **Key Name** box, type a name to identify the key.
6. From the **Key Type** list, select the type of encryption to use for the key.
7. In the **Pass Phrase** box, type a pass phrase for generating the encryption key.
8. (Optional) In the **Description** box, you can type a description for the key. This is the only item

that you can edit after the key is added.

9. Click **OK** to save the new encryption key.

To edit an existing encryption key



NOTE

For an existing encryption key, you can edit only its description. This prevents any previously-encrypted data from becoming unreadable.

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **Encryption Keys**.
4. On the right pane, select the encryption key you want to edit, and then do one of the following:
 - On the **Action** menu, click **Edit Key**.
 - On the toolbar, click **Edit Key**.
 - Right-click the selected item, and then click **Edit Key**.
5. In the **Edit Encryption Key** dialog box, in the **Description** box, make your changes, and then click **OK**.
6. From the **Key Type** list, select the type of encryption to use for the key.
7. In the **Pass Phrase** box, type a pass phrase for generating the encryption key.
8. (Optional) In the **Description** box, you can type a description for the key. This is the only item that you can edit after the key is added.
9. Click **OK** to save the new encryption key.



NOTE

You must restart the IIS service after changing the encryption key. Your changes will take effect the next time a process loads the key values.

To delete an existing encryption key



CAUTION

Data that has been encrypted with an encryption key may become unreadable if that encryption key is deleted.

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **Encryption Keys**.
4. On the right pane, select the encryption key you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete Key**.
 - On the toolbar, click **Delete Key**.

- Right-click the selected item, and then click **Delete Key**.
5. Click **OK** to confirm the deletion.

To refresh the list of encryption keys

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **Encryption Keys**, and then do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Security Policy Overview

Under **Security Policy** you can access functions to assist you with setting parameters for user session limits, authentication, account lockouts and passwords. To set these items, you must be logged in to the Administration Console as a global or system administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

To access entity security policy settings

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Double-click **Security Policy**.
4. The **Entity Security Policy** dialog box appears with tabs that organize the security policies into categories. For information about the settings on each tab, see the following:
 - See "General Security Policy" below for instructions to set requirements for session requests, integrated Windows® authentication, and session cleanup.
 - See "Authentication Security Policy" on the facing page for instructions to set login restrictions and remote authentication gateway encryption.
 - See "Account Lockout Security Policy" on page 66 for instructions to set account lockout parameters.
 - See "Passwords Security Policy" on page 67 for instructions to set password parameters.

General Security Policy

The **General** security policy lets you set requirements for session requests, integrated Windows® authentication, and session cleanup. Each option is described in the following procedure.

To set general security policy settings

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Right-click **Security Policy**, and then click **Configure Security Policy** to access the **Entity Security Policy** dialog box.
4. On the left pane of the dialog box, click **General**.
5. On the right pane, under **General System Settings**, you can specify the following options.

- **Require all session request to originate from the same source** - When you select this check box, all session activity is required to come from the same source as the original log in. This ensures that someone cannot take over a session to gain access to data. When a user logs in to PaperVision Capture, it tracks the IP address (or computer name) that was used to gain access. Each time information is requested from the server, it verifies that the request originated from the same IP address (or computer name). If not, PaperVision Capture denies the request and sends a notification to the system administrators.
- **Enable Integrated Windows Authentication** - You can use this option only when PaperVision Capture is connected directly to the client database from a remote station. When you select this check box, PaperVision Capture users can authenticate using their Windows domain and user name, thus eliminating the need for them to log in to PaperVision Capture. This requires a PaperVision Capture user account that is in the *Domain\User* format for the Windows user attempting to log in. You must complete the following steps before you select this check box.
 1. Define the Master Batch Path as a Universal Naming Convention (UNC) path, for example, `\\ServerName\MasterBatchPathFolder` in the entity's general properties. (See "Entity Configuration Tasks" on page 58 for instructions to set this path.)
 2. Share the Master Batch Path folder with the appropriate users on the network.
 3. Ensure that the PaperVision Data Transfer Agent service on the client workstation has access to both the Master Batch Path and the Local Batch Path. If these paths do not reside on the same machine, a domain account is recommended.
 4. Ensure that the user specified in the previous step has full control (permissions) over the Master Batch Path folder.
- **Max session idle time (minutes)** - In this box, you can specify the number of minutes that a user session can remain idle before the automation service automatically terminates the user session. This value cannot exceed the value specified by the global administrator for the **Max. Global Session idle time (minutes)** setting. (See "General System Settings" on page 52 for information about the global setting.)

Authentication Security Policy

The **Authentication** security policy lets you set login restrictions and remote authentication gateway encryption. Each option is described in the following procedure.

To set authentication security policy settings

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Right-click **Security Policy**, and then click **Configure Security Policy** to access the **Entity Security Policy** dialog box.
4. On the left pane of the dialog box, click **Authentication**.
5. On the right pane, under **Authentication Settings**, you can specify the following options.
 - **Allow logins from any source** - When you select this option, users can log in to PaperVision Capture from any IP address.

- **Allow logins from only these IP addresses/subnets** - When you select this option, users can access PaperVision Capture only from the IP addresses or address ranges that you specify. Using this option ensures that access to PaperVision Capture is limited to specific locations. To use this option, complete the following steps.
 1. Select **Allow logins from only these IP addresses/subnets**.
 2. Click **Add** to access the **Add IP Address** dialog box.
 3. In the box under the **Allow logins from only these IP addresses/subnets** option, you can type an exact address, or you can specify a subnet. To specify a subnet, type only the first *x* octets of the network, for example, typing 10.1 or 10.1.0.0 specifies the entire 10.1 class B address space.
 4. Ensure that the PaperVision Data Transfer Agent service on the client workstation has access to both the Master Batch Path and the Local Batch Path. If these paths do not reside on the same machine, a domain account is recommended.
 5. Ensure that the user specified in the previous step has full control (permissions) over the Master Batch Path folder.
- **Remote Authentication Gateway Encryption** - This feature is currently not used in PaperVision Capture. If you are sharing a database with PaperVision Enterprise, in the Key Name box, you can specify the encryption key whose value matches the encryption key value specified in the PaperVision Gateway Settings application located on the installed PaperVision Authentication Gateway Server.
 6. Click **OK** to save your settings and close the dialog box.

Account Lockout Security Policy

The **Account Lockout** security policy lets you set account lockout parameters. Each option is described in the following procedure.

To set account lockout security policy settings

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Right-click **Security Policy**, and then click **Configure Security Policy** to access the **Entity Security Policy** dialog box.
4. On the left pane of the dialog box, click **Account Lockout**.
5. On the right pane, under **Account Lockout Settings**, you can specify the following options.
 - **Allow never lockout** - When you select this option, user accounts are never locked out regardless of how many unsuccessful log in attempts occur.
 - **Accounts lockout after: X invalid attempts** - When you select this option, you can specify the number of times an invalid log in attempt can occur before the user is locked out of PaperVision Capture.
 - **Reset locked accounts after: X minutes** - When you select this option, you can specify the number of minutes that must elapse before locked accounts are automatically reset. Otherwise, an administrator must manually unlock the account.

- **Clear lockout counters after: X minutes** - When you select this option, you can specify the number of minutes that must elapse before lockout counters are cleared. Each time a user attempts to log in to PaperVision Capture with an invalid password, a counter is incremented to record the number of failed attempts since the last successful log in. Usually, the counter is reset to zero only when the user successfully logs in. However, if no unsuccessful log in attempts occur during the time period you specify, then the counter is automatically reset.
6. Click **OK** to save your settings and close the dialog box.

Passwords Security Policy

The **Passwords** security policy lets you set parameters for password expiration, length, and complexity. Each option is described in the following procedure.

To set password security policy settings

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Right-click **Security Policy**, and then click **Configure Security Policy** to access the **Entity Security Policy** dialog box.
4. On the left pane of the dialog box, click **Passwords**.
5. On the right pane, under **Password Settings**, you can specify the following options.
 - **User passwords never expire** - When you select this option, user passwords never expire for the entity.
 - **User passwords expire in: X days** - When you select this option, user passwords automatically expire after the number of days you specify. When users with expired passwords attempt to log in to PaperVision Capture, they must change their passwords.
 - **Expire All Passwords** - When you select this option, all user passwords are immediately expired so that all users must change their passwords when they attempt to log in to PaperVision Capture.
 - **No minimum password length** - When you select this option, user passwords can be any length, including blank.
 - **Minimum password length: X characters** - When you select this option, when users reset their passwords, they must contain at least the number of characters you specify.
 - **Password must contain upper case letters** - When you select this option, when users reset their passwords, they must contain at least one uppercase letter.
 - **Password must contain lower case letters** - When you select this option, when users reset their passwords, they must contain at least one lowercase letter.
 - **Password must contain numeric characters** - When you select this option, when users reset their passwords, they must contain at least one numeric character.
 - **Password must contain special characters** - When you select this option, when users reset their passwords, they must contain at least one special character letters.
6. Click **OK** to save your settings and close the dialog box.

System Groups

After you have created user accounts, you can define groups of users who have similar access and functionality needs. (See "System Users" on the facing page for instructions to create user accounts.) Creating system groups lets you assign access more efficiently, as you specify it only once for the group, rather than for each user. You can create, modify, and delete system groups. You can also assign groups to job steps on the **Job Definitions** window. (See "Assign Users to Job Steps" on page 101 for instructions to assign users to job steps.)

To view user groups

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Groups**.

The right pane shows a listing of defined user groups.

To add a user group

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Groups**.
4. Do one of the following:
 - On the **Action** menu, click **New Group**.
 - On the toolbar, click **New Group**.
 - Right-click the selected item, and then click **New Group**.
5. In the **New Group** dialog box, in the **Group Name** box, type a name to identify the group of users.
6. In the **Available Users** list, select the users you want to include in the group by holding down the Ctrl key, and then clicking the user names. (To include all available users, select the **Select All** check box below the **Available Users** list.)
7. Click the right arrow to move the selected users to the **Group Users** list.
8. (Optional) To remove users from the group, in the **Group Users** list, select the users you want to remove, and then click the left arrow. (To remove all users from the group, select the **Select All** check box below the **Group Users** list, and then click the left arrow.)
9. After you have defined the group, click **OK** to save it.

To delete a user group

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Groups**.
4. On the right pane, select the group you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.

5. Click **Yes** to confirm the deletion.

To modify group members



N O T E

After a group is created, you cannot modify its name. You can modify only its members.

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Groups**.
4. On the right pane, select the group you want to modify, and then do one of the following:
 - On the **Action** menu, click **Properties**.
 - On the toolbar, click **Properties**.
 - Right-click the selected item, and then click **Properties**.
5. To add users to the group, in the **Available Users** list, select the users you want to include in the group, and then click the right arrow. (To include all available users, select the **Select All** check box below the **Available Users** list, and then click the right arrow.)
6. To remove users from the group, in the **Group Users** list, select the users you want to remove, and then click the left arrow. (To remove all users from the group, select the **Select All** check box below the **Group Users** list, and then click the left arrow.)
7. when you are finished modifying the group members, click **OK** to save the group.

To refresh the list of user groups

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Groups**, and then do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

System Users

Under **System Users**, you can create, import, export, modify and delete system users who have access to PaperVision Capture. You can also assign and reset passwords for system users.

To view users

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**.

If any users exist, for each user, the right pane shows the user name, full name, and the type of user.

To create a user

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**.
4. Do one of the following:
 - On the **Action** menu, click **New User**.
 - On the toolbar, click **Create New User**.
 - Right-click the selected item, and then click **New User**.
5. In the **New User** dialog box, in the **User Name** box, type the name that will be used to log in to PaperVision Capture.
6. (Optional) In the **Full Name** box, type the user's full name. The user's full name is used for some of PaperVision Capture's reporting capabilities.
7. (Optional) In the **Email Address** box, type the user's email address.
8. In the **Password** box, type the user's password.
9. In the **Confirm Password** box, type the user's password again to confirm it.
10. To force the user to change the password the next time they log in, select **User must change password at next login**.
11. To allow the user to change the password at any time, select **User can change password when desired**.
12. In the **User Type** area, select the appropriate user type. To create a regular user, clear all of the check boxes. You can specify the following user types.
 - **System Administrator** - When you select this check box, the user can configure all administrative settings for the entity.



NOTE

If you select **System Administrator**, the other user types are automatically assigned to the user.

- **Workflow Administrator** - When you select this check box, the user can log in to the PaperVision Capture Administration Console but cannot perform any functions. This setting is used for PaperVision Enterprise.
 - **Capture Administrator** - When you select this check box, the user can configure jobs and job steps within the entity.
 - **E-Form Administrator** - When you select this check box, the user can create E-Forms in PaperVision Enterprise. This setting is not used in PaperVision Capture.
13. After you have defined the user, click **OK** to save it.

To set a user password



IMPORTANT

Before changing a password for a system administrator or user, ensure that all batches submitted by the user have transitioned to the next job step and that the user is not currently logged in to the Operator Console.

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**.
4. On the right pane, select the user whose password you want to set, and then do one of the following:
 - On the **Action** menu, click **Set Password**.
 - On the toolbar, click **Set Password**.
 - Right-click the selected item, and then click **Set Password**.
5. In the **Set Password** dialog box, in the **New Password** box, type the new password for the user.



NOTE

Passwords are case-sensitive.

6. In the **Confirm Password** box, type the user's password again to confirm it.
7. Click **OK** to save the password, and then click **OK** in the confirmation message.

To delete a user

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**.
4. On the right pane, select the user you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete**.
 - On the toolbar, click **Delete**.
 - Right-click the selected item, and then click **Delete**.
5. Click **Yes** to confirm the deletion.

To modify user properties

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Groups**.
4. On the right pane, select the user you want to modify, and then do one of the following:
 - On the **Action** menu, click **Properties**.
 - On the toolbar, click **Properties**.

- Right-click the selected item, and then click **Properties**.
5. In the **User Properties** dialog box, you can modify the following items.
 - **Full Name** - Specifies the user's full name that is used for some of PaperVision Capture's reporting capabilities.
 - **Email Address** - Specifies the user's email address
 - **User must change password at next login** - When this option is selected, it forces the user to change the password the next time they log in.
 - **User can change password when desired** - When this option is selected, it allows the user to change the password at any time.
 - **User Type** area - Specifies the user type. To create a regular user, clear all of the check boxes. You can specify the following options.
 - **System Administrator** - When you select this check box, the user can configure all administrative settings for a particular entity.
 - **Workflow Administrator** - When you select this check box, the user can log in to the PaperVision Capture Administration Console but cannot perform any functions. This setting is used for PaperVision Enterprise.
 - **Capture Administrator** - When you select this check box, the user can configure jobs and job steps with the entity.
 - **E-Form Administrator** - When you select this check box, the user can create E-Forms in PaperVision Enterprise. This setting is not used in PaperVision Capture.
 6. when you are finished modifying the user, click **OK** to save your changes.

To refresh the list of users

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**, and then do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Importing and Exporting Users

If you have many system users, rather than adding them one at a time, you can import a user list to populate most of their configuration data. The user list must be in a pipe-delimited (|) or tab-delimited text file. Each line of the text file can contain the following information in this order:

- User Name
- Password
- Full Name
- Email Address
- System Administrator (if value is 1)
- Other Administrator (if value is 1, 2, or 3)

**N O T E**

In the Other Administrator column, a WorkFlow Administrator has a value of 1; a Capture Administrator has a value of 2; and a WorkFlow and Capture Administrator has a value of 3.

- User must change password at the next log in (if value is 1)
- User can change password when desired (if value is 1)

Only the first two fields (user name and password) are required on each line of text. If fields are not specified, the default values are used. The following lines are some sample text of an import file.

```
user1|password1|Test|test@test.com|0|1|1|1|1
user2|password2|Test2|test2@test.com|0|3|1|1|1
```

**N O T E**

If you export a list of users, the data appears in the same format as described above, except passwords are not exported and appear as empty strings in the text file. Consequently, exported users are required to change their passwords the next time they log in to the Operator Console.

To import users

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**.
4. On the right pane, select the user you want to delete, and then do one of the following:
 - On the **Action** menu, click **Import Users**.
 - On the toolbar, click **Import Users**.
 - Right-click the selected item, and then click **Import Users**.
5. In the **Import Users** dialog box, select the text file that contains that user information, and then click **Open**. (See "Importing and Exporting Users" on the previous page for file format information.)
6. Click **OK** in the confirmation message.

**N O T E**

Existing users are not recreated during the import process.

To export users

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **General Security**.
3. Click **System Users**.
4. On the right pane, select the user you want to delete, and then do one of the following:

- On the **Action** menu, click **Export Users**.
 - On the toolbar, click **Export Users**.
 - Right-click the selected item, and then click **Export Users**.
5. In the **Export Users** dialog box, go to the location where you want to save the file.
 6. In the **File Name** box, type a name for the file, and then click **Save**. (See "Importing and Exporting Users" on page 72 for file format information.)
 7. Click **OK** in the confirmation message.



NOTE

User passwords are not exported from PaperVision Capture and appear as empty strings in the text file. Consequently, exported users are required to change their passwords the next time they log in to the Operator Console.

Current Activity

Under **Current Activity**, you can access functions to assist you with monitoring and managing user sessions, and available and consumed licenses.

To access current activity settings

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.

For information about the items under **Current Activity**, see the following:

- See "Current Sessions" below for a description of current session and license information and the related tasks you can perform.
- See "Lockouts" on page 76 for a description of the tasks you can perform for locked users.

Current Sessions

Each time a user logs in to the PaperVision Capture Operator Console, a session is started. Every time a user accesses the server, the system verifies that the session is still valid, performs the requested operation, and then records the date and time of the user's last activity. If you are running PaperVision Capture in a client workstation and server computer configuration and a user session is idle for too long (as specified by the administrator), the session may be automatically terminated. Automatically terminating a session logs the user out of the system. This feature is useful for releasing licenses that are unnecessarily being used, for example, a user went to lunch without logging out, or the application was closed without the user logging out.

The following settings determine when user sessions are automatically terminated.

- **Client Ping Increment** - This is a global setting that must be specified by a global administrator. This setting specifies the interval in seconds between each "ping" the client application sends to the server. When a user logs in, if their client application can ping the server, the server instructs it to do so at the interval specified here. This background ping verifies that the client application is open and keeps the user session active. If a client has not sent the expected ping within 60 seconds of the specified ping interval, the session is automatically terminated. (See "To set the client ping increment" on page 52 for more information.) Without ping validation, the user session

does not terminate until the session times out as specified by the **Max. Global Session idle time (minutes)** and **Max Session Idle Time** settings described in the next two bullets.

- **Max. Global Session idle time (minutes)** - This is a global setting that must be specified by a global administrator. This setting specifies the maximum number of minutes that a user session can remain idle before the automation service automatically logs the user out of the system. (See "General System Settings" on page 52 for information about setting this item.) You can also set a maximum idle time at the entity level with the **Max. Session Idle Time** setting described in the next bullet.
- **Max Session Idle Time** - This is an entity setting (under **Entity Security Policy**) and specifies the maximum number of minutes that a user session can be inactive before it is automatically terminated. (See "General Security Policy" on page 64 for information about setting this item.)



NOTE

If both the **Max. Global Session idle time (minutes)** and the **Max Session Idle Time** items are set, the global setting determines the maximum value and the entity setting determines what the value is actually set to, although this value cannot exceed the global setting.

To view the current user sessions and available and consumed licenses

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.
3. Click **Current Sessions**.

For each user logged in to PaperVision Capture, the **Sessions** list shows the following information.

- **User Name** - shows the log in name for the session.
- **Login Time** - shows the date and time when the user logged in to PaperVision Capture.
- **Last Activity** - shows the date and time of the user's last activity in the PaperVision Capture Operator Console.
- **Last Ping** - shows the date and time that the last ping was sent from the client application to the server.
- **Licenses** - shows the licenses being used by the session.

The **Available and Consumed Concurrent Licenses** list shows the following information.

- **Concurrent License** - shows the type of concurrent licenses assigned to the entity.
- **Number Available** - shows the total number of licenses available for use by the entity. This value is the number of licenses purchased, not the number currently available for use.
- **Number Used** - shows the number of licenses currently in use. This value is the number of current user sessions that are using that type of license.

To kill a current user session

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.
3. Click **Current Sessions**.

4. On the right pane, click the user session you want to kill, and then do one of the following:
 - On the **Action** menu, click **Kill**.
 - On the toolbar, click **Kill Session**.
 - Right-click the selected item, and then click **Kill**.
5. Click **Yes** to confirm that you want to terminate the session.

To refresh the list of current user sessions

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.
3. Click **Current Sessions**, and then do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

Lockouts

Whether user accounts get locked by the system depends on the security policy assigned to the entity. (See "Account Lockout Security Policy" on page 66 for more information.) The security policy determines how many invalid log in attempts can occur before a user account is locked, and whether the locked account and the lockout counters are automatically reset after a specified number of minutes. Even if the security policy is set to automatically unlock a locked account after a specified number of minutes, you can manually unlock the account before the specified time has elapsed.

To view locked users

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.
3. Click **Lockouts**.

The right pane shows for each locked user: the assigned user ID, the name used to log in, the date and time the user's account was locked, and the source from which the user was attempting to access PaperVision Capture.

To unlock a locked user

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.
3. Click **Lockouts**.
4. On the right pane, click the user you want to unlock, and then do one of the following:
 - On the **Action** menu, click **Unlock**.
 - On the toolbar, click **Unlock User**.
 - Right-click the selected item, and then click **Unlock**.

To refresh the list of locked users

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Current Activity**.
3. Click **Lockouts**, and then do one of the following:
 - On the **Action** menu, click **Refresh**.
 - On the toolbar, click **Refresh**.
 - Right-click the selected item, and then click **Refresh**.

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CHAPTER 4

Job Creation and Configuration

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Job Creation Overview

In PaperVision Capture, a job is a defined work flow comprised of one or more job steps. For example, you can set up a job to scan documents, index documents automatically, and then export documents. For batches to be processed in the PaperVision Capture Operator Console, you must set up at least one job in the PaperVision Capture Administration Console. Every job must contain, at the minimum, a **Capture** start step. Setting up a job requires that you perform the following steps.

1. Define the work flow that you want to use to process batches, and determine which job steps are needed.
2. Create a new job, add the needed job steps, and then link them so that the batch flows logically through the work flow.
3. Set properties for each job step, and assign users to manual job steps.
4. Set properties for the job, and then save, validate, activate, and check it in so that the job is available for use in the PaperVision Capture Operator Console.

You perform job-related tasks from the **Job Definitions** window. See "Job Definitions Window Overview" below for instructions to open this window and learn about its components.

Job Definitions Window Overview

You use the **Job Definitions** window to create and configure new jobs and modify existing ones. Use the following procedures to open the **Job Definitions** window.

To open the Job Definitions window to create a new job

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. Do one of the following:
 - On the **Action** menu, click **New Job**.
 - On the toolbar, click **Create New Job**.
 - Right-click the selected item, and then click **New Job**.
4. In the **Name** box, type a name for the job, and then click **OK**.
5. See "Set Job Properties" on page 103 for information on specifying job properties

To open the Job Definitions window to edit an existing job

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job you want to edit, and then do one of the following:
 - Double-click the job.
 - On the **Action** menu, click **Job Properties**.
 - On the toolbar, click **Edit Job**.
 - Right-click the selected item, and then click **Job Properties**.

4. If necessary, check out the job so you can edit it by doing one of the following:

- On the **Job** menu, click **Check Out**.
- On the toolbar, click **Check Out Job**.

Components of the Job Definitions Window

The **Job Definitions** window contains the following components.

- The **Job Step Toolbox** tab holds the steps that you can use to create jobs. (See "Available Job Steps" on the next page for a brief description of each job step.)
- The **Properties** tab displays the settings for each job and job step.
- The main workspace contains the job steps you select to build the job. Each open job appears on its own tab.
- The **Job Steps** grid summarizes key information and provides the ability to:
 - Assign users and groups to each job step
 - Specify the order of job steps
 - Use basic editing features (cut, copy, paste, and delete)

The following graphic shows each component of the **Job Definitions** window.

The screenshot shows the Job Definitions window with several callouts explaining its components:

- The Job Step Toolbox displays all of the available job**: Points to the left-hand pane containing a list of job steps such as Capture, Indexing, Barcode, Nuance Zonal OCR, etc.
- This is the main workspace where you build jobs using the steps from the Job Step Toolbox. If you have multiple jobs open, a tab appears for each one.**: Points to the central area showing a flowchart of a job process: Capture → Indexing → Manual QC → AP Processing → Custom Code.
- Click the Properties tab to specify settings for the steps and job.**: Points to the 'Properties' tab at the bottom left of the window.
- The Job Steps grid summarizes key information for each job step and provides for easy editing.**: Points to the 'Job Steps' grid at the bottom of the window.

Name	Type	Assigned To	Next	Fail	Mode
AP Processing	AP Processing	All Users	Custom Code	<N/A>	Manual
Capture	Capture	All Users	Indexing	<N/A>	Manual
Custom Code	Custom Code		(None)	<N/A>	Automated
Indexing	Indexing	All Users	Manual QC	(None)	Manual

See "Job Definitions Window Features" on page 114 for more detailed information about using the **Job Definitions** window.

See "Job Step Tasks" on the next page to learn about using job steps.

Job Step Tasks

You use job steps to define the work flow for processing batches. Each job step is an automated or manual operation that is performed on a batch. Manual job steps are performed by assigned users through the PaperVision Capture Operator console. Automated job steps are completed by the automation service and require no user involvement. You work with job steps on the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 and "Job Definitions Window Features" on page 114 for more information.)

As you work with job steps to create a new job, you will perform the following tasks.

1. Determine what job steps are needed for the job. (See "Available Job Steps" below for a brief description of the job steps.)
2. Add and link the required job steps. (See "Add Job Steps" on page 84 and "Link Job Steps" on page 84 for instructions to perform these tasks.)
3. Set job step properties. (See "Set Common Properties for Job Steps" on page 88 for instructions to perform this task.)
4. For manual job steps, assign the users that will perform them. (See "Assign Users to Job Steps" on page 101 for instructions to perform this task.)

After you have completed the listed tasks, you must save, validate, activate, and then check in the job so that it is available for use in the PaperVision Capture Operator Console. (See "Job Tasks" on page 102 for information about job-related tasks.)

Available Job Steps

A job step is an automated or manual operation that is performed on a batch. Manual job steps are performed by assigned users through the PaperVision Capture Operator console. Automated job steps are completed by the automation service and require no user involvement. On the **Job Definitions** window, the **Job Step Toolbox** contains the following job steps that you can use to create jobs. (See "Job Definitions Window Overview" on page 80 if you need help accessing the **Job Step Toolbox**.)

- **Capture** - This manual job step defines parameters for how documents are captured in the PaperVision Capture Operator Console. For example, you can specify settings for scanning options, when document breaks should occur, and the maximum number of documents per batch. Every job must contain a **Capture** step to be valid. (See "Capture Step Overview" on page 120 for information about using this job step.)
- **Indexing** - This manual job step defines how index values are populated and validated in the PaperVision Capture Operator Console. (See "Indexing Step Overview" on page 138 for information about using this job step.)
- **Barcode** - This automated job step defines how barcodes are processed. You can use barcodes to populate index values and insert document breaks. (See "Barcode Step Overview" on page 176 for information about using this job step.)
- **Nuance Zonal OCR and Open Text Zonal OCR** - These automated job steps use the Nuance® and OpenText™ Optical Character Recognition (OCR) engines to extract information from the zones you define. (See "Nuance Zonal OCR Step Overview" on page 194 and "Open Text Zonal OCR Step Overview" on page 236 for information about using these job steps.)

- **Nuance Full-Text OCR and Open Text Full-Text OCR** - These automated job steps use the Nuance® and OpenText™ Optical Character Recognition (OCR) engines to extract pages of text, and then convert the recognized results into one or multiple file types. File types for the Nuance OCR engine include: .txt, .rtf, .csv, .pdf, .doc (and .docx), .htm, .xls (and .xlsx), and others. File types for the OpenText OCR engine include: .pdf, .txt, PaperVision Enterprise (.txt), and PaperFlow (.txt). (See "Nuance Full-Text OCR Step Overview" on page 250 and "OpenText Full-Text OCR Step Overview" on page 338 for information about using these job steps.)
- **Image Processing** - This automated job step applies the image processing filters you specify. For example, filters can remove any unwanted noise, lines, borders, and other extraneous objects from images. Additional filters identify color within images and delete or retain colors and pages as your specified criteria are met. (See "Image Processing Step Overview" on page 352 for information about using this job step.)
- **Custom Code** - This automated job step runs custom code. You can use this flexible job step to perform whatever action you define in the custom code. (See "Custom Code Step Overview" on page 428 for information about using this job step.)
- **Manual QC** - This manual job step defines parameters for performing quality control tasks from the PaperVision Capture Operator Console. Operators can inspect images and index values, and then apply QC tags to batches, documents, pages, and index fields. The applied QC tags are used to determine what action (specified in the job and job step configuration) should be taken next for tagged items. (See "Manual QC Step Overview" on page 500 for information about using this job step.)
- **Automated QC** - This automated job step defines parameters for performing quality control tasks on batches, documents, pages, and index fields without requiring any user action from the PaperVision Capture Operator Console. This job step can enhance the accuracy and efficiency of batch processing. (See "Automated QC Step Overview" on page 512 for information about using this job step.)
- **Batch Splitting** - This automated job step defines parameters for dividing a batch. The splitting of the batch occurs when the conditions you define are met. The batch can be split so that it flows into another job step or job. (See "Batch Splitting Step Overview" on page 526 for information about using this job step.)
- **AP Processing** - This manual job step defines parameters for accounts payable tasks, such as matching purchase orders to invoices. (See "AP Processing Step Overview" on page 542 for information about using this job step.)
- **Business Rules** - This automated job step performs tasks based on predefined business rules. These business rules perform complex tasks for which there is a common business need, such as ensuring that invoice totals and date ranges are correct, that specified field values are populated, and performing various comparison, matching, merging, and validation operations on indexes. (See "Business Rules Step Overview" on page 550 for information about using this job step.)
- **Form Classification and Extraction** - This automated job step lets you connect to a Forms Magic project so that the job can access and process data from Forms Magic. (See "Forms Classification and Extraction Step Overview" on page 614 for information about using this job step.)
- **Forms Index Mapping** - This automated job step can map index fields set up in Forms Magic and process them. To use this job step, you must first select a Forms Magic project using the

Form Classification and Extraction step. (See "Forms Index Mapping Step Overview" on page 622 for information about using this job step.)

- **Forms Designer** - This manual job step lets users configure Forms Magic to automate document classification and index field value extraction for use in other job steps. Users can import images for classification, assign forms to form types, create new form types, configure Forms Magic indexes and detail fields, create color dropout filters, and test the classification and extraction process. (See "Forms Designer Step Overview" on page 628 for information about using this step.)

Add Job Steps

The **Job Step Toolbox** contains the steps that you can use to create jobs. (See "Available Job Steps" on page 82 for a brief description of what each job step does.)

To add a step to a job

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Click the **Job Step Toolbox** tab.
3. Add a step to the job using one of the following methods.
 - If you want to automatically create a link between an existing job step and the one you are adding, on the workspace, select the existing job step that you want the step you are adding to follow. On the **Job Step Toolbox** tab, double-click the step you want to add.
 - On the **Job Step Toolbox** tab, drag the step you want to add on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select the step you want to add.

If you did not link job steps as you added them (as described under the first bullet of the previous procedure), you must create links between job steps so that batches move logically through the work flow. (See "Link Job Steps" below for information about working with job step links.) You also must set properties for job steps and assign the users who will perform the manual job steps. (See "Set Common Properties for Job Steps" on page 88 and "Assign Users to Job Steps" on page 101 for instructions to perform these tasks.)

Link Job Steps

Links define how batches will flow through job steps. You must have job steps on the workspace of the **Job Definitions** window to work with links. (See "Add Job Steps" above for instructions to place job steps on the workspace.) If you are working with a **Manual QC** or **Automated QC** step, you can define pass and fail links that determine how batches are routed when they pass or fail the quality control inspection. (See "Add Pass and Fail Links" on page 513 for instructions to set these links for QC steps.)

To add a link between job steps from the workspace

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" above if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps you want to link.

4. Do one of the following:
 - On the **Job Steps** menu, click **Add Link**.
 - On the toolbar, click **Add Link**.

To add a link between job steps from the Job Steps grid

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on the previous page if you need help.)
3. On the **Job Steps** grid, click the job step for which you want to create a link.
4. From the list in the **Next** column, select the job step that you want to come next in the job. (Only job steps on the workspace appear in the list.)

To change the direction of a link

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on the previous page if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps for which you want to change the link direction.
4. Do one of the following:
 - On the **Job Steps** menu, click **Flip Link Direction**.
 - On the toolbar, click **Flip Link Direction**.

To remove a link

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on the previous page if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps for which you want to remove the link.
4. Do one of the following:
 - On the **Job Steps** menu, click **Remove Link**.
 - On the toolbar, click **Remove Link**.

Edit Job Steps

After job steps are placed on the workspace of the **Job Definitions** window, you can use the standard **Cut**, **Copy**, **Paste** and **Delete** commands to edit them. After you select a job step, you can access these commands from the **Job Steps** menu, the main and **Job Steps** grid toolbars, and by right-clicking on the workspace. (See "Add Job Steps" on the previous page if you need help adding job steps.)

To edit a job step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)

2. On the workspace or the **Job Steps** grid, click the job step you want to edit. (To select multiple steps, hold down the Ctrl key, and then click the job steps.)
3. On the **Job Steps** menu, the main or **Job Steps** grid toolbar, or the shortcut menu, do one of the following:
 - Click **Cut** to place the selected job step(s) on the clipboard. A gray grid appears on the job step(s).
 - Click **Copy** to copy the selected job step(s) to the clipboard.
 - Click **Paste** to paste the job steps that are on the clipboard.
 - Click **Delete** to delete the selected job steps.

Move Job Steps

After a job step is placed on the workspace of the **Job Definitions** window you can use the following procedures to move them around. (See "Add Job Steps" on page 84 if you need help adding job steps.)

To move a job step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, drag the job step to where you want it.

To move multiple job steps

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, hold down Shift while clicking the left mouse button.
3. Drag the pointer to create a boundary around the job steps you want to move.

A blue boundary appears around the area you define, and the steps in the boundary will move as one unit.
4. Release the Shift key and mouse button, and then rest the pointer on one of the selected job steps.
5. When the pointer becomes two double-headed arrows, drag the steps to where you want them.

Align Job Steps

After job steps are placed on the workspace of the **Job Definitions** window, you can use commands on the **Format** menu and the **Alignment** toolbar to align them. (See "Add Job Steps" on page 84 if you need help adding job steps.)

To view the alignment toolbar

- On the **Job Definitions** window, click the **View** menu, point to **Toolbars**, and then check the **Alignment** check box. The Alignment toolbar is shown below.



To align job steps



NOTE

When you are applying an alignment attribute to multiple job steps, it is based on the job step that was selected last. For example, if you want to make multiple job steps align at the bottom, the alignment is based on the location of the last job step that you select.

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, hold down the Ctrl key, and then click the job steps you want to align.
3. On the **Alignment** toolbar, or on the **Format** menu under **Align**, do one of the following:
 - Click **Left** to align the left borders of the job steps to the left border of the job step selected last.
 - Click **Center** to align the center point of the top and bottom borders of the job steps to the center of the job step selected last.
 - Click **Right** to align the right borders of the job steps to the right border of the job step selected last.
 - Click **Top** to align the top borders of the job steps to the top border of the job step selected last.
 - Click **Middle** to align the middle point of the left and right borders of the job steps to the middle of the job step selected last.
 - Click **Bottom** to align the bottom borders of the job steps to the bottom border of the job step selected last.

Size Job Steps

After job steps are placed on the workspace of the **Job Definitions** window, you can use commands on the **Format** menu and the **Alignment** toolbar to size them. (See "Add Job Steps" on page 84 if you need help adding job steps.) You can size job steps individually, or you can select multiple job steps and modify their size based on the width and/or, height, of the job step selected last.

To view the alignment toolbar

- On the **Job Definitions** window, click the **View** menu, point to **Toolbars**, and then check the **Alignment** check box. The Alignment toolbar is shown below.



To size a job step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, click the job step you want to size, and then rest the pointer on a border of the job step.
3. When the pointer becomes a double-headed arrow, drag the border to size the job step.

To make job steps the same size



NOTE



When you are applying a size attribute to multiple job steps, it is based on the job step that was selected last. For example, if you want to make multiple job steps have the same width, the sizing is based on the width of the last job step that you select.

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, hold down the Ctrl key, and then click the job steps that you want to make the same size.
3. On the **Alignment** toolbar, or on the **Format** menu under **Make Same Size**, do one of the following:
 - Click **Width** to resize the width of the selected job steps to match the width of the job step selected last.
 - Click **Height** to resize the height of the selected job steps to match the height of the job step selected last.
 - Click **Both** to resize the width and height of the selected job steps to match the width and height of the job step selected last.

Set Common Properties for Job Steps

After job steps are placed on the workspace of the **Job Definitions** window, you can set properties for them. (See "Add Job Steps" on page 84 if you need help adding job steps.) Job step properties let you define how each job step appears and functions. There are numerous properties available for each job step. This content describes the **Appearance** and **General** properties that are common to all job steps. For information about properties specific to a job step, see the content for that job step. You use the **Properties** tab on the **Job Definitions** window to set job step properties.

To set job step Appearance properties

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, double-click the job step for which you want to set **Appearance** properties.
3. At the top of the **Properties** tab, expand **Appearance**, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.





TIP

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. You can set the following properties.
 - **Automated Image Alignment** - This property is available for automated job steps only, and specifies how images are aligned. The default setting is Bottom-Right.

- **Color** - This property lets you change the color of the job step. You can use custom, web, or system colors. The default setting is the web color, beige. To change the color, click the down arrow, click the **Custom**, **Web**, or **System** tab, and then choose the color you want to use.
- **Font** - This property lets you change the font that appears on the job step. Click the ellipsis button to access the **Font** dialog box where you can select font options.
- **Location** - This property displays the current location of the job step based on its X and Y axis coordinates on the workspace. The displayed values automatically update when a job step is dragged to a new location on the workspace. You can also change the position of the job step by expanding **Location**, and then typing values in the **X** and **Y** boxes.
- **Shape** - This property lets you change the shape of the job step. The default setting is **Rounded Rectangle**.
- **Size** - This property displays the current width and height (in pixels) of the job step. The displayed values automatically update when a job step is sized on the workspace. You can also change the size of the job step by expanding **Size**, and then typing values in the **Width** and **Height** boxes.

To set job step General properties

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, double-click the job step for which you want to set **General** properties.
3. On the **Properties** tab, expand **General**, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. The following **General** properties appear.



N O T E

Only the properties that apply to the selected job step are available for you to set. Other properties may appear, but are unavailable for editing.

- **Age Priority** - The value of this property is used (with other values) to calculate the overall batch priority in the Operator Console. See "Batch Priority" on page 26 for details on batch priority calculation. A value of **0** indicates that this property is not defined. To define this property, you can set a value from 1 to 100 by typing the value in the box, or clicking the down arrow to access the slider.
- **Allow Advanced PDF Import** - The value of this property specifies whether you can import advanced PDF files. Importing advanced PDF files can slow system performance. Set this option to **False** if you do not want to import advanced PDF files. Set this option to **True** to import advanced PDF files.

- **Assigned To** - This property is available for manual job steps only, and specifies the users who can perform the job step. Click the ellipsis button to access the **Job Step Assignment** dialog box, select the check boxes for the users and/or groups you want to assign, and then click **OK**. (See "Assign Users to Job Steps" on page 101 for more information.)
- **Auto-Detect PDF Resolution** - The value of this property specifies whether PDFs are imported at their native resolution. This setting may be useful if you have problems importing some PDFs. Set this option to **True**, the default setting, if you want to import PDFs at their native resolution. Set this option to **False**, if you want to import PDFs at a default resolution of 150 DPI.
- **Batch Destruction Offset** - This property is available for any job step, and specifies the amount of time after the job step is completed that must elapse before the batch is destroyed. The system begins timing after the operator submits the batch upon completion of the job step.

E X A M P L E

For example, a **Capture** step has a **Batch Destruction Offset** set to **60 minutes**, and the operator creates a new batch, scans documents, and then submits the batch. The next time the automation service runs (provided that an hour has passed and the **Destroy Batch** operation has been scheduled to run), the applicable batch will be destroyed.

To set the **Batch Destruction Offset** property, click the ellipses button to access the **Destruction Offset** dialog box, and then set values in the **Days**, **Hours**, and **Minutes** boxes. These values represent the duration after which any batches that complete the step are to be destroyed. If you want to keep statistics for the batch, select **Retain Statistics**, and then click **OK**.

- **Is Start Step** - By default, this property is available and editable for **Capture** steps. For a job to be valid, it must have a **Capture** step specified as the start step. You can set this property to **True** or **False**.
- **License Requirements** - This read-only property displays the software licenses required for the job step. In most scenarios, a license is consumed when a user works on a manual step in the PaperVision Capture Operator Console. Automated steps generally do not consume licenses when they run, and will not display a license in this property. If an automated step requires a license, it will appear under the **License Requirements** property for the manual step that precedes it. Barcode and OCR licenses are only required once those operations are configured. **Business Rules** job steps are licensed on an entity basis, so license requirements are not displayed. The system verifies that the entity license exists when the **Business Rules** job step is run. See "Licensing" on page 42 for more information about licenses.
- **Merge Like Documents** - You can use this property to merge pages from multiple documents with the same index values into a single document. You can only merge on index fields, not on detail fields. The merge process is performed on all documents in a batch, but documents that are not indexed are not included. Use the following procedure to set this property.

1. Click the ellipses button to access the **Merge Like Documents Configuration** dialog box.
2. Specify the page order for the merged document by selecting or clearing the **Merge In Reverse Direction** check box. Select the check box for pages to appear in the reverse order from which they are merged. Clear the check box for pages to appear in the order in which they are merged.
3. From the **Available** list, select the indexes to include in the merge process. This list displays all indexes that are defined for the job. To select multiple indexes, hold down the Ctrl key. To select all index values, select the **Select All** check box.
4. Click the right arrow. The indexes you selected appear in the **Selected** list.
5. (Optional) To remove indexes from the **Selected** list, select them, and then click the left arrow. To remove all indexes, select the **Select All** check box, and then click the left arrow.
6. For indexes that appear in the selected list, you can specify whether to include blank values for that index in the merge process by selecting or clearing the **Allow Blank** check box.

E X A M P L E

For example, if you select the **Allow Blank** check box for an Invoice Number index, all documents must contain blank index values to be merged into one document. If at least one Invoice Number index value is defined and the remaining index values are blank (or vice versa), the documents will not be merged. By default, blank index values are not included in the merged document.

- **Mode** - This read-only property displays whether the job step is manual or automated.
- **Name** - This property displays the default name for the job step, but you can edit it.
- **Pre-Caching** - This property is available for manual job steps only. When you enable this property, the number of pages you specify is downloaded before the remaining pages in the document are downloaded. You can use this property to increase productivity in the PaperVision Capture Operator Console.

E X A M P L E

For example, if an operator manually indexes only the first page of every 10-page document, you can set the **Pre-Caching** property for the **Indexing** step **Number Pages** to **1** so that when an operator opens a batch, only the first page is downloaded (before the remaining pages) from each document. This allows the operator to begin working, instead of waiting for the contents of an entire document or batch to download before they can get started.

- **Source Image Step** - This property specifies a job step from which images are displayed in the PaperVision Capture Operator Console. To set this property, click the down arrow, and then select the job step to use as the source for images.

EXAMPLE

For example, you can select the **Capture** step's images to display in the Operator Console for the **Indexing** step so that when the operator opens the **Indexing** step, images from the **Capture** step appear.

- **Step Priority** - The value of this property is used (with other values) to calculate the overall batch priority in the PaperVision Capture Operator Console. See "Batch Priority" on page 26 for details on batch priority calculation. A value of **0** indicates that this property is not defined. To define this property, you can set a value from 1 to 100 by typing the value in the box, or clicking the down arrow to access the slider.
- **Type** - This read-only property displays the type of job step.
- **Use Non-Repudiation** - When this property is set to **True**, images are captured and the SHA-512 hash value is calculated and stored for each image. The hash value can be exported to content management systems such that when a user retrieves an image, the hash value is recalculated for the retrieved image and then verified against the stored hash value to validate that the image was not tampered with.



IMPORTANT

When running a demo license, the application writes a watermark onto each captured image. Therefore, non-repudiation is not supported in demo mode.


Document Processing Conditions

The **Document Processing Conditions** property lets you define conditions for automated job steps, that when met, determine if a document will be processed in that job step. The default setting is to process all documents. This property is available for the following automated job steps.

- Barcode
- Nuance OCR
- Open Text OCR
- Nuance Full-Text OCR
- Open Text Full-Text OCR
- Image Processing
- Automated QC
- Business Rules
- Forms Classification and Extraction
- Forms Index Mapping

To configure the Document Processing Conditions property


1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)

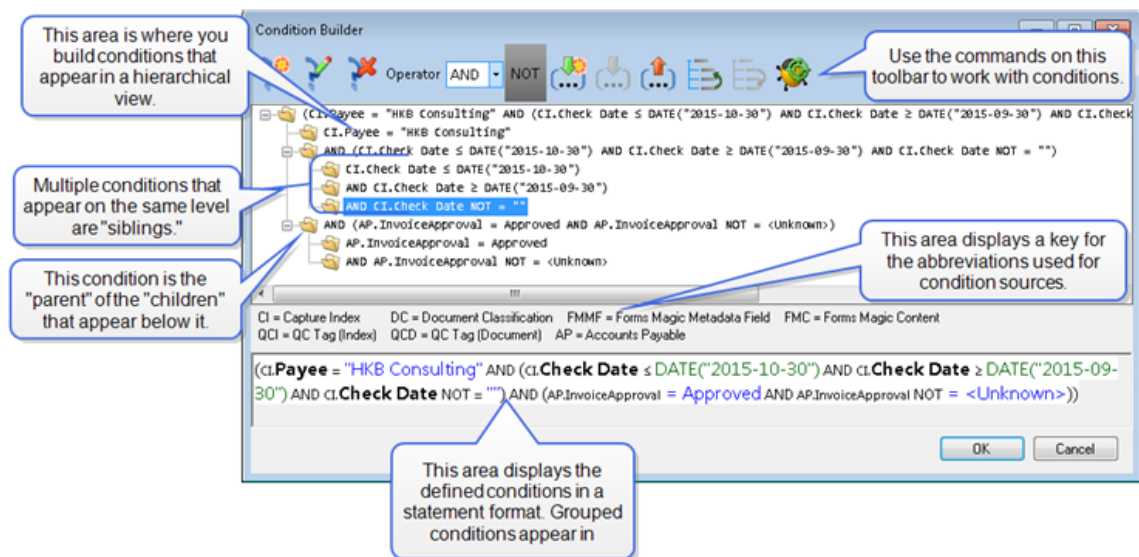
2. On the workspace, double-click the automated job step for which you want to set **Document Processing Conditions** property.
3. At the top of the **Properties** tab, expand **Automated**, and then click **Document Processing Conditions**.
4. Click the ellipsis button  to open the **Condition Builder**.
5. Do one of the following:
 - If this is an initial set up, on the toolbar, click **Add New Condition**.
 - If you want to edit an existing condition, select it, and then click **Edit Condition**. (See "Condition Builder Window Overview" below for information about the features you can use for editing. See "Condition Sources" on page 95 for information about condition sources and instructions to configure them.)
6. Go to "Condition Sources" on page 95 for information about condition sources and instructions to configure them.
7. After you have finished configuring the **Document Processing Conditions** property, see "Test Document Processing Conditions" on page 100 if you want to test your settings.

Condition Builder Window Overview




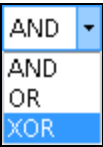



This content describes the components of the **Condition Builder** window that you use to configure settings for document processing. Becoming familiar with this window will help you more easily perform configuration tasks.





To open the Condition Builder window

1. On the workspace of the **Job Definitions** window, double-click the automated job step for which you want to set **Document Processing Conditions** property.
2. At the top of the **Properties** tab, expand **Automated**, and then click **Document Processing Conditions**.
3. Click the ellipsis button  to open the **Condition Builder**.



The commands on the toolbar of the **Condition Builder** window are described in the following table.

Toolbar Button and Command Name	Function
 Add New Condition	Click Add New Condition to define a condition. See "Condition Sources" on the facing page for instructions.
 Edit Condition	Click Edit Condition to change the settings of the selected condition. See "Condition Sources" on the facing page for information about the settings available for each condition.
 Remove Condition	Click Remove Condition to delete the selected condition.
 Operator list	Click the Operator list to select an operator for the selected condition. AND - This condition and the previous condition must be met to process a document. OR - This condition or the next condition must be met to process a document. XOR - The document will be processed if "condition A" is true or "condition B" is true but not when both conditions are true. If both conditions are true, the document will not be processed.
 Toggle NOT Operator	Click Toggle NOT Operator to process documents when the selected condition is not present.
 Move Condition Into New Group	Click Move Condition Into New Group to create a new folder underneath the selected condition. You must have at least two conditions defined at the same level to create a new group.
 Move Condition To Adjacent Group	Click Move Condition To Adjacent Group to move the selected condition down to the level of the first existing child.

Toolbar Button and Command Name	Function
 <p>Ungroup Condition</p>	<p>Click Ungroup Condition to move the selected condition up one level.</p>
 <p>Move Node Up Among Siblings</p>	<p>Click Move Node Up Among Siblings to move the selected condition up in order among conditions that are on the same level.</p>
 <p>Move Node Down Among Siblings</p>	<p>Click Move Node Down Among Siblings to move the selected condition down in order among conditions that are on the same level.</p>
 <p>Toggle Test Mode</p>	<p>Click Toggle Test Mode to toggle the test mode on and off. (See "Test Document Processing Conditions" on page 100 for information about using the test mode.)</p>

Condition Sources

Condition sources let you specify the type of content on which the decision to process a document in the job step will be based. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92 to open the **Please Choose Condition Source** dialog box where you can select one of the following options.

- **QC Index Tag** - Selecting this option processes a document in the job step when the quality control index tag you specify is found in the document. (See "To configure the QC Index Tag condition source" below for configuration instructions.)
- **QC Document Tag** - Select this option to process a document in the job step when the quality control document tag you specify is found in the document. (See "To configure the QC Document Tag condition source" on the next page for configuration instructions.)
- **Capture Index** - Select this option to process a document in the job step when the index you specify is found in the document. (See "To configure the Capture Index condition source" on the next page for configuration instructions.)
- **Invoice Approval** - Select this option to process a document in the job step when the invoice status you specify is found in the document. (See "To configure the Invoice Approval condition source" on page 97 for configuration instructions.)

The following procedures describe how to configure each condition source.

To configure the QC Index Tag condition source

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92 to open the **Please Choose Condition Source** dialog box.

2. Select **QC Index Tag**, and then click **Next** to open the **Please Choose Capture Index** dialog box.
3. Click the list, and then select the index that will determine whether or not to process a document.
4. Click **Next** to open the **Please Choose Comparison Type** dialog box.
5. Select one of the following options:
 - **Tag Exists** - Selecting this option processes a document in the job step when a QC index tag exists. After you select this option, click **Finish** to complete the set up of this condition source.
 - **String Comparison** - Selecting this option processes a document in the job step when the QC index tag contains a specified string.
 - **Numeric Comparison** - Selecting this option processes a document in the job step when the QC index tag contains a specified numeric value.
 - **Date/Time Comparison** - Selecting this option processes a document in the job step when the QC index tag contains a specified date/time value.
 - **Regular Expression** - Selecting this option processes a document in the job step using a regular expression.
6. Go to "Comparison Types" on the facing page for information about comparison types and instructions to configure them.

To configure the QC Document Tag condition source

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92 to open the **Please Choose Condition Source** dialog box.
2. Select **QC Document Tag**, and then click **Next** to open the **Please Choose Comparison Type** dialog box.
3. Select one of the following options:
 - **Tag Exists** - Selecting this option processes a document in the job step when a QC document tag exists. After you select this option, click **Finish** to complete the set up of this condition source.
 - **String Comparison** - Selecting this option processes a document in the job step when the QC document tag contains a specified string.
 - **Numeric Comparison** - Selecting this option processes a document in the job step when the QC document tag contains a specified numeric value.
 - **Date/Time Comparison** - Selecting this option processes a document in the job step when the QC document tag contains a specified date/time value.
 - **Regular Expression** - Selecting this option processes a document in the job step using a regular expression.
4. Go to "Comparison Types" on the facing page for information about comparison types and instructions to configure them.

To configure the Capture Index condition source

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92 to open the **Please Choose Condition Source** dialog box.

2. Select **Capture Index**, and then click **Next** to open the **Please Choose Capture Index** dialog box.
3. Click the list, and then select the index that will determine whether or not to process a document.
4. Click **Next** to open the **Please Choose Comparison Type** dialog box.
5. Go to "Comparison Types" below for information about comparison types and instructions to configure them.

To configure the Invoice Approval condition source

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92 to open the **Please Choose Condition Source** dialog box.
2. Select **Invoice Approval**, and then click **Next** to open the **Please Specify Invoice Approval Status** dialog box.
3. Click the **Invoice Approval Status** list, and then select the invoice status that will determine whether or not to process a document.
4. Click **Finish** to complete the set up of this condition source.

Comparison Types

Comparison types let you specify the criteria used to evaluate each condition source. The specified condition source determines the type of content that determines which documents will be processed, for example, an index. You can then use a comparison type to evaluate the contents of that index so that when it has a specific value it causes the document to be processed.

If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92, and then under "Condition Sources" on page 95, complete the procedure for the condition source you want to use. The **Please Choose Comparison Type** dialog box should be open so you can select one of the following options.

- **String Comparison** - Selecting this option processes documents when the condition source contains a specified string. (See "To configure the String Comparison type" on the next page for configuration instructions.)
- **Numeric Comparison** - Selecting this option processes documents when the condition source contains a specified numeric value. (See "To configure the Numeric Comparison type" on the next page for configuration instructions.)
- **Date/Time Comparison** - Selecting this option processes documents when the condition source contains a specified date/time value. (See "To configure the Date/Time Comparison type" on page 99 for configuration instructions.)
- **Regular Expression** - Selecting this option processes documents using a regular expression. A regular expression is a pattern of text that consists of ordinary characters (for example, letters a through z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching text. See [https://msdn.microsoft.com/en-us/library/ae5bf541\(v=vs.90\).aspx](https://msdn.microsoft.com/en-us/library/ae5bf541(v=vs.90).aspx) for examples of regular expressions and a listing of metacharacters and their behavior in the context of regular expressions. (See "To configure the Regular Expression comparison type" on page 100 for configuration instructions.)

The following procedures describe how to configure each comparison type.

To configure the String Comparison type

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92, and then under "Condition Sources" on page 95, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **String Comparison**, and then click **Next** to open the **Please Specify Comparison** dialog box.



T I P

For easy reference, the selected condition source is displayed under the dialog box title and above the drop-down list.

3. On the list, click the down arrow to select one of the following options:
 - **=** (equal to) - Select this option to specify that the value of the condition source must match exactly the value typed in the box below the list.
 - **CONTAINS** - Select this option to specify that the value of the condition source must contain the value typed in the box below the list.
 - **IN** - Select this option to specify that the value of the condition source must be contained within the value typed in the box below the list.

E X A M P L E

Suppose that you want to process documents in a job step only for the following departments: accounting, marketing, and support. To accomplish this, you could use two methods. You could create three separate conditions with the comparison type set to **=** (equal to), and then type the specific department for each one. As an alternative, you could create one condition with the comparison type set to **IN**, and then type **accounting, marketing, support** in the box below the list.

4. In the box below the list, type the value that will determine whether or not to process a document.
5. If you want to match the capitalization of the value you typed, then select **Case Sensitive**.
6. Click **Finish** to save the condition.

To configure the Numeric Comparison type

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92, and then under "Condition Sources" on page 95, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **Numeric Comparison**, and then click **Next** to open the **Please Specify Comparison** dialog box.

**T I P**

For easy reference, the selected condition source is displayed under the dialog box title and above the drop-down list.

3. On the list, click the down arrow to select one of the following options:
 - = (equal to) - Select this option to specify that the value of the condition source must match exactly the value typed in the box below the list.
 - > (greater than) - Select this option to specify that the value of the condition source must be greater than the value typed in the box below the list.
 - \geq (greater than or equal to) - Select this option to specify that the value of the condition source must be greater than or equal to the value typed in the box below the list.
 - < (less than) - Select this option to specify that the value of the condition source must be less than the value typed in the box below the list.
 - \leq (less than or equal to) - Select this option to specify that the value of the condition source must be less than or equal to the value typed in the box below the list.
4. In the box below the list, type the value that will determine whether or not to process a document.
5. If you want to match the capitalization of the value you typed, then select **Case Sensitive**.
6. Click **Finish** to save the condition.

To configure the Date/Time Comparison type

1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92, and then under "Condition Sources" on page 95, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **Date/Time Comparison**, and then click **Next** to open the **Please Specify Comparison** dialog box.

**T I P**

For easy reference, the selected condition source is displayed under the dialog box title and above the drop-down list.

3. On the list, click the down arrow to select one of the following options:
 - = (equal to) - Select this option to specify that the value of the condition source must match exactly the time and/or date values specified below the list.
 - > (greater than) - Select this option to specify that the value of the condition source must be later than the time and/or date values specified below the list.
 - \geq (greater than or equal to) - Select this option to specify that the value of the condition source must be later than or equal to the time and/or date values specified below the list.
 - < (less than) - Select this option to specify that the value of the condition source must be earlier than the time and/or date values specified below the list.
 - \leq (less than or equal to) - Select this option to specify that the value of the condition source must be earlier than or equal to the time and/or date values specified below the list.

4. Select one of the following items that will determine whether or not to process a document.
 - **Time** - If you select this option, type or select the time in the corresponding box.
 - **Date** - If you select this option, type or select the date in the corresponding box.
 - **Date/Time** - If you select this option, type or select the date and time in the corresponding boxes.
5. Click **Finish** to save the condition.

To configure the Regular Expression comparison type



NOTE

Before you start this procedure, prepare the regular expression you want to use to split the batch.



1. If you haven't already done so, complete the procedure under "Document Processing Conditions" on page 92, and then under "Condition Sources" on page 95, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **Regular Expression**, and then click **Next** to open the **Please Specify Regular Expression** dialog box.



TIP

For easy reference, the selected condition source is displayed under the dialog box title and above the **Regular Expression** box.


3. In the **Regular Expression** box, type the regular expression that will determine whether or not to process a document.
4. In the **Test** box, type a test value applicable to the regular expression you entered.

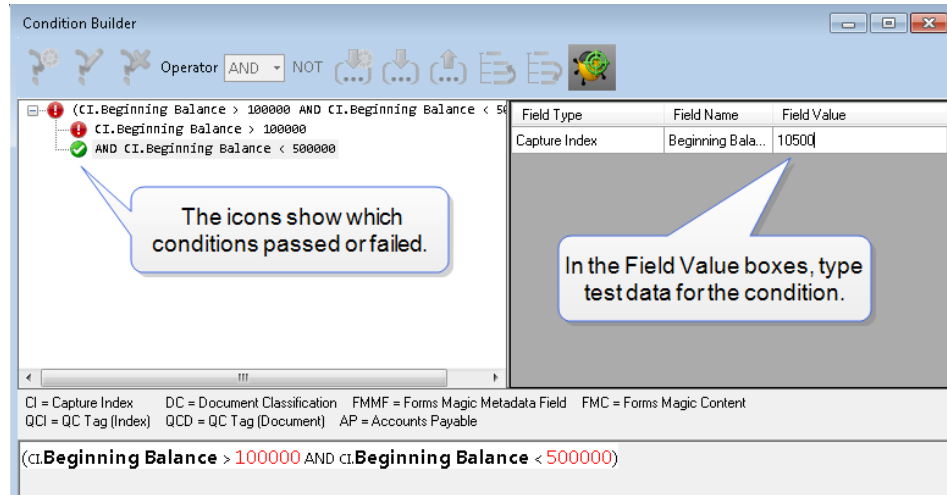
If the regular expression is working correctly, a  appears next to the **Test** box. Otherwise, a  appears.
5. Click **Finish** to save the condition.

Test Document Processing Conditions

You can test your document processing conditions.

To test document processing conditions

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the workspace, double-click the automated job step for which you want to test **Document Processing Conditions**.
3. At the top of the **Properties** tab, expand **Automated**, and then click **Document Processing Conditions**.
4. Click the ellipsis button  to open the **Condition Builder**.
5. On the toolbar, click **Toggle Test Mode** to open test fields on the right pane.



6. In the **Field Value** boxes, you can type data to test the criteria of the condition.

When you type a correct value, a appears in the left pane. Otherwise, a appears.

7. Click **Toggle Test Mode** to return to the **Condition Builder** window.

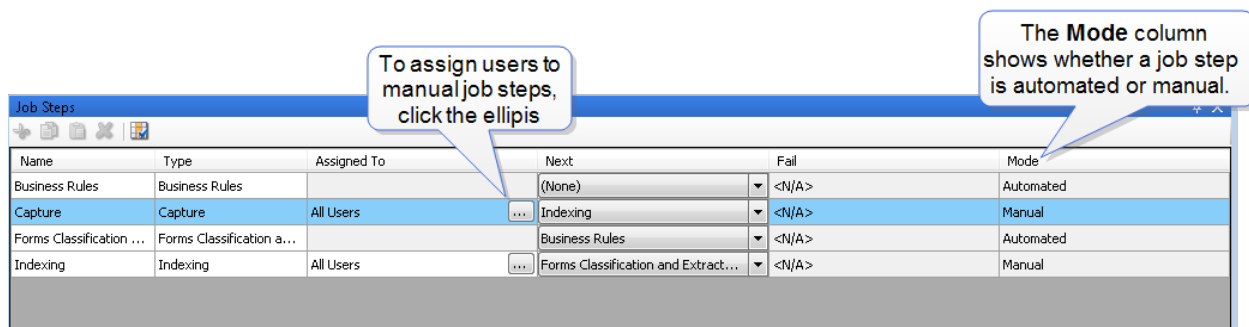
Assign Users to Job Steps

After a manual job step is placed on the workspace of the **Job Definitions** window, you can assign which users will perform it from the Operator Console. (See "Add Job Steps" on page 84 if you need help adding job steps.) You can assign manual job steps to single or multiple users, or to a defined group of users. You can create user groups based on the tasks they perform.

EXAMPLE

For example, you could create a group called "Scan" that contains all of the users authorized to perform scanning operations, and then assign that group to the **Capture** job step. (See "System Users" on page 69 and "System Groups" on page 68 for information about creating users and groups.)

You can assign job steps from the **Job Steps** grid or from the **Properties** tab. The following procedure describes each method. You can use the **Job Steps** grid to determine which job steps are manual by checking the **Mode** column.



To assign users to manual job steps

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. Select the job step to which you want to assign users.
4. Do one of the following:
 - On the **Job Steps** grid, under the **Assigned To** column, click the ellipsis button.



T I P

On the **Job Steps** grid, you can click the **Mode** column heading to sort the job steps so that all of the **Manual** job steps are next to each other. Now you can assign users more quickly.

- Click the **Properties** tab, and then expand **General**. Click **Assigned To**, and then click the ellipsis button.
5. In the **Job Step Assignment** dialog box, select the check boxes for the users and/or groups you want to assign, and then click **OK**.

Job Tasks

After a job is created, you can set properties for the job, and then you must save, validate, activate, and check it in so that it is available for use in the Operator Console. (If you need help creating a job, see "Job Creation Overview" on page 80 to get started.) You can perform job-related tasks on the **Job Definitions** window and on the **Capture Jobs** pane on the Administration Console. Procedures for both locations are included.



See the following sections for information about the job-related tasks you can perform.

- See "Set Job Properties" on the facing page for instructions to set properties that apply to the entire job and not just a specific job step.
- See "Configure Detail Sets" on page 106 for instructions to set up job-level detail sets.
- See "Save Jobs" on page 108 for instructions to save jobs and identify unsaved jobs.
- See "Validate Jobs" on page 108 for instructions to validate jobs and identify requirements for valid jobs.
- See "Activate and Deactivate Jobs" on page 109 for instruction to activate and deactivate jobs.
- See "Check Jobs In and Out" on page 110 for instructions to check jobs in and out, and to undo job checkouts.
- See "Delete Jobs" on page 112 for instructions to delete jobs.
- See "Import and Export Jobs" on page 112 for instructions and requirements to import and export jobs.
- See "Clone Jobs" on page 113 for instructions to clone jobs.

Set Job Properties

Job properties let you define various settings that apply to the entire job. This content describes the **General** properties that are common to all job steps. For information about properties specific to a job step, see the content for that job step. You use the **Properties** tab on the **Job Definitions** window to set job properties.



To set job properties

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure that no job steps are selected by clicking on a blank area of the workspace.
3. Click the **Properties** tab.
4. If necessary, expand **General**, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

5. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
6. You can set the following properties.
 - **Active** - This property specifies whether the job is active. If the property is set to **True**, the job is activated. If the property is set to **False**, the job is not activated in the Operator Console. Users can create batches only for active jobs that have been checked into the server. (See "Activate and Deactivate Jobs" on page 109 for more information.)
 - **Age Priority** - The value of this property is used (with other values) to calculate the overall batch priority in the Operator Console. (See "Batch Priority" on page 26 for details on batch priority calculation.) A value of **0** indicates that this property is not defined. To define this property, you can set a value from 1 to 100 by typing the value in the box, or clicking the down arrow to access the slider.
 - **Comments** - This property contains any comments that you want to add about the job. Click the box next to the **Comments** property, type your text, and then press Enter. To view a comment, rest the pointer on the value in the **Comments** box.
 - **Custom QC Tags** - This property lets you define custom QC tags that appear in the Operator Console. (See "Add Custom QC Tags" on page 503 for instructions to set this property.)
 - **Detail Set** - This property defines detail sets for the job. (See "To configure a detail set from the job-level Detail Set property" on page 106 for instructions to set this property.)

- **Encryption Key** - This property lets you select an encryption key to encrypt batches, images, and indexes. Encryption keys must be defined for them to appear in the list. (See "Encryption Keys" on page 61 for more information.)



I M P O R T A N T

Using encryption in batches can increase the size of batches and may adversely affect performance.

- **Entity** - This read-only property displays the name of the current entity.
- **Name** - This property displays the name of the open job. You can edit this value.
- **Number Steps** - This read-only property displays the number of steps in the job.

About Detail Sets

A detail set defines a collection of indexes that allow multiple sets of field data to reference a single document. (See "Detail Sets" on page 27 for an example of how you can use detail sets.) When working with a detail set, keep in mind the following:

- **There can be only one detail set per job.**
- **The content of a detail set applies to the entire job.** You can configure a detail set from job steps that allow indexing. This feature is provided so you don't have to exit the step each time you want to add a detail set or modify its contents. Even though you can change the contents of a detail set from a step, the changes you make are not step-specific; they apply to the detail set which applies to the whole job. For example, if you add an index to a detail set from the **Capture** step, that index is included in all steps that allow for indexing and is not restricted to the **Capture** step.
- **You can apply job- and step-level properties to the indexes contained in detail sets.** Job-level properties apply to an index throughout the entire job, whereas step-level properties apply to the index only in that step. For example, **Index Type** is a job-level property, so an index defined as a currency index remains that way regardless of what job step it is in. Whereas the **Zoom Zone** property is a step-level property, so the same index could have a different zone defined in different steps.

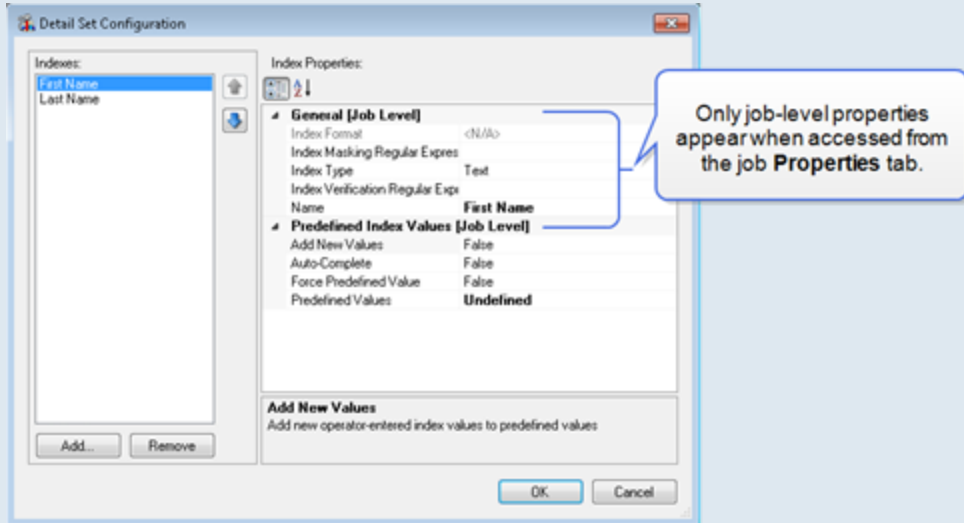
After indexes are added to a detail set, you use the **Detail Set Configuration** dialog box to configure the properties for each index. You can access this dialog box through the:

- **Detail Set** property on the job-level **Properties** tab. (See "To configure a detail set from the job-level Detail Set property" on page 106 for instructions.)
- **Indexes** property on the step-level **Properties** tab. (See "To configure a detail set from the step-level Indexes property" on page 107 for instructions.)

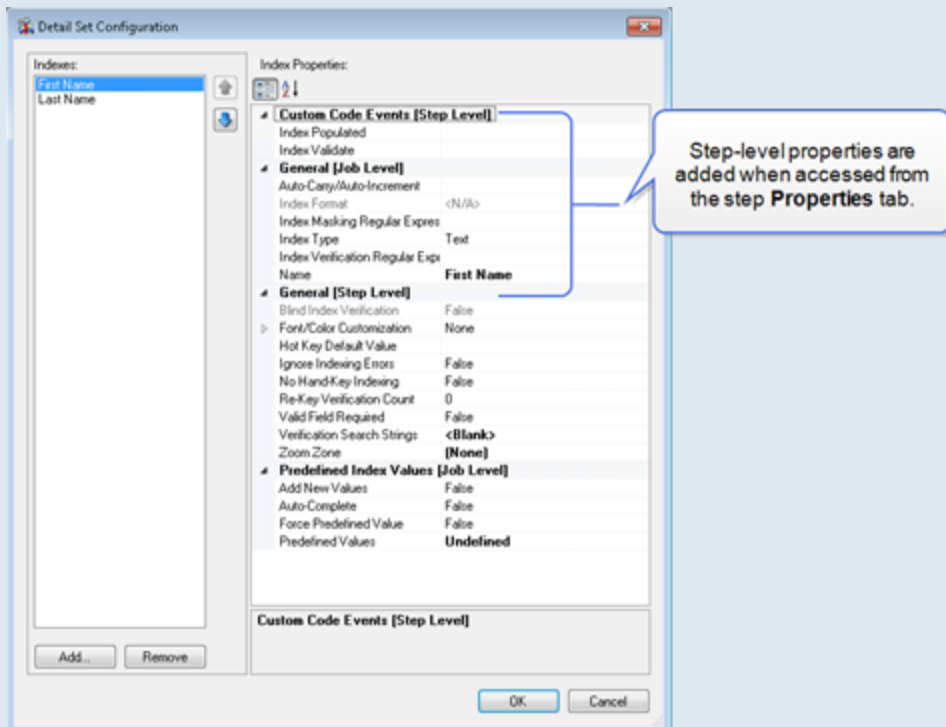
Both methods open the **Detail Set Configuration** dialog box. However, the properties that are available to configure will differ as explained in the following example.

EXAMPLE

For example, when you access the **Detail Set Configuration** dialog box from the job-level **Properties** tab, only job-level properties appear.



When you access the same dialog box from the **Indexes** property on the step, the job- and step-level properties appear.



The step-level properties vary depending on the step from which you accessed the dialog box.

Configure Detail Sets


You can configure detail sets using job-level properties and step-level properties in steps that allow for indexing. The following procedures explain how to configure a detail set from both locations. See "About Detail Sets" on page 104 for information about rules that apply to using detail sets and how detail set properties differ depending on how you access them.



I M P O R T A N T


If you export data to PaperVision Enterprise, or ImageSilo, there are index names that are reserved for use by the Document Search Service. Using a reserved index name, will cause inaccurate search results in PaperVision Enterprise and ImageSilo. Review "Reserved Index Names" on page 141 before creating new indexes to ensure that you do not use a reserved name.

To configure a detail set from the job-level Detail Set property

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - Double-click on a blank area of the workspace to open the **Properties** tab.
 - Ensure that no job steps are selected by clicking on a blank area of the workspace, and then click the **Properties** tab.
3. If necessary, expand **General**, and then click **Detail Set**.
4. Click the ellipsis button  to open the **Detail Set Configuration** dialog box.
5. To add an index value to the detail set, click **Add**.
6. In the **Add Index** dialog box, select one of the following options:
 - To add a new index, select **New Index**, and then in the **Field Name** box, type a name for the index.
 - To add an existing index, select **Existing Index**, and then from the **Field Name** list, select the index.
 - The **Auto Generate** option applies only if you are using Forms Magic and/or the EDI Business rule. To automatically generate indexes, select **Auto Generate**, and then from the **Collection** list, select the collection of detail fields you want to use. The items in this list are collections of default detail fields for the default form types in Forms Magic, and the HIPAA 837P form used by the EDI business rule. If you select a Forms Magic (FM) collection, you can cause the indexes to appear in uppercase letters by selecting the **Use All Upper-Case** check box.
7. Click **OK** to add the index(es). For each index you add, you can specify properties.
8. To specify properties for an index, select it, and then go to step 5 in the procedures in the following instructions.
 - See "Index Format" on page 145 for instructions to set this property.
 - See "Index Masking Regular Expression" on page 147 for instructions to set this property.
 - See "Index Type" on page 149 for instructions to set this property.
 - See "Index Verification Regular Expression" on page 150 for instructions to set this property.

- See "Name" on page 151 for instructions to set this property.
 - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set the properties under this category.
9. When you are finished configuring the detail set, click **OK** to save your changes and close the dialog box.

To configure a detail set from the step-level Indexes property

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Double-click the step for which you want to configure a detail set.
3. On the **Properties** tab, if necessary, expand **Indexes**.
4. Click **Indexes**, and then click the ellipsis button  to open the **Index Configuration** dialog box.
5. Do one of the following:
 - Click **Add**, and then select **Job Detail Set**.



NOTE

The **Job Detail Set** option is not available if a detail set already appears in the **Indexes** list. There can be only one detail set per job. See "About Detail Sets" on page 104 for more information about detail set configuration.

- If a detail set already exists, select **Detail Set** from the **Indexes** list.
6. Under **Index Properties**, click **Detail Set**, and then click the ellipsis button to open the **Detail Set Configuration** dialog box.
 7. To add an index value to the detail set, click **Add**.
 8. In the **Add Index** dialog box, select one of the following options:
 - To add a new index, select **New Index**, and then in the **Field Name** box, type a name for the index.
 - To add an existing index, select **Existing Index**, and then from the **Field Name** list, select the index.
 - The **Auto Generate** option applies only if you are using Forms Magic and/or the EDI Business rule. To automatically generate indexes, select **Auto Generate**, and then from the **Collection** list, select the collection of detail fields you want to use. The items in this list are collections of default detail fields for the default form types in Forms Magic, and the HIPAA 837P form used by the EDI business rule. If you select a Forms Magic (FM) collection, you can cause the indexes to appear in uppercase letters by selecting the **Use All Upper-Case** check box.
 9. Click **OK** to add the index(es). For each index you add, you can specify properties.
 10. To specify properties for an index, select it, and then go to step 5 in the procedures in the following instructions.

**N O T E**

The step-level properties vary depending on the step from which you accessed them. The following references are for the job-level properties that always appear. For information about properties specific to a step, see the content for that step.

- See "General [Job Level] Properties" on page 144 for instructions to set the properties under this category
 - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set the properties under this category.
11. When you are finished configuring the detail set, click **OK** to save your changes and close the dialog box.

Save Jobs

You can save jobs on the **Job Definitions** window and on the **Capture Jobs** pane on the Administration Console. Procedures for both locations are included. When you are working on the **Job Definitions** window, an unsaved job shows an asterisk (*) next to its name and appears similar to this:



To save jobs on the Job Definitions window

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Save** or **Save All**.
 - On the toolbar, click **Save Job** or **Save All**.

To save jobs on the Capture Jobs pane

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job(s) you want to save, and then do one of the following:
 - On the **Action** menu, click **Save Job** or **Save All Jobs**.
 - On the toolbar, click **Save Job** or **Save All Jobs**.
 - Right-click the selected job(s), and then click **Save Job** or **Save All Jobs**.

Validate Jobs

Before you can make a job available for use in the Operator Console, you must validate it. When you validate a job, the system verifies that all job steps are configured correctly. For example, the system checks that all manual job steps have users assigned and that required properties are set for all job steps. The system also verifies that the job step work flow is configured correctly. Jobs can have complex work flows that include multiple start steps, and steps (such as a **QC** step with pass and fail links, or a **Batch Splitting** step) that can cause some documents in the batch to split from the main work flow. For a job to be valid:

- All start steps must end at a single job step, regardless of how documents are routed.
- All **Batch Splitting** steps must have target jobs or steps configured. (See "Batch Splitting Step Overview" on page 526 for information about using this step.)

To validate a job

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Validate**.
 - On the toolbar, click **Validate Job**.

If the job is invalid, a dialog box displays the items that must be fixed, and the borders of invalid job steps are red.



T I P

If you rest the pointer on an invalid job step, the reason for the error appears.

3. Do one of the following:
 - If the job is not valid, fix the errors, and then validate the job again. Repeat this process until the job is valid.
 - If the job is valid, click **OK**. The job is ready to be activated and checked in. (See "Activate and Deactivate Jobs" below and "Check Jobs In and Out" on the next page for instructions.)

Activate and Deactivate Jobs

Before you can make a job available for use in the Operator Console, you must activate it. You cannot activate an invalid job, so the system will verify that the job is valid when you activate it. If the job is invalid, you must fix the errors. (See "Validate Jobs" on the previous page for more information.)

To activate a job

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Activate**.
 - On the toolbar, click **Activate Job**.

If the job is invalid, a dialog box displays the items that must be fixed, and the borders of invalid job steps are red.



T I P

If you rest the pointer on an invalid job step, the reason for the error appears.

To deactivate a job



NOTE

A job must be checked out and active before you can deactivate it.

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Deactivate**.
 - On the toolbar, click **Deactivate Job**.

Check Jobs In and Out

Before you can make a job available for use in the Operator Console, you must check it in. To check in a job, it must be valid and active. When you check in a job, the system automatically saves it. (See "Validate Jobs" on page 108 and "Activate and Deactivate Jobs" on the previous page for more information.) You can check jobs in and out on the **Job Definitions** window and on the **Capture Jobs** pane on the Administration Console. Procedures for both locations are included.

To check a job in on the Job Definitions window

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Check In**.
 - On the toolbar, click **Check In Job**.

To check a job out on the Job Definitions window



NOTE

Before you can edit a job, you must first check it out. Only one administrator can check out a job at one time, so multiple administrators cannot work on the same job at the same time.

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Check Out**.
 - On the toolbar, click **Check Out Job**.

To undo a job checkout on the Job Definitions window



TIP

If you make changes to a job and do not want to save the changes, you can use the **Undo Checkout** command.

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Undo Checkout**.
 - On the toolbar, click **Undo Checkout**.

To check a job in on the Capture Jobs pane

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job you want to check in, and then do one of the following:
 - On the **Action** menu, click **Check In Job**.
 - On the toolbar, click **Check In Job**.
 - Right-click the selected job, and then click **Check In Job**.

To check a job out on the Capture Jobs pane



N O T E

Before you can edit a job, you must first check it out. Only one administrator can check out a job at one time, so multiple administrators cannot work on the same job at the same time.

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job you want to check out, and then do one of the following:
 - On the **Action** menu, click **Check Out Job**.
 - On the toolbar, click **Check Out Job**.
 - Right-click the selected job, and then click **Check Out Job**.

To undo a job checkout on the Capture Jobs pane



T I P

If you make changes to a job and do not want to save the changes, you can use the **Undo Checkout** command.

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job for which you want to undo the check out, and then do one of the following:
 - On the **Action** menu, click **Undo Checkout Job**.
 - On the toolbar, click **Undo Checkout Job**.
 - Right-click the selected job, and then click **Undo Checkout Job**.

Delete Jobs

Jobs can be deleted regardless of their status, including when they are active and checked in. If you delete a job that is active and checked in, it will no longer appear in the Operator Console. You can delete jobs on the **Job Definitions** window and on the **Capture Jobs** pane on the Administration Console. Procedures for both locations are included.

To delete jobs on the Job Definitions window

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Delete**.
 - On the toolbar, click **Delete**.
3. Click **Yes** to confirm the deletion.

To delete jobs on the Capture Jobs pane

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job(s) you want to delete, and then do one of the following:
 - On the **Action** menu, click **Delete Jobs**.
 - On the toolbar, click **Delete Jobs**.
 - Right-click the selected job(s), and then click **Delete Jobs**.
4. Click **Yes** to confirm the deletion.

Import and Export Jobs

You can import existing jobs for an entity. To use this feature, you must have an XML file that was created by a job being successfully exported from either the **Job Definitions** window or the **Capture Jobs** pane on the Administration Console.



I M P O R T A N T

Users specified in the **Assigned To** property are removed when a job is exported. When an exported job is subsequently imported back into PaperVision Capture, the **Assigned To** property will be blank and must be reassigned.

When a job that contains a **Batch Splitting** step is exported, any configured target jobs or steps are removed, and must be reconfigured when the job is subsequently imported back into PaperVision Capture.

To export a job on the Job Definitions window

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Export**.
 - On the toolbar, click **Export Job**.

3. In the **Save As** dialog box, go to the location where you want to save the job.
4. In the **File Name** box, type a name for the job, and then click **Save**.

To import a job on the Job Definitions window

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Import**.
 - On the toolbar, click **Import Job**.
3. In the **Open** dialog box, select the XML file for the exported job, and then click **Open**.

To export a job on the Capture Jobs pane

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job you want to export, and then do one of the following:
 - On the **Action** menu, click **Export Job**.
 - On the toolbar, click **Export Job**.
 - Right-click the selected job(s), and then click **Export Job**.
4. In the **Save As** dialog box, go to the location where you want to save the job.
5. In the **File Name** box, type a name for the job, and then click **Save**.

To import a job on the Capture Jobs pane

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. Do one of the following:
 - On the **Action** menu, click **Import Job**.
 - On the toolbar, click **Import Job**.
 - Right-click the selected item, and then click **Import Job**.
4. In the **Open** dialog box, select the XML file for the exported job, and then click **Open**.

Clone Jobs

Cloning a job copies the components of the job including its steps, configurations, and assigned users into a new job. You can clone jobs on the **Job Definitions** window and on the **Capture Jobs** pane on the Administration Console. Procedures for both locations are included.

To clone a job on the Job Definitions window

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - On the **Job** menu, click **Clone**.
 - On the toolbar, click **Clone Job**.
3. In the **Name** box, type a name for the job, and then click **OK**.

To clone a job on the Capture Jobs pane

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then click **Capture Jobs**.
3. On the right pane, select the job you want to clone, and then do one of the following:
 - On the **Action** menu, click **Clone Job**.
 - On the toolbar, click **Clone Job**.
 - Right-click the selected job(s), and then click **Clone Job**.
4. In the **Name** box, type a name for the job, and then click **OK**.

Job Definitions Window Features

You use the **Job Definitions** window to create and configure new jobs and modify existing ones. See "Job Definitions Window Overview" on page 80 for information about opening the **Job Definitions** window and a summary of its components.

See the following sections for more in-depth information about each component and customization options that are available to you on the **Job Definitions** window.

- See "Move Components" below for instructions to move the various components.
- See "Auto Hide Components" on the facing page for instructions to apply the auto hide feature to components.
- See "View or Hide Components" on the facing page for instructions to view and hide components and toolbars.
- See "Main Workspace Features" on page 116 for summary information about the main workspace.
- See "View Open Job" on page 116 for instructions to view open jobs.
- See "Set Zoom Options" on page 117 for instructions to use the zoom options.
- See "Sort Properties" on page 117 for instructions to sort the properties that appear on the **Properties** tab.
- See "Customize Job Steps Grid Columns" on page 117 for instructions to specify which columns appear and how to sort them.

Move Components

You can move components on the **Job Definitions** screen to accommodate your preferences. You can move the **Properties** and **Job Step Toolbox** tabs, and the **Job Steps** grid.

To move a component

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Place the pointer on the title bar of the component you want to move.
3. Drag the item to the new location. A purple translucent rectangle indicates where the item will be placed.

- (Optional) To anchor the component to a side of the **Job Definitions** window, drag it toward a side until four arrows in boxes appear. Place the pointer on the box where you want to anchor the component.

Auto Hide Components

You can apply **Auto Hide** to the **Properties** and **Job Step Toolbox** tabs, and the **Job Steps** grid. On the upper-right corner of these components, there is a small button that looks like a pin. If you click this button, the component is hidden (or “pinned” to the edge of the **Job Definitions** window). However, you can still see the title of the component along the edge of the **Job Definitions** window. When you point to the title, the component temporarily displays again until you move the pointer.

To apply and remove Auto Hide

- Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
- On the upper-right corner of the component, click the pin.



The tab for the component appears on the side nearest to its original location. For example, if the **Job Step Toolbox** tab was anchored on the left side, it now appears as a tab on the left side. When you click the tab, the pin appears on its side (as shown below) to indicate that the **Auto Hide** feature is applied.



- To remove the **Auto Hide** feature, click the pin to “un-pin” the component.

View or Hide Components

You can view and hide screen components and toolbars on the **Job Definitions** window.

To view or hide components

- Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
- Click the **View** menu, and then point to **Windows**.
- Do one of the following:
 - To cause a component to appear on the **Job Definitions** window, select it by placing a check mark next to it.
 - To hide a component, clear the check mark by clicking it.

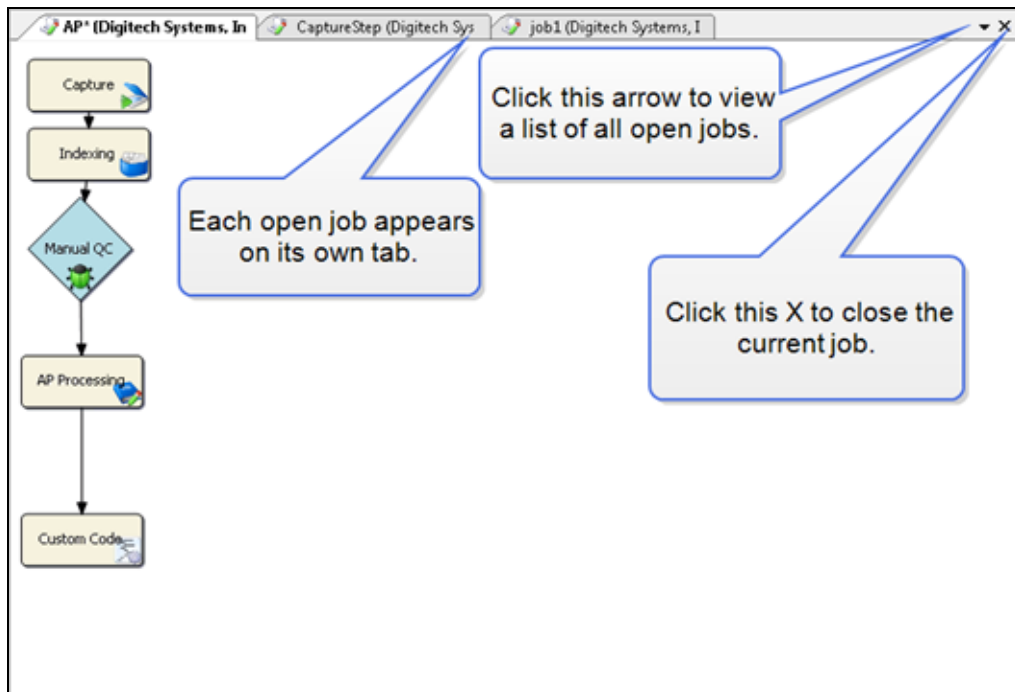
To view or hide toolbars

- Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
- Click the **View** menu, and then point to **Toolbars**.
- Do one of the following:

- To cause a toolbar to appear on the **Job Definitions** window, select it by placing a check mark next to it.
- To hide a toolbar, clear the check mark by clicking it.

Main Workspace Features

The main workspace makes up most of the **Job Definitions** window. The main workspace is where you build jobs. This area always appears on the **Job Definitions** window, and cannot be hidden or moved like other components. The following screen shot shows the features on the main workspace.

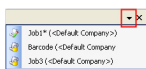


View Open Job

You can have multiple jobs open on the main workspace of the **Job Definitions** window. Each open job appears on its own tab. If the job has unsaved changes, an asterisk (*) appears next to the name of the job.

To view an open job

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Do one of the following:
 - Click the tab of the job you want to view.
 - Click the arrow on the upper-right side of the workspace to display a list of open jobs, and then click the job you want to view.



Set Zoom Options

As you work with jobs on the main workspace of the **Job Definitions** window, you may find it helpful to use the zoom options. For example, if you have a complex job with many steps, you can zoom out so that you can see all of the job steps without scrolling.



To set zoom options

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **View** menu under **Zoom** or on the toolbar, do one of the following:
 - Click **Zoom In** to increase the size of the items on the workspace.
 - Click **Zoom Out** to decrease the size of the items on the workspace.
 - Click **Zoom Reset** to reset the workspace to its default zoom setting.

Sort Properties

You can sort the properties that appear on the **Properties** tab alphabetically or by category.

To sort properties

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Click the **Properties** tab, and then do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, at the top of the **Properties** tab, click **Alphabetical** .

Customize Job Steps Grid Columns

You can specify which columns appear on the **Job Steps** grid. You can also sort some columns alphabetically on the **Job Steps** grid to help you complete tasks. For example, you can sort the **Mode** column so that all manual job steps are together, making it easier to assign users to them.

To customize columns

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the toolbar of the **Job Steps** grid, click **Show/Hide Columns**.
3. In the **Select Columns** dialog box, select the check boxes for the columns that you want to appear on the grid. Clear the check boxes for the columns that you want to hide.
4. To reorder the columns, select the column you want to move, and then click **Move Up** or **Move Down**.
5. When you are finished making changes, click **OK**.

To sort columns

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Job Steps** grid, click the heading of the column you want to sort. If sorting is available for a column, an arrow appears in the column heading when you click it.

CHAPTER 5

Capture Step



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- Auto Document Break Property 121
- Capture Step Properties 122
- Custom Code Events [Auto Document Break] Properties 127
- Custom Code Events [Step Level] Properties 127
- General [Step Level] Properties 129
- Indexes Properties 129
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- Manual OCR Indexing Properties 131
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Capture Step Overview

The manual **Capture** step contains scanning options so you can customize PaperVision Capture to meet the scanning needs for any task. You can also configure index values within the **Capture** step so operators can hand-key index values in the Operator Console as documents are scanned. The **Auto Document Break** property settings let you automatically insert document breaks based on page count, file size, barcode content, and OCR text. Additionally, you can configure custom code events that the operator can manually execute while scanning. This content describes how to configure properties that apply to the **Capture** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure a Capture step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Capture** step to the workspace using one of the following methods.
 - Select the step that you want **Capture** to follow. On the **Job Step Toolbox** tab, double-click **Capture**.
 - On the **Job Step Toolbox** tab, drag **Capture** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Capture**.
5. Double-click the **Capture** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

7. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Capture** step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
 - See "Auto Document Break Property" on the facing page for instructions to set this property.
 - See "Capture Step Properties" on page 122 to access instructions for each property under this category.

- See "Custom Code Events [Auto Document Break] Properties" on page 127 to access instructions for each property under this category.
- See "Custom Code Events [Step Level] Properties" on page 127 for instructions to set the properties under this category.
- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
- See "General [Step Level] Properties" on page 129 for instructions to set the properties under this category.
- See "Indexes Properties" on page 129 for instructions to set the properties under this category.
- See "Manual Barcode Indexing Properties" on page 130 for instructions to set the properties under this category.
- See "Manual OCR Indexing Properties" on page 131 for instructions to set the properties under this category.
- See "Manual QC Properties" on page 132 for instructions to set the properties under this category.
- See "Operator Permissions Properties" on page 134 for instructions to set the properties under this category.
- See "Scanner Requirements Properties" on page 134 for instructions to set the properties under this category.

Auto Document Break Property

The **Auto Document Break** property lets you specify whether determining where one document ends and the next document begins is handled manually or automatically.

To set the Auto Document Break property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on the previous page if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Auto Document Break**.
3. Click **Mode**, and then click the down arrow to select one of the following options:
 - **None** - This is the default auto-document break type for a newly created step. When set to **None**, the system will expect you to manually separate new documents. No options are available for this setting.
 - **Number of Pages Per Document** - To assign a fixed number of pages per document, in the **Number of Pages** box, type how many pages PaperVision Capture will scan before starting a new document. If you want the operator to get a prompt that lets them specify a fixed number of pages before breaking to a new document, set **Prompt Operator** to **True**. If you set this option to **False**, the operator is not prompted.
 - **Barcode** - If you select the **Barcode** mode, click **Barcode Zones**, and then click the ellipsis button to define the zone. (See "Configure Barcode Zones" on page 176 for instructions to draw a barcode zone.) To include the page with the barcode in the batch, set the **Save Page** option to **True**. To remove the barcode page from the batch, select **False**.

- **Blank Page** - To automatically insert document breaks based on the file size of the image, select **Blank Page**. In the **File Size (KB)** box, type the size (in Kilobytes) of images to be considered blank. You can specify the file size in whole numbers with up to two decimal places. To include the blank page in the batch, set the **Save Image** option to **True**. To remove the blank page from the batch, select **False**.



NOTE

A job validation error will appear if both the **Auto Document Break** and **Minimum Page Size** properties are enabled. (See "Minimum Page Size" on page 125 for more information about this property.)

Capture Step Properties

Under the **Capture Step** category, you can set the following properties.

- See "Auto Page Rotation" below for instructions to set this property.
- See "Black and White Image File Type" on the facing page for instructions to set this property.
- See "Color Image File Type" on the facing page for instructions to set this property.
- See "Display Saved Images Only" on page 124 for instructions to set this property.
- See "Max Number Documents Per Batch" on page 124 for instructions to set this property.
- See "Minimum Page Size" on page 125 for instructions to set this property.
- See "New Batch Name (Regular Expression)" on page 125 for instructions to set this property.
- See "Prompt for New Batch Information (Auto)" on page 126 for instructions to set this property.
- See "Rotate Before Barcode" on page 126 for instructions to set this property.

Auto Page Rotation

The **Auto Page Rotation** property lets you specify how pages are rotated as images are scanned in PaperVision Capture.

To set the Auto Page Rotation property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **Auto Page Rotation**, and then click the ellipsis button to access the **Auto Page Rotation** dialog box.
4. From the **Apply Rotation To** list, select one of the following options.
 - **None** - This option disables the automatic page rotation feature.
 - **All Pages** - This option automatically rotates all pages in a document by the rotation value you select from the **All Pages** list.
 - **Even Pages Only** - This option automatically rotates only the even numbered pages in a document by the rotation value you select from the **Even Pages Only** list.

- **Odd Pages Only** - This option automatically rotates only the odd numbered pages in a document by the rotation value you select from the **Odd Pages Only** list.
- **Even Pages/Odd Pages** - This option automatically rotates the even and odd numbered pages in a document by the rotation value you select from the **Even Pages Only** and **Odd Pages Only** lists. These settings let you assign even pages and odd pages different rotation values.
- **First Page Only** - This option automatically rotates the first page of a document by the rotation value you select from the **First Page Only** list.
- **All Pages Except First** - This option automatically rotates all pages except the first page of a document by the rotation value you select from the **All Pages Except First** list.
- **First Page Only/All Pages Except First** - This option automatically rotates the first page of a document by the rotation value you select from the **First Page Only** list. The remaining pages are rotated by the value you select from the **All Pages Except First** list.

Black and White Image File Type

The **Black and White Image File Type** property lets you specify the file type for storing black and white images.



NOTE

If you change this property after images are scanned or imported into the batch, the file type will change for only those images subsequently added to the batch. For example, if you change the **Black and White Image File Type** property setting from **TIF** to **PNG** after scanning or importing 10 out of 20 images in the batch, then images 1 through 10 will be TIF file types, and images 11 through 20 will be PNG file types.

To set the Black and White Image File Type property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **Black and White Image File Type**, and then click the down arrow to select one of the following options:
 - **TIF** - Selecting this option will store black and white images in the TIF file format. TIF files are compressed using Group 4 compression which treats an image as a series of horizontal black strips on a white page. This is the default setting.
 - **PNG** - Selecting this option will store black and white images in the PNG file format. PNG files are compressed, so the file size is smaller. However the applied compression is exactly reversible, so the image is recovered exactly.

Color Image File Type

The **Color Image File Type** property lets you specify the file type for storing grayscale and color images.

**N O T E**

If you change this property after images are scanned or imported into the batch, the file type will change for only those images subsequently added to the batch. For example, if you change the **Color Image File Type** property setting from **BMP** to **JPG** after scanning or importing 10 out of 20 images in the batch, then images 1 through 10 will be BMP file types, and images 11 through 20 will be JPG file types.

To set the Color Image File Type property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **Color Image File Type**, and then click the down arrow to select one of the following options:
 - **BMP** - Selecting this option will store grayscale and color images in the BMP file format. BMP files are not compressed and can be large. These files contain pixels and can degrade when you increase resolution.
 - **JPG** - Selecting this option will store grayscale and color images in the JPG file format. JPG images are compressed, so they contain less data and smaller file sizes than other image types. This is the default setting.
 - **PNG** - Selecting this option will store grayscale and color images in the PNG file format. PNG files are compressed, so the file size is smaller. However the applied compression is exactly reversible, so the image is recovered exactly.

Display Saved Images Only

The **Display Saved Images Only** property lets you specify how PaperVision Capture displays saved images.

To set the Display Saved Images Only property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **Display Saved Images Only**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option displays only images that are saved. Images are displayed in the manner in which they were saved. For example, if images are rotated as they are scanned, only the correct rotation orientation will display. If you select **True** and you have specified a minimum page size detection, blank pages will not display.
 - **False** - Selecting this option displays all images, including blank images.

Max Number Documents Per Batch

The **Max Number Documents Per Batch** property lets you limit the number of documents that comprise a batch. This property applies to typical scanning and importing operations in the Operator Console. For example, as users scan documents, when the number of documents you specify here is

reached, a new batch is created. However, this setting is ignored when documents are manually added in the Operator Console by selecting **Add Document** from the **Edit** menu. In this case, the new document is added to the end of the batch, regardless of the number of documents.

To set the Max Number Documents Per Batch property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Expand **Max Number Documents Per Batch**.
4. In the **Number Documents per Batch** box, type the number of documents that are added to a batch before it is considered complete.

When you specify this value, the **Enabled** option is automatically set to **True**. When the **Enabled** option is set to **False**, this value automatically changes to **0**.

Minimum Page Size

The **Minimum Page Size** property lets you specify whether blank pages are deleted as they are scanned. Blank pages can be scanned accidentally or as the blank side of a duplex page.



N O T E

Deleting blank pages as they are scanned could make the **Number Pages Per Document** option under the **Auto Document Break** property unusable. (See "Auto Document Break Property" on page 121 for more information about this property.)

To set the Minimum Page Size property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Expand **Minimum Page Size**.
4. In the **Size (KB)** box, type the minimum size (in Kilobytes) for pages to be deleted. You can specify the size in whole numbers with up to two decimal places.

When you specify this value, the **Enabled** option is automatically set to **True**. When the **Enabled** option is set to **False**, this value automatically changes to **0**.

New Batch Name (Regular Expression)



The **New Batch Name (Regular Expression)** property lets you define a regular expression that validates the batch name entered in the Operator Console.

To set the New Batch Name (Regular Expression) property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **New Batch Name (Regular Expression)**, and then click the ellipsis button to open the **Regular Expression** dialog box.

4. In the **Regular Expression** box, type the regular expression.
5. In the **Text to Validate** box, type the text you want validated.

The text you type is automatically validated.

- For a successful validation, the **Validation Status** displays .
- For invalid entries, the **Validation Status** displays .

Prompt for New Batch Information (Auto)

When a batch is imported or scanned, the **Prompt for New Batch Information (Auto)** property lets you specify whether operators are prompted to enter new batch information when the maximum number of documents per batch is reached.

To set the Prompt for New Batch Information (Auto) property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **Prompt for New Batch Information (Auto)**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option will prompt the operator to enter new batch information when the maximum number of documents per batch is reached.
 - **False** - Selecting this option disables the prompt.

Rotate Before Barcode

When a batch is imported or scanned, the **Rotate Before Barcode** property lets you specify whether the automatic rotation setting is applied to images before barcode indexing is performed. (See "Auto Page Rotation" on page 122 for information about setting automatic rotation options.)



NOTE

This setting does not apply to the **Auto Document Break** setting. Images are not rotated before barcode document breaks are inserted. (See "Auto Document Break Property" on page 121 for more information.)

To set the Rotate Before Barcode property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Capture Step**.
3. Click **Rotate Before Barcode**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes the automatic rotation setting to be applied to images before barcode indexing.
 - **False** - Selecting this option will not rotate the images before barcoding.

Custom Code Events [Auto Document Break] Properties

You can configure custom code that operators can run when auto document breaks are inserted. For each property, you can select the scripting language and configure the custom code. Some properties contain code-handling arguments that you can modify; these arguments define what actions are triggered after an operator executes the custom code. (See "Digitech Systems' API" on page 477 and "Custom Code Event Arguments" on page 480 for more information).

To set the Custom Code Events [Auto Document Break] properties

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Auto Document Break]**.
3. Click one of the following properties:
 - **Barcode** - This property runs custom code when an auto document break occurs after a specified barcode is detected.
 - **Blank Page** - This property runs custom code when an auto document break occurs on a blank page using the specified minimum file size.
 - **Number Pages Per Document** - This property runs custom code when an auto document break occurs after a document has reached a specified number of pages.
4. Click the ellipsis button to open the **Select Custom Code Generator** dialog box where you can specify the custom code to be run.
5. See "Custom Code Generators" on page 429 for information about specifying custom code.



TIP

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click the ellipsis button, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

Custom Code Events [Step Level] Properties

You can configure custom code that operators can run in the Operator Console. For each property, you can select the scripting language and configure the custom code. Some properties contain code-handling arguments that you can modify; these arguments define what actions are triggered after an operator executes the custom code. (See "Digitech Systems' API" on page 477 and "Custom Code Event Arguments" on page 480 for more information).

To set the Custom Code Events [Step Level] properties

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)

2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.
3. Click one of the following properties:
 - **Add Page** - This property runs custom code just before images are appended to the batch, including rotation or barcode indexing. When the associated script is enabled, it runs for all images that the operator scans or when the operator imports a batch. This script is not run if the operator uses the **Import Images** command on the **File** menu in the Operator Console.
 - **Barcode Detected** - This property runs custom code after the value, location, size, orientation, and type are successfully read for the barcode during scanning. When the associated script is enabled, it runs every time a barcode is successfully read during scanning (multiple barcodes can be read per page). You can also use this property to apply a page-level custom tag. The script is not executed if a barcode cannot be successfully read.
 - **Batch Opened** - This property runs custom code when the operator opens a batch in the Operator Console.



N O T E

The custom code associated with the **Batch Opened** property will not run if the **Max Number Documents per Batch** property is enable and the user completes the **Submit and Create New Batch** operation. (See "Max Number Documents Per Batch" on page 124 for instructions to set this property.)

- **Batch Submitted** - This property runs custom code when the operator submits a batch in the Operator Console.
 - **Custom Code Execution** - This property runs custom code when the operator clicks the **Execute Custom Code** command on the **Edit** menu or toolbar in the Operator Console.
 - **Match and Merge** - This property runs custom code when the operator clicks the **Merge Index Values** command on the **Edit** menu or toolbar in the Operator Console.
 - **Saving Indexes** - This property runs custom code before the operator saves index values in the Operator Console.
4. Click the ellipsis button to open the **Select Custom Code Generator** dialog box where you can specify the custom code to be run.
 5. See "Custom Code Generators" on page 429 for information about specifying custom code.



T I P

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click the ellipsis button, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

General [Step Level] Properties

Under the **General [Step Level]** category, you can set the **Browse Batch Single Row Indexes** and the **Update Detail Sets on Save** properties. These properties are described in the following procedures.

To set the Browse Batch Single Row Indexes property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **General [Step Level]**.
3. Click **Browse Batch Single Row Indexes**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes indexes to display only on the first row of a document on the **Browse Batch** window, and only the first detail set contains the main index values. This is the default value.
 - **False** - Selecting this option causes indexes to be repeated for each detail set.

To set the Update Detail Sets On Save property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **General [Step Level]**.
3. Click **Update Detail Sets On Save**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes changes to detail sets that occur in the Operator Console to be retained when indexes are saved. This is the default value.
 - **False** - Selecting this option allows detail fields to be edited in the Operator Console, but the changes are not saved. If index fields only are available for editing in the Operator Console, and detail sets exist but are not available for editing, you must select **False** so that the detail fields are not overwritten with blank values when indexes are saved.

Indexes Properties

To maximize scanning and indexing efficiency within one step, operators can add index values while they scan if you enable the **Allow Hand-Key Indexing** property. If you enable this property, you must define at least one index field in the **Indexes** property.



NOTE

Enabling the **Allow Hand-Key Indexing** property causes the **Capture** step to also consume a Capture Index license (in addition to the Capture Scan license).

To set the Allow Hand-Key Indexing property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Allow Hand-Key Indexing**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators enter index values while they scan document in the Capture step.
 - **False** - Selecting this option prevents operators from adding index values in the Capture step.

To set the Indexes property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Go to "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

Manual Barcode Indexing Properties

You can configure the **Capture** and **Indexing** steps so that scanning operators tasked with indexing can apply barcode zones directly on images to populate index fields. By manually applying barcode zones, operators can easily extract and index barcode data that may shift across pages and documents. To use manual barcode indexing, you must define at least one barcode zone to define the applicable properties. Operators are restricted only to the properties you define for the barcode, such as supported barcode types, but they can apply an infinite number of barcode zones on an image.



N O T E

When you enable the **Allow Barcode Indexing** property, a Capture Barcode license (1D or 2D, depending on the selected barcode type) is required in addition to the Capture Scan or Capture Indexing license.

To set the Allow Barcode Indexing property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual Barcode Indexing**.
3. Click **Allow Barcode Indexing**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators perform barcode indexing while they scan documents in the Capture step.
 - **False** - Selecting this option prevents operators from performing barcode indexing in the Capture step.

**N O T E**

If you set this property to **True**, you must define at least one barcode zone. See "To set the Barcode Indexing property" below for instructions.

To set the Barcode Indexing property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual Barcode Indexing**.
3. If the **Barcode Indexing** property is not available, set the **Allow Barcode Indexing** property to **True**.
4. Click **Barcode Indexing**, and then click the ellipsis button to open the **Configure Manual Barcode Indexing** dialog box.
5. See "Configure Barcode Zones" on page 176 for instructions to draw a barcode zone.

Manual OCR Indexing Properties

You can configure the **Capture** and **Indexing** steps so that scanning operators tasked with indexing can apply OCR zones directly on images to populate index fields. By manually applying OCR zones, operators can easily extract and index text that may shift across pages and documents. To use manual OCR indexing, you must define at least one OCR zone to define the applicable properties. Operators are restricted only to the properties you define for the OCR zone, such as supported OCR recognition languages, but they can apply an infinite number of OCR zones on an image.

**N O T E**

When you enable manual OCR indexing, an OCR license is required in addition to the Capture Scan or Capture Indexing license.

To set the Engine property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual OCR Indexing**.
3. Click **Engine**, and then click the down arrow to select one of the following options:
 - **None** - Selecting this option prevents operators from performing manual OCR indexing in the **Capture** step.
 - **Nuance** - Selecting this option lets operators use the Nuance OCR engine to perform manual OCR indexing while they scan documents in the **Capture** step.
 - **Open Text** - Selecting this option lets operators use the OpenText OCR engine to perform manual OCR indexing while they scan documents in the **Capture** step.

**N O T E**

If you set this property to **Nuance** or **Open Text**, you must define at least one OCR zone. See "To set the OCR Indexing property" on the next page for instructions.

To set the OCR Indexing property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual OCR Indexing**.
3. If the **OCR Indexing** property is not available, set the **Engine** property to either **Nuance** or **Open Text**.
4. Click **OCR Indexing**, and then click the ellipsis button to open the **Configure Manual OCR Indexing** window.
5. See "Edit OCR Zone Window Overview" on page 199 for information about using this window to create OCR zones.

Manual QC Properties

When you enable the **Allow Manual QC** property, operators can review content and apply QC tags while in the **Capture** step. You can also specify parameters for the QC Auto Play function and whether operators can access the **Browse QC Tags** window in the Operator Console.



NOTE

Enabling the **Allow Manual QC** property causes the **Capture** step to also consume a Capture QC Manual license (in addition to the Capture Index license).

To set the Allow Manual QC property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. Click **Allow Manual QC**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators perform manual QC tasks while in the Capture step.
 - **False** - Selecting this option prevents operators from performing manual QC tasks while in the Capture step.

To set the Allow Review QC Tags property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. Click **Allow Review QC Tags**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators view the **Browse QC Tags** window in the Operator Console.
 - **False** - Selecting this option prevents operators from viewing the **Browse QC Tags** window in the Operator Console.

**N O T E**

The Capture QC Manual license is not required for the operator to review QC tags.

To set the QC Auto Play property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. If the **QC Auto Play** property is not available, set the **Allow Manual QC** property to **True**.
4. Click **QC Auto Play**, and then click the ellipsis button to open the **QC Auto Play** dialog box.
5. In the **Delay (ms)** box, type how long (in milliseconds) you want each image or group of images to remain on screen so operators can inspect them.
6. In the **Skip Mode** area, select one of the following options:
 - **Batch** - Selecting this option causes the QC Auto Play function to skip batches. If you select this option, you can specify only **Page Skipping** options. The **Document Skipping** options are unavailable.
 - **Document** - Selecting this option causes the QC Auto Play function to skip documents. If you select this option, you can specify **Page Skipping** and **Document Skipping** options.
7. If you selected **Document** in the previous step, in the **Document Skipping** area, select one of the following options:
 - **None** - Selecting this option causes the QC Auto Play function to skip no documents so operators must inspect all documents.
 - **Number** - When you select this option, you can specify the number of documents you want the QC Auto Play function to skip. For example, if you type **5**, the QC Auto Play function displays every fifth document for inspection.
 - **Random** - When you select this option, the QC Auto Play function skips an arbitrary number of documents between zero and the number you type. For example, if you type **10**, then the QC Auto Play function might skip three documents the first time it runs, seven documents the second time it runs, nine documents the third time it runs, and so on.
8. In the **Page Skipping** area, select one of the following options:
 - **None** - Selecting this option causes the QC Auto Play function to skip no pages so operators must inspect all pages.
 - **Number** - When you select this option, you can specify the number of pages you want the QC Auto Play function to skip. For example, if you type **5**, the QC Auto Play function displays every fifth page for inspection.
 - **Random** - When you select this option, the QC Auto Play function skips an arbitrary number of pages between zero and the number you type. For example, if you type **10**, then the QC Auto Play function might skip three pages the first time it runs, seven pages the second time it runs, nine pages the third time it runs, and so on.
9. Click **OK** to save your settings and close the dialog box.

Operator Permissions Properties

By default, operators can perform most document and page operations while scanning in the **Capture** step. You can specify whether operators have permission to view the **Browse Batch** window, and import batches and images in the **Capture** step.

To set the Browse Batch property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Browse Batch**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators view the **Browse Batch** window in the Operator Console. This is the default value.
 - **False** - Selecting this option prevents operators from viewing the **Browse Batch** window.

To set the Import Batch property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Import Batch**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators import batches in the Operator Console. This is the default value.
 - **False** - Selecting this option prevents operators from importing batches.

To set the Import Images property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Import Images**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators import images into a document in the Operator Console. This is the default value.
 - **False** - Selecting this option prevents operators from importing images.

Scanner Requirements Properties

You can assign specific scanner requirements for a **Capture** step, including color format, minimum and maximum resolution, and scan type settings. The requirements you specify are enforced in the Operator Console's scanner settings, and the operator cannot edit them.

**N O T E**

Some settings may not be available for your scanner. If you select an unavailable option, the property is disabled and an error is logged in the Windows Event Viewer.

To set the Color Format property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Scanner Requirements**.
3. Click **Color Format**, and then click the ellipsis button.
4. In the **Select Required Color Format Options** dialog box, you can:
 - Select the check boxes for the properties you want to enable.
 - Clear the check boxes for the properties you want to disable.
 - Select **Select All** to enable all the properties.

To set the Max Horizontal Resolution property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Scanner Requirements**.
3. Expand **Max Horizontal Resolution**.
4. In the **DPI** box, type the maximum number of dots per inch for the horizontal resolution on the scanner.

When you specify this value, the **Enabled** option is automatically set to **True**. When the **Enabled** option is set to **False**, this value automatically changes to **0**.

To set the Max Vertical Resolution property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Scanner Requirements**.
3. Expand **Max Vertical Resolution**.
4. In the **DPI** box, type the maximum number of dots per inch for the vertical resolution on the scanner.

When you specify this value, the **Enabled** option is automatically set to **True**. When the **Enabled** option is set to **False**, this value automatically changes to **0**.

To set the Min Horizontal Resolution property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Scanner Requirements**.
3. Expand **Min Horizontal Resolution**.
4. In the **DPI** box, type the minimum number of dots per inch for the horizontal resolution on the scanner.

When you specify this value, the **Enabled** option is automatically set to **True**. When the **Enabled** option is set to **False**, this value automatically changes to **0**.

To set the Min Vertical Resolution property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Scanner Requirements**.
3. Expand **Min Vertical Resolution**.
4. In the **DPI** box, type the minimum number of dots per inch for the vertical resolution on the scanner.

When you specify this value, the **Enabled** option is automatically set to **True**. When the **Enabled** option is set to **False**, this value automatically changes to **0**.

To set the Scan Type property

1. On the workspace of the **Job Definitions** window, double-click the **Capture** step. (See "To configure a Capture step" on page 120 if you need help adding a **Capture** step.)
2. On the **Properties** tab, if necessary, expand **Scanner Requirements**.
3. Click **Scan Type**, and then click the down arrow to select the type of scanner that must be used.

CHAPTER 6

Indexing Step

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Indexing Step Overview

The **Indexing** step lets you customize PaperVision Capture to meet the indexing needs of any task. Numerous properties are available to increase productivity in the Operator Console. In addition to the step properties, you can apply properties to each index after they are added. For example, you can set properties to verify index entries and format the content of an index value.

This content describes how to configure properties that apply to the **Indexing** step and indexes. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

To configure an Indexing step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Indexing** step to the workspace using one of the following methods.
 - Select the step that you want **Indexing** to follow. On the **Job Step Toolbox** tab, double-click **Indexing**.
 - On the **Job Step Toolbox** tab, drag **Indexing** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Indexing**.
5. Double-click the **Indexing** step to display the **Properties** tab on the left pane.
6. For instructions to set **Indexing** step properties, see the following:
 - See "Configure Indexes" below for instructions to add indexes using the **Indexes** property.
 - See "Indexing Step Properties Overview" on page 160 for information about setting all other **Indexing** step properties.

Configure Indexes

You do not have to be in an **Indexing** step to add indexes, as you can work with indexes from many different steps. Regardless of which step you are in, you work with indexes in the **Index Configuration** dialog box. In this dialog box, you can add indexes and specify properties for each index. The following procedures explain how to access index settings in the **Index Configuration** dialog box, and add, remove, and move indexes in a step. After indexes have been added to a step, you can set properties for them.

- See "Index Configuration Properties" on page 142 for information about setting properties for indexes.

Detail sets are a collection of indexes that allow multiple sets of field data to reference a single document. To learn more about detail sets and how to add them, see the following references.

- See "About Detail Sets" on page 104 for information about using detail sets.
- See "Configure Detail Sets" on page 106 for instructions to add a detail set.

To access index settings

1. On the workspace of the **Job Definitions** window, double-click the job step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.

See "To add an index" below for instructions to add an index.

See "Index Configuration Properties" on page 142 to access instructions for setting each category of index properties.

To add an index



I M P O R T A N T

If you export data to PaperVision Enterprise, or ImageSilo, there are index names that are reserved for use by the Document Search Service. Using a reserved index name, will cause inaccurate search results in PaperVision Enterprise and ImageSilo. Review "Reserved Index Names" on page 141 before creating new indexes to ensure that you do not use a reserved name.

1. On the workspace of the **Job Definitions** window, double-click the job step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. Click **Add**.
5. In the **Add Index** dialog box, do one of the following:
 - To add a new index, select **New Index**, and then in the **Field Name** box, type a name for the index.
 - To add an existing index, select **Existing Index**. From the **Field Name** list, you can select an individual index or all indexes.
 - To add a system-generated index, select **System Index**. From the **Field Name** list, you can select an individual system index, or all system indexes.
 - **Classification [SYSTEM]** - The Classification value as defined by Forms Magic.
 - **Content Type [SYSTEM]** - The Content Type as defined by Forms Magic.
 - **Created By [SYSTEM]** - The user name of the operator when the new document was created.
 - **Created Date [SYSTEM]** - The date when the new document was created.
 - **Import Date [SYSTEM]** - The date when the document was imported into PaperVision Capture.
 - **Imported By [SYSTEM]** - The user name of the operator who imported the document into PaperVision Capture.
 - **Index Modified By [SYSTEM]** - The user name of the operator who last saved an index value in the document.

- **Index Modified Date [SYSTEM]** - The date when the last index value was saved in the document.
- **Modified By [SYSTEM]** - The user name of the operator who last modified the document.
- **Modified Date [SYSTEM]** - The date when the last modification was made to the document.
- **Native Document [SYSTEM]** - This field is reserved for future use.
- **Scan Date [SYSTEM]** - The date the document was scanned into PaperVision Capture.
- **Scanned By [SYSTEM]** - The user name of the operator who scanned the document into PaperVision Capture.



NOTE

The operator can be a physical user, or an automated process. For example, if a new document was created using AutoCreateBatch custom code, the **Created By [System]** index value would be the name of the automation server name.



NOTE

The **Classification [SYSTEM]**, and the **Content Type [SYSTEM]** fields are populated only after Forms Magic processes a batch using the **Forms Classification and Extraction** step. (See "Forms Classification and Extraction Step Overview" on page 614 for information about using this step.)

- To add a detail set, select **Job Detail Set**. This option is not available if a detail set already appears in the **Indexes** list. There can be only one detail set per job. See "To configure a detail set from the step-level Indexes property" on page 107 for instructions to configure a detail set.
- The **Auto Generate** option applies only if you are using Forms Magic and/or the **EDI** business rule. To automatically generate indexes, select **Auto Generate**, and then from the **Collection** list, select the collection of indexes you want to use. The items in this list are collections of default indexes for the default form types in Forms Magic, and the HIPAA 837P form used by the **EDI** business rule. If you select a Forms Magic (FM) collection, you can cause the indexes to appear in uppercase letters by selecting the **Use All Upper-Case** check box.



NOTE

To add these index fields (not detail sets) in another step in the same order, you can select **Auto Generate** in the **Add Index** dialog box in that step. This will not create any duplicate entries.

6. Click **OK**.

The index(es) you added now appear in the **Indexes** list.

7. See "Index Configuration Properties" on page 142 to access instructions for setting each category of index properties.

To move an index in the Indexes List

1. On the workspace of the **Job Definitions** window, double-click the job step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, select the index you want to move, and then click the up or down arrow to the right of the list.

To remove an index from the Indexes List

1. On the workspace of the **Job Definitions** window, double-click the job step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, select the index you want to remove, and then click **Remove**.

Reserved Index Names

If you export data to PaperVision Enterprise, or ImageSilo, the following index names are reserved for use by the Document Search Service. When creating indexes and detail field indexes you cannot use the following values in the **Field Name** box. Doing so will cause inaccurate search results in Paper Vision Enterprise or ImageSilo. You can use variations of the names as long as they are not an exact match. For example, you cannot use the value DOCID, but DOC_ID and DOCID1 are valid.

- DOCCHECKOUTTIME
- DOCCHECKOUTUSERID
- DOCCHECKOUTUSERNAME
- DOCCREATEDATE
- DOCDGID
- DOCDGNAME
- DOCDGORIGNAME
- DOCFOLDERID
- DOCFOLDERNAME
- DOCFTINDEX
- DOCDUPEID
- DOCID
- DOCRECRETDESTDATE
- DOCRECRETDESTINFO
- DOCRECRETLOCKDATE
- DOCRECRETDESTLISTID
- DOCRECRETLOCKINFO
- DOCSECURELIST
- DOCSIGDATETIME
- DOCSIGID
- DOCSIGNAME
- DOCSIGUSERID
- DOCSIGUSERFULLNAME
- DOCSIGUSERNAME
- DOCSOURCEDOCID
- DOCSIGSOURCEIP
- DOCWFDEFID
- DOCWFENDTIME
- DOCWFINSTID
- DOCWFNAME
- DOCWFSTARTTIME
- OBJHASHTYPE



- OBJID
- OBJTRASHDATETIME
- OBJTRASHUSERNAME
- OBJVERSIONCREATOR
- OBJVERSIONTIME
- OBJPAGES
- OBJTRASHUSERID
- OBJTYPE
- OBJVERSIONNUM

Index Configuration Properties

You do not have to be in an **Indexing** step to set properties for indexes, as you can work with indexes from many different steps. Regardless of which step you are in, you work with indexes in the **Index Configuration** dialog box. Indexes must be added before you can set properties for them. (See "To add an index" on page 139 for instructions to add an index.)

You can apply job- and step-level properties to indexes. Job-level properties apply to an index throughout the entire job, whereas step-level properties apply to the index only in that step. For example, **Index Type** is a job-level property, so an index defined as a currency index remains that way regardless of what job step it is in. Whereas the **Zoom Zone** property is a step-level property, so the same index could have a different zone defined in different steps. By default, index properties appear sorted by categories that include **[Job Level]** and **[Step Level]** labels so you can easily identify how the property is applied.



To access index configuration properties

1. On the workspace of the **Job Definitions** window, double-click the job step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Index Properties** list, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

5. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Index Properties** list, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
6. For instructions to set index configuration properties, see the following:

**I M P O R T A N T**

The step-level properties vary depending on the step from which you accessed them. The following step-level references cover properties that always appear in the Indexing step and frequently appear in other steps that allow for indexing. For information about step-level properties specific to another step, see the content for that step.

- See "Custom Code Events [Step Level] Properties" below for instructions to set each property under this category.
- See "General [Job Level] Properties" on the next page for access to instructions to set each property under this category.
- See "General [Step Level] Properties" on page 151 for access to instructions to set each property under this category.
- See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set each property under this category.

Custom Code Events [Step Level] Properties

The **Custom Code Events [Step Level]** properties apply to the index at the step level. These properties let you select an event that causes the custom code you specify to run. For each property, you can select the scripting language and configure the custom code.

To set the Custom Code Events [Step Level] properties

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **Custom Code Events [Step Level]**.
6. Click one of the following properties:
 - **Index Populated** - This property runs custom code immediately after an index is populated in the Operator Console.
 - **Index Validate** - This property runs custom code immediately after an index is formatted and validated in the Operator Console. The code is run after the operator returns to edit an index value, re-enters the index value, and then proceeds to a subsequent index (or saves the edited index value).

**N O T E**

If you use either the **Index Populated** or **Index Validate** property to change an index value, the **Index Manager** in the Operator Console will remain synchronized using the **UIRefreshLevel** property (for example, `base.UIRefreshLevel = UIRefreshLevel.Index`). See "Enumerations" on page 493 for information about the enumerations that you can use with custom code.

7. Click the ellipsis button to open the **Select Custom Code Generator** dialog box where you can specify the custom code to be run.
8. See "Custom Code Generators" on page 429 for information about specifying custom code.

General [Job Level] Properties

The **General [Job Level]** properties apply to the index at the job level. Therefore, these properties apply to the index regardless of what job stop the index may appear in. These properties let you configure settings to customize how operators enter index values from the Operator Console. Under the **General [Job Level]** properties category, you can set the following properties.

- See "Auto-Carry/Auto-Increment" below for instructions to set this property.
- See "Index Format" on the facing page for instructions to set this property.
- See "Index Masking Regular Expression" on page 147 for instructions to set this property.
- See "Index Type" on page 149 for instructions to set this property.
- See "Index Verification Regular Expression" on page 150 for instructions to set this property.
- See "Name" on page 151 for instructions to set this property.

Auto-Carry/Auto-Increment

The **Auto-Carry/Auto-Increment** property can increase operator productivity while hand-keying repetitive or incremental values or characters. You can use this property during scanning (optional) and hand-key indexing.



N O T E

Auto-Carry settings apply only when the operator saves index values in the Operator Console.

To set the Auto-Carry/Auto-Increment property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **Auto-Carry/Auto-Increment**, and then click the ellipsis button to open the **Auto-Carry/Auto-Increment** dialog box.
7. You can set the following options.
 - **Auto-Carry Entire Index Value** - Selecting this option causes all characters from an index in one document to be automatically carried to the corresponding index in the next document.
 - **Auto-Carry Characters Preceding Number** - Selecting this option lets you specify (in the **Count** box) the number of characters that precede a number, and then causes that number of characters to be automatically carried from an index in one document to the corresponding index in the next document. For example, if you have an index that is almost always the

letters ABC followed by a number, you may not want to re-enter ABC on each index value. You could set the number of characters to carry in the **Count** box to **3**. When the operator is keying the information, ABC would automatically get carried forward to the next document, and they would have to enter only the numeric portion of the index.

- **Auto-Carry Characters Following Number** - Selecting this option lets you specify (in the **Count** box) the number of characters that follow a number, and then causes that number of characters to be automatically carried from an index in one document to the corresponding index in the next document. For example, if you have an index that is almost always a number followed by the letters ABC, you may not want to re-enter ABC on each index value. You could set the number of characters to carry in the **Count** box to **3**. When the operator is keying the information, ABC would automatically get carried forward to the next document, and they would have to enter only the numeric portion of the index.
 - **Auto-Increment Number** - Selecting this option causes the numeric value of an index to be automatically incremented by the number you specify in the **Amount** box. You can use this setting with auto-carry settings. For example, if the numeric portion of the value was an incremental numeric value, you could set **Auto-Carry Characters Preceding Number** to **3** and **Auto-Increment Number** to **1**. This would increment the numeric value of any characters remaining after the first three characters by a value of one.
 - You can use the **Auto-Increment Number** setting without using any auto-carry settings if the index value is completely numeric.
 - The value entered for the **Minimum Number Digits** setting lets you pad the new value with zeros.
 - **Overwrite Existing Values** - By default, the auto-carry and auto-increment settings do not fill in an index value if there is already information in the index. Selecting this option will force the index to be updated regardless if there is already information in it.
 - **Carry Values to Copied Document** - By default, when documents are copied, no index values are carried over to the copies. Selecting this option specifies that this index value should also be copied. Unless this setting is enabled for an index value, it will be left blank when the document is copied.
 - **Auto-Fill Cursor Location** - Selecting this option lets operators append information to an existing index value, and places the cursor at the end of the original index value so the original value is retained.
 - The **Auto-Fill Cursor Location** setting determines whether data will be highlighted or the cursor will be placed at the end of the data when hand-keying an index that has auto-carry and/or auto-increment settings enabled.
 - The **Preview** area lets you see how your settings affect the index value. It displays the original index value in the **Original Value** box, and in the **Carried Value** box it displays a preview of the carried value that reflects your settings.
8. Click **OK** to save your settings and close the dialog box.

Index Format

The **Index Format** property lets you set format options for specific index types. Index formatting is available for the following index types:

- Boolean
- Date
- Double Number

If the index type is not set to one of those listed above, the **Index Format** property is not available for you to edit. See "Index Type" on page 149 if you need help setting the index type.



NOTE

PaperVision Enterprise/ImageSilo does not support the importation of all index formats.

To set the Index Format property for a Boolean index type

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Ensure that the **Index Type** property is set to **Boolean**. (See "Index Type" on page 149 if you need help setting the index type.)
7. Click **Index Format**, and then click the ellipsis button to open the **Field Formatting** dialog box.
8. From the list under **Predefined Format**, select one of the following formats:
 - **True/False** - Selecting this option causes the index value to display in this format.
 - **On/Off** - Selecting this option causes the index value to display in this format.
 - **Yes/No** - Selecting this option causes the index value to display in this format.
9. Click OK to save your settings and close the dialog box.

To set the Index Format property for a Date index type

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Ensure that the **Index Type** property is set to **Date**. (See "Index Type" on page 149 if you need help setting the index type.)
7. Click **Index Format**, and then click the ellipsis button to open the **Date/Time Formatting** dialog box.
8. You can select one of the following options.

**N O T E**

PaperVision Enterprise/ImageSilo does not support the importation of all date formats.

- **Predefined Format** - Select this option to use a predefined format, and then complete the following steps.
 1. From the **Date/Time Order** list, select the option you want to use.
 2. From the **Date Format** list, select the format you want to use for the date.
 3. From the **Time Format** list, select the format you want to use for the time.
 - **Custom Format** - Select this option to define a custom format, and then type a .Net format string in the box.
9. If you want to see how your settings affect the index value, in the **Preview** area, you can select a **Date** and/or **Time**, and then click **Format** to display how your selections will be formatted.
 10. Click **OK** to save your settings and close the dialog box.

To set the Index Format property for a Double Number index type

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Ensure that the **Index Type** property is set to **Double Number**. (See "Index Type" on page 149 if you need help setting the index type.)
7. Click **Index Format**, and then click the ellipsis button to open the **Field Formatting** dialog box.
8. You can select one of the following options.
 - **Predefined Format** - Select this option to use a predefined format, and then select the format you want to use from the list.
 - **Custom Format** - Select this option to define a custom format, and then type a .Net format string in the box.
9. Click **OK** to save your settings and close the dialog box.

Index Masking Regular Expression

The **Index Masking Regular Expression** property lets you predefine a specific format for index values entered during hand-key indexing. Using the "mask" you define, indexes are automatically formatted as operators enter them. For example, you can predefine a mask for social security numbers that automatically inserts dashes so operators only have to type the numbers and not the dashes. Configuring this property does not validate the operator's index value entries. Validation is performed as operators enter index values in the **Index Manager** in the Operator Console.

**N O T E**

This property is available only when the **Index Type** property is set to **Long Text**, **Text**, or **Text(900)**. See "Index Type" on the facing page for instructions to set the **Index Type** property.

To set the Index Masking Regular Expression property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **Index Masking Regular Expression**, and then click the ellipsis button to open the **Regular Expression Mask** dialog box.
7. You can select one of the following options.
 - **Predefined** - Select this option to use a predefined mask for the index, and then from the **Masking** list, select the mask you want to use.
 - **Custom** - Select this option to use a custom mask you create using regular expression, and then complete the following steps:
 - In the **Pattern Expression** box, type a regular expression that defines the index mask. For example, for five + four-digit zip codes such as 80111-2841, type the following:
 $(\d{5})(\d{4})$
 - In the **Replace Expression** box, you can define an expression that will automatically format the operator's entry. For example, to format a nine-digit entry to appear as 80111-2841, type the following:
 $\$1-\2

**N O T E**

If you do not define an expression in the **Replace Expression** box, the operator's entry will not be formatted.

8. If you want to see how your settings affect the index value, in the **Preview** area, type a sample value in the **Input Text** box. The **Mask Result** box shows the input with the specified settings applied.
9. Click **OK** to save your settings and close the dialog box.

Date Regular Expression Mask

The following pattern expression formats either a one- or two-digit month and day followed by a two- or four-digit year. To use this expression, in the **Pattern Expression** box, type the following:

 $(^\d{1,2})(\d{1,2})(\d{2,4})\$$

The same pattern expression formats a one-digit month and day followed by a two-digit year.

To separate the month, day, and year with a dash, in the **Replace Expression** box, type the following:

```
$1-$2-$3
```

Alternately, to separate the month, day, and year with a slash mark, in the **Replace Expression** box, type the following:

```
$1/$2/$3
```

Credit Card Regular Expression Mask

The following pattern expression formats a 16-digit credit card number. To use this expression, in the **Pattern Expression** box, type the following:

```
(\d{4}) (\d{4}) (\d{4}$) (\d{4})
```

To separate the digits with a dash, in the **Replace Expression** box, type the following:

```
$1-$2-$3-$4
```

Index Type

Document indexes contain values that help you identify key elements of documents during the capture process. For each index, you can specify a type that is best suited for the data being entered. For example, for an index that contains an invoice total, you can specify the index as a **Currency** type.

To set the Index Type property



1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **Index Type**, and then click the down arrow to select one of the following options:
 - **Boolean** - Selecting this option causes the index to store Boolean values such as yes/no, on/off, and true/false. When you select this option, you can specify a format for the index. See "To set the Index Format property for a Boolean index type" on page 146 for instructions to set formatting for this index type.
 - **Currency** - Selecting this option causes the index to store currency (monetary) values. When you select this option, the **Index Format** property is automatically set to format the index value like this: \$1,234.56.
 - **Date** - Selecting this option causes the index to store date/time values ranging from 12:00:00 midnight, January 1, 0001 through 11:59:59 P.M., December 31, 9999 A.D. This index type also supports searches on date ranges. When you select this option, you can specify a format for the index. See "To set the Index Format property for a Date index type" on page 146 for instructions to set formatting for this index type.

- **Double Number** - Selecting this option causes the index to store a double-precision 64-bit number with values ranging from -1.79769E+308 to 1.79769E+308. When you select this option, you can specify a format for the index. See "To set the Index Format property for a Double Number index type" on page 147 for instructions to set formatting for this index type.
- **Long Text** - Selecting this option causes the index to store textual data that exceeds 255 characters (up to approximately 64,000 characters in total).
- **Number** - Selecting this option causes the index to store whole-number values between -2,147,483,648 and 2,147,483,647. This index type supports hyphens or dashes at the beginning of the number to indicate a negative value, but it does not support hyphens or dashes within the number, such as dashes within a social security number (555-55-5555). This index excludes these dashes from the number.
- **Text** - Selecting this option causes the index to store textual data up to 255 characters in length. This type of index is the most common.
- **Text(900)** - Selecting this option causes the index to store textual data up to 900 characters in length.

Index Verification Regular Expression

You can create a regular expression to validate the data that the operator enters for the index. A regular expression is a pattern of text that consists of ordinary characters (for example, letters A through Z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching a body of text. The regular expression serves as a template for matching a character pattern to the string being searched.

To set the Index Verification Regular Expression property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **Index Verification Regular Expression**, and then click the ellipsis button to open the **Regular Expression** dialog box.
7. In the **Regular Expression** box, type the regular expression.
8. In the **Text to Validate** box, type the text you want validated.
The text you type is automatically validated.
 - For a successful validation, the **Validation Status** displays .
 - For invalid entries, the **Validation Status** displays .
9. To create a custom message that will appear when an index value is invalid, select **Custom Error Message**, and then type the message you want to appear in the box.
10. Click **OK** to save your settings and close the dialog box.

Name

The **Name** property lets you edit the name of an index after it has been added.

To set the Name property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **Name**, and then type the name for the index in the box.

General [Step Level] Properties

The **General [Step Level]** properties define index properties that apply to the index at the step level. These properties let you configure settings to customize how operators enter index values from the Operator Console. Under the **General [Step Level]** category for index properties, you can set the following properties.

- See "Blind Index Verification" below for instructions to set this property.
- See "Font/Color Customization" on the next page for instructions to set this property.
- See "Hot Key Default Value" on page 154 for instructions to set this property.
- See "Ignore Indexing Errors" on page 154 for instructions to set this property.
- See "No Hand-Key Indexing" on page 155 for instructions to set this property.
- See "Re-Key Verification Count" on page 155 for instructions to set this property.
- See "Valid Field Required" on page 155 for instructions to set this property.
- See "Verification Search Strings" on page 156 for instructions to set this property.
- See "Zoom Zone" on page 156 for instructions to set this property.

Blind Index Verification

The **Blind Index Verification** property lets you specify whether the index entries of the first operator should match all subsequent operator entries. If you enable this property, you must configure at least two Indexing job steps.

E X A M P L E

For example, you want to set up a job so that the social security number is verified using blind index verification.

1. You create two **Indexing** steps with an SSN index.
2. In the first **Indexing** step, for the SSN index, you set the **Blind Index Verification** to **False**.
3. In the second **Indexing** step, for the SSN index, you set the **Blind Index Verification** to **True**.
4. You assign the operator, John, to the first **Indexing** step.
5. You assign the operator, Mary, to the second **Indexing** step.
6. John types 234-56-7891 in the SSN index, and then submits the batch.
7. Mary types 334-56-7891 in the SSN index, which differs from the first entry.

Because the **Blind Index Verification** property is enabled for the second **Indexing** step, Mary cannot see the original value for the SSN index. When her entry does not match John's, she receives an error message that the index values do not match.

**N O T E**

You cannot use blind index verification for indexes that are part of a detail set. The **Blind Index Verification** property is not available on the **Detail Set Configuration** dialog box.

To set the **Blind Index Verification** property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Blind Index Verification**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option enables blind index verification which specifies that all indexing entries should match those entered by the first operator.
 - **False** - Selecting this option disables blind index verification.

Font/Color Customization

The **Font/Color Customization** property lets you customize how indexes appear in the Operator Console. You can specify the background color for the index, and font options for the index label and

value.

To set the Font/Color Customization property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Expand **Font/Color Customization**.
7. To set the background color for the index, click **Background Color**, and then click the down arrow to select the color you want to use.
8. To set font options for the index label, click **Label Font**, and then click the ellipsis button to open the **Font** dialog box where you can select font options.
9. To set font options for the index value, click **Value Font**, and then click the ellipsis button to open the **Font** dialog box where you can select font options.



N O T E

You can set font options either on the **Font** dialog box or by setting the properties under **Label Font** and **Value Font**.

10. Expand **Label Font** and **Value Font** to set the following properties:
 - **Name** - This property shows the selected font. To change it, click this property, and then click the down arrow to select a font.
 - **Size** - This property shows the font size. To change it, click this property, and then type the font size in the box.
 - **Unit** - This property shows the unit of measure for the font. To change it, click this property, and then click the down arrow to select a unit of measure. The default value is **Point**. All units are not available for all fonts
 - **Bold** - This property shows whether bold formatting is applied to the font. To change it, click this property, and then click the down arrow to select either **True** to apply bold formatting, or **False** to disable bold formatting. The default value is **False**.
 - **GdiCharSet** - Depending on the selected font, this property shows the byte value that specifies the GDI character set that the font uses.
 - **GdiVerticalFont** - This property shows whether the selected font originates from a GDI vertical font. **True** indicates that it does, and **False** indicates that it does not.
 - **Italic** - This property shows whether italic formatting is applied to the font. To change it, click this property, and then click the down arrow to select either **True** to apply italic formatting, or **False** to disable italic formatting. The default value is **False**.

- **Strikeout** - This property shows whether the font appears with strikeout formatting (a horizontal line running through it). To change it, click this property, and then click the down arrow to select either **True** to apply strikeout formatting, or **False** to disable strikeout formatting. The default value is **False**.
- **Underline** - This property shows whether the font is underlined. To change it, click this property, and then click the down arrow to select either **True** to underline the font, or **False** to disable underlining. The default value is **False**.

Hot Key Default Value

The **Hot Key Default Value** property lets you assign a default index value for hand-key indexing. When operators get to this index, they can press the assigned hot key and the value you specify will populate the index.



NOTE

You can customize hot keys in the Operator Console, the default hot key for the **Insert Default Index Value** function is F8.

To set the Hot Key Default Value property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Hot Key Default Value**, and then type the value for the index in the box.

Ignore Indexing Errors

The **Ignore Indexing Errors** property lets you specify whether operators are notified of indexing errors.

To set the Ignore Indexing Errors property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Ignore Indexing Errors**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes incorrect operator input to be ignored, and no notification appears for the operator.

- **False** - Selecting this option causes operators to be notified when they make an incorrect indexing entry.

No Hand-Key Indexing

The **No Hand-Key Indexing** property lets you specify whether operators are allowed to enter values for the index.

To set the No Hand-Key Indexing property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **No Hand-Key Indexing**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option prevents operators from entering a value for this index.
 - **False** - Selecting this option lets operators enter a value for this index.

Re-Key Verification Count

To ensure indexing accuracy, the **Re-Key Verification Count** property lets you specify the number of times an operator must enter the index value.

To set the Re-Key Verification Count property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Re-Key Verification Count**, and then type the number of times (from 0 to 99) the operator is required to enter the index value.

Valid Field Required

The **Valid Field Required** property lets you specify whether operators are required to enter a valid index value, (for example, entering a date-formatted value for a date field) before they can move to the next index..

To set the Valid Field Required property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.

3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Valid Field Required**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option requires operators to enter a valid index value.
 - **False** - Selecting this option lets operators enter invalid index values.

Verification Search Strings

You can use the **Verification Search Strings** property to validate index values when the operator saves index values, tabs to the next index, submits the batch, or runs the **Verify Index Values** command. To ensure the accuracy of hand-key indexing, you can define multiple search strings that can be verified when the operator executes the **Verify Index Values** command. For example, you can assign individual characters or numbers to search for during the index verification process. By default, the verification process will highlight the first document in the batch that contains a blank value. However, you can exclude blank values from the index verification process by removing **<Blank>** from the list of search strings.

Depending on the operator's index preferences settings (defined on the Operator Console under **Tools > Options > Indexing Preferences**), index verification starts either at the beginning of the batch, or from the current document forward. The index verification process starts with the appropriate document in the batch and highlights the next document that contains your defined search strings.

To set the Verification Search Strings property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Verification Search Strings**, and then click the ellipsis button to open the **Verification Search Strings** dialog box.

By default, a **<blank>** search string appears in the first row.
7. To add a search string, click a row and then type the string.
8. To remove a search string, click it, and then click **Remove**.
9. Click **OK** to save your settings and close the dialog box.

Zoom Zone

The **Zoom Zone** property lets you define an area on an image that will be magnified when operators hand-key this index field.

To set the Zoom Zone property










1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Zoom Zone**, and then click the ellipsis button to open the **Index Zone** dialog box.
7. Define an index zone using one of the following methods:
 - Type pixel values for its placement and dimensions in the boxes described in step 8 of this procedure.
 - Draw it as described in the following steps:
 1. Click **Draw Zone** to open the **Select Index Zone** dialog box. (See "Available Commands on the Select Index Zone Window" on the next page for information about what each command does.)
 2. Load the image on which you want to draw the index zone by doing one of the following:
 - To scan the image you want to use, on the toolbar click **Scan Image**. (See "Scanner Settings" on page 171 for instructions to set scanner options.)
 - To load the image from a file, on the toolbar click **Open Image**, locate and select the image you want to use, and then click **Open**.
 3. Ensure that the **Region** option is selected on the toolbar. (If necessary, click the down arrow, and then click **Region**.)
 4. On the loaded image, place the pointer on a corner of the text you want to use for the index values.
 5. Hold down Shift while clicking the left mouse button, and then drag the pointer around the text.
A yellow boundary appears around the region you captured.
 6. After you define the index zone, click **OK** to save it.
8. If an index zone already exists, the following boxes display its placement and dimensions. You can also specify the index zone by typing entries in the following boxes.
 - **Top** - This box specifies the number of pixels from the top of the image where the index zone begins.
 - **Left** - This box specifies the number of pixels from the left side of the image where the index zone begins.
 - **Width** - This box specifies the width (in pixels) of the index zone.
 - **Height** - This box specifies the height (in pixels) of the index zone.
9. (Optional) If you want to specify the page of the document that appears when index values are entered, in the **Automatic Page Location** area, select the **Enabled** check box, and then in the

Page Index box, type the page of the document. The page must be greater than zero, and if you enter a number greater than the number of pages in the document, the last page will appear. Using this feature is helpful if index values are located on different page of the document.

- Click **OK** to save your settings and close the dialog box.

Available Commands on the Select Index Zone Window

The following commands are available on the toolbar of the **Select Index Zone** window.

Toolbar Button and Command Name	Function
 <p>Scanner Setup</p>	Opens the Scanner Settings dialog box where you can specify options for the scanner. (See "Scanner Settings" on page 171 for a description of the available options.)
 <p>Scan Image</p>	Scans an image in to the Select Index Zone window.
 <p>Open Image</p>	Opens a dialog box where you can select an image to load in to the Select Index Zone window.
 <p>Reset</p>	Resets the image to the original view.
 <p>Rotate 90°</p>	Rotates the image 90 degrees clockwise.
 <p>Zoom-In</p>	Increases the size of the image each time you click the command.
 <p>Zoom-Out</p>	Decreases the size of the image each time you click the command.
 <p>Zoom in Region</p>	Increases the size of the defined region.
 <p>Determine Mouse Left Click</p>	Click the down arrow to assign an action when you click and hold the left mouse button. You can choose from the following commands: <ul style="list-style-type: none"> ■ Move lets you pan around the image if the entire image is not displayed, for example, if you are zoomed in on an area of the image. ■ Zoom magnifies the region as you define it. ■ Region lets you define the index zone without changing the magnification.

Predefined Index Values [Job Level] Properties

The **Predefined Index Values [Job Level]** properties let you predefine index values at the job level. You can predefine these values as you configure the index or you can let operators add entries to the predefined values list as they work. When the **Auto-Complete** property is enabled, the values you predefine are used to finish entries as the operator types. You can also restrict operators to use only the values you predefine.

To set the Add New Values property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **Predefined Index Values [Job Level]**.
6. Click **Add New Values**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets all new values entered by operators be added to those specified by the **Predefined Values** property.
 - **False** - Selecting this option prevents operators from adding new values to the predefined ones.

To set the Auto-Complete property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **Predefined Index Values [Job Level]**.
6. Click **Auto-Complete**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes the index entry to automatically be completed as the operator types.
 - **False** - Selecting this option disables the auto-complete function.

To set the Force Predefined Value property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **Predefined Index Values [Job Level]**.

6. Click **Force Predefined Value**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators use only the values specified by the **Predefined Values** property. If the entered data is not one of the predefined values, the operator receives an alert.
 - **False** - Selecting this option lets operators enter values that are not predefined.

To set the Predefined Values property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **Predefined Index Values [Job Level]**.
6. Click **Predefined Values**, and then click the ellipsis button.
7. In the **Predefined Values** dialog box you can do the following:



NOTE

If you import predefined values, they must be in a .txt file format with each value on its own line.



To	Do this
Create a predefined index value	Type the value in the Predefined Values column. Use the Tab key to move to the next entry.
Import a .txt file of predefined index values	Click Import . Select the .txt file, and then click Open .
Export the predefined index values to a .txt file	Click Export . Select a location for the file, type a file name, and then click Save .
Delete a predefined index value	Select the value you want to delete, and then click Remove (Delete) .

8. Click **OK** to save your changes and close the dialog box.

Indexing Step Properties Overview

This content describes how to configure properties that apply to the **Indexing** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure Indexing step properties

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. Double-click the **Indexing** step to display the **Properties** tab on the left pane.
3. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
5. For instructions to set Index step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **Appearance** category.
 - See "Custom Code Events [Step Level] Properties" below for instructions to set the properties under this category.
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **General** category.
 - See "General [Step Level] Properties" on the next page for instructions to set the properties under this category.
 - See "Handkey Indexing Step Properties" on page 163 for instructions to set the properties under this category.
 - See "Configure Indexes" on page 138 for instructions to set the **Indexes** property.
 - See "Manual Barcode Indexing Properties" on page 165 for instructions to set the properties under this category.
 - See "Manual OCR Indexing Properties" on page 165 for instructions to set the properties under this category.
 - See "Manual QC Properties" on page 166 for instructions to set the properties under this category.
 - See "Operator Permissions Properties" on page 168 for instructions to set the properties under this category.

Custom Code Events [Step Level] Properties

You can configure custom code that operators can run in the Operator Console. For each property, you can select the scripting language and configure the custom code. Some properties contain code-

handling arguments that you can modify; these arguments define what actions are triggered after an operator executes the custom code. (See "Digitech Systems' API" on page 477 and "Custom Code Event Arguments" on page 480 for more information).

To set the Custom Code Events [Step Level] properties

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.
3. Click one of the following properties:
 - **Batch Opened** - This property runs custom code when the operator opens a batch in the Operator Console.



N O T E

The custom code associated with the **Batch Opened** property will not run if the **Max Number Documents per Batch** property is enable and the user completes the **Submit and Create New Batch** operation. (See "Max Number Documents Per Batch" on page 124 for instructions to set this property.)

- **Batch Submitted** - This property runs custom code when the operator submits a batch in the Operator Console.
 - **Custom Code Execution** - This property runs custom code when the operator clicks the **Execute Custom Code** command on the **Edit** menu or toolbar in the Operator Console.
 - **Match and Merge** - This property runs custom code when the operator clicks the **Merge Index Values** command on the **Edit** menu or toolbar in the Operator Console.
 - **Saving Indexes** - This property runs custom code before the operator saves index values in the Operator Console.
4. Click the ellipsis button to open the **Select Custom Code Generator** dialog box where you can specify the custom code to be run.
 5. See "Custom Code Generators" on page 429 for information about specifying custom code.

General [Step Level] Properties

Under the **General [Step Level]** category, you can set the **Browse Batch Single Row Indexes** and the **Update Detail Sets on Save** properties. These properties are described in the following procedures.

To set the Browse Batch Single Row Indexes property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **General [Step Level]**.
3. Click **Browse Batch Single Row Indexes**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes indexes to display only on the first row of a document on the **Browse Batch** window, and only the first detail set contains the main index values. This

is the default value.

- **False** - Selecting this option causes indexes to be repeated for each detail set.

To set the Update Detail Sets On Save property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **General [Step Level]**.
3. Click **Update Detail Sets On Save**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes changes to detail sets that occur in the Operator Console to be retained when indexes are saved. This is the default value.
 - **False** - Selecting this option allows detail fields to be edited in the Operator Console, but the changes are not saved. If index fields only are available for editing in the Operator Console, and detail sets exist but are not available for editing, you must select **False** so that the detail fields are not overwritten with blank values when indexes are saved.

Handkey Indexing Step Properties

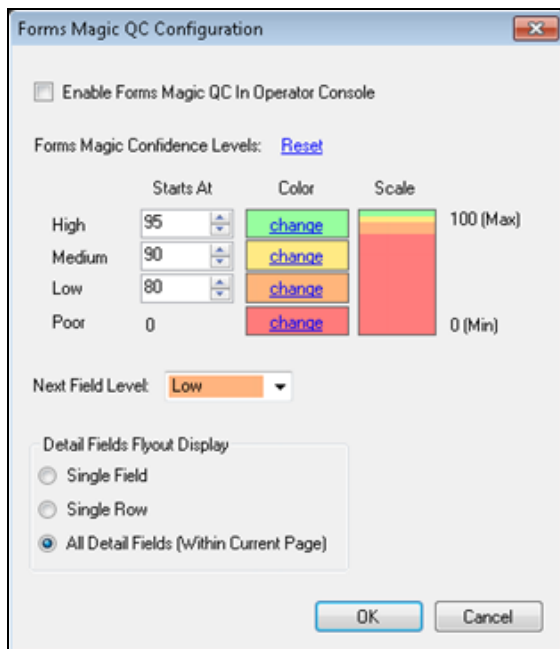
Under the **Handkey Indexing Step** category, you can set the **Allow EDI QC** and the **Forms Magic QC** properties. When enabled, these properties let operators verify index values for the **EDI** business rule and documents that are imported from Forms Magic.

To set the Allow EDI QC property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Handkey Indexing Step**.
3. Click **Allow EDI QC**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators verify index values for EDI documents when an **EDI** business rule is part of the job.
 - **False** - Selecting this option prevents operators from verifying index values for EDI documents.

To set the Forms Magic QC property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Handkey Indexing Step**.
3. Click **Forms Magic QC**, and then click the ellipsis button to open the **Forms Magic QC Configuration** dialog box.



4. To let operators perform quality control on documents imported from Forms Magic, select **Enable Forms Magic QC in Operator Console**.
5. In the **Forms Magic Confidence Levels** area, you can define values to indicate the level of confidence that the incoming value was read correctly by the OCR engine. Values range from zero (the lowest confidence level) to 100 (the highest confidence level). You can use the default values provided, or you can set your own values. If you want to reset the confidence levels to the default values, click **Reset**.
6. In the **High** box, type or select the start of the high confidence range.
7. In the **Medium** box, type or select the start of the medium confidence range.
8. In the **Low** box, type or select the start of the low confidence range.
9. (Optional) If you want to change the colors for the various ranges, click the **Change** link in the **Color** box to open the **Color** dialog box where you can specify or define a color.
10. From the **Next Field Level** list, select the confidence level that will determine what field appears when a user clicks **Next FM Field** on the **Index Manager** to move through index fields in the Operator Console. Each time the user clicks **Next FM Field**, the next index field tagged with a confidence level that is equal to or lower than the one you select will appear. For example, if you select **Low**, when the user clicks the **Next** button, the operator console will go to the next index value that is tagged with a low or poor confidence level. This allows users to quickly move to the next field that needs attention.
11. In the **Detail Fields Flyout Display** area, select one of the following options to specify how detail field information will appear in the operator console.
 - **Single Field** - Selecting this option will show the zone for the detail field.
 - **Single Row** - Selecting this option will show all fields on the row for the detail field.
 - **All Detail Fields (Within Current Page)** - This option shows all fields within a detail set per page.

- Click **OK** to save your settings and close the dialog box.

Manual Barcode Indexing Properties

You can configure the **Capture** and **Indexing** steps so that scanning operators tasked with indexing can apply barcode zones directly on images to populate index fields. By manually applying barcode zones, operators can easily extract and index barcode data that may shift across pages and documents. To use manual barcode indexing, you must define at least one barcode zone to define the applicable properties. Operators are restricted only to the properties you define for the barcode, such as supported barcode types, but they can apply an infinite number of barcode zones on an image.



NOTE

When you enable the **Allow Barcode Indexing** property, a Capture Barcode license (1D or 2D, depending on the selected barcode type) is required in addition to the Capture Scan or Capture Indexing license.

To set the Allow Barcode Indexing property

- On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
- On the **Properties** tab, if necessary, expand **Manual Barcode Indexing**.
- Click **Allow Barcode Indexing**, and then click the down arrow to select one of the following options:
 - True** - Selecting this option lets operators perform barcode indexing.
 - False** - Selecting this option prevents operators from performing barcode indexing.



NOTE

If you set this property to **True**, you must define at least one barcode zone. See "To set the Barcode Indexing property" below for instructions.

To set the Barcode Indexing property

- On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
- On the **Properties** tab, if necessary, expand **Manual Barcode Indexing**.
- If the **Barcode Indexing** property is not available, set the **Allow Barcode Indexing** property to **True**.
- Click **Barcode Indexing**, and then click the ellipsis button to open the **Configure Manual Barcode Indexing** dialog box.
- See "Configure Barcode Zones" on page 176 for instructions to draw a barcode zone.

Manual OCR Indexing Properties

You can configure the **Capture** and **Indexing** steps so that scanning operators tasked with indexing can apply OCR zones directly on images to populate index fields. By manually applying OCR zones, operators can easily extract and index text that may shift across pages and documents. To use manual

OCR indexing, you must define at least one OCR zone to define the applicable properties. Operators are restricted only to the properties you define for the OCR zone, such as supported OCR recognition languages, but they can apply an infinite number of OCR zones on an image.



NOTE

When you enable manual OCR indexing, an OCR license is required in addition to the Capture Scan or Capture Indexing license.

To set the Engine property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Manual OCR Indexing**.
3. Click **Engine**, and then click the down arrow to select one of the following options:
 - **None** - Selecting this option prevents operators from performing manual OCR indexing in the Indexing step.
 - **Nuance** - Selecting this option lets operators use the Nuance OCR engine to perform manual OCR indexing in the Indexing step.
 - **Open Text** - Selecting this option lets operators use the OpenText OCR engine to perform manual OCR indexing in the Indexing step.



NOTE

If you set this property to **Nuance** or **Open Text**, you must define at least one OCR zone. See "To set the OCR Indexing property" below for instructions.

To set the OCR Indexing property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Manual OCR Indexing**.
3. If the **OCR Indexing** property is not available, set the **Engine** property to either **Nuance** or **Open Text**.
4. Click **OCR Indexing**, and then click the ellipsis button to open the **Configure Manual OCR Indexing** dialog box.
5. See "Edit OCR Zone Window Overview" on page 199 for information about using this window to create OCR zones.

Manual QC Properties

When you enable the **Allow Manual QC** property, operators can review content and apply QC tags while in the **Indexing** step. You can also specify parameters for the QC Auto Play function and whether operators can access the **Browse QC Tags** window in the Operator Console.

**N O T E**

Enabling the **Allow Manual QC** property causes the **Indexing** step to also consume a Capture QC Manual license (in addition to the Capture Index license).

To set the Allow Manual QC property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. Click **Allow Manual QC**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators perform manual QC tasks while in the **Indexing** step.
 - **False** - Selecting this option prevents operators from performing manual QC tasks while in the **Indexing** step.

To set the Allow Review QC Tags property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. Click **Allow Review QC Tags**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators view the **Browse QC Tags** window in the Operator Console.
 - **False** - Selecting this option prevents operators from viewing the **Browse QC Tags** window in the Operator Console.

**N O T E**

The Capture QC Manual license is not required for the operator to review QC tags.

To set the QC Auto Play property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. If the **QC Auto Play** property is not available, set the **Allow Manual QC** property to **True**.
4. Click **QC Auto Play**, and then click the ellipsis button to open the **QC Auto Play** dialog box.
5. In the **Delay (ms)** box, type how long (in milliseconds) you want each image or group of images to remain on screen so operators can inspect them.
6. In the **Skip Mode** area, select one of the following options:
 - **Batch** - Selecting this option causes the QC Auto Play function to skip batches. If you select this option, you can specify only **Page Skipping** options. The **Document Skipping** options are unavailable.

- **Document** - Selecting this option causes the QC Auto Play function to skip documents. If you select this option, you can specify **Page Skipping** and **Document Skipping** options.
7. If you selected **Document** in the previous step, in the **Document Skipping** area, select one of the following options:
 - **None** - Selecting this option causes the QC Auto Play function to skip no documents so operators must inspect all documents.
 - **Number** - When you select this option, you can specify the number of documents you want the QC Auto Play function to skip. For example, if you type **5**, the QC Auto Play function displays every fifth document for inspection.
 - **Random** - When you select this option, the QC Auto Play function skips an arbitrary number of documents between zero and the number you type. For example, if you type **10**, then the QC Auto Play function might skip three documents the first time it runs, seven documents the second time it runs, nine documents the third time it runs, and so on.
 8. In the **Page Skipping** area, select one of the following options:
 - **None** - Selecting this option causes the QC Auto Play function to skip no pages so operators must inspect all pages.
 - **Number** - When you select this option, you can specify the number of pages you want the QC Auto Play function to skip. For example, if you type **5**, the QC Auto Play function displays every fifth page for inspection.
 - **Random** - When you select this option, the QC Auto Play function skips an arbitrary number of pages between zero and the number you type. For example, if you type **10**, then the QC Auto Play function might skip three pages the first time it runs, seven pages the second time it runs, nine pages the third time it runs, and so on.
 9. Click **OK** to save your settings and close the dialog box.

Operator Permissions Properties

By default, operators can perform most document and page operations while in the **Indexing** step. You can specify whether operators have permission to view the **Browse Batch** window, and import images in the **Indexing** step. The **Import Images** property is the only property that, when enabled, requires an additional Capture Scan license (in addition to the Capture Index license). The remaining properties do not require an additional license, and are enabled by default to give operators flexibility in manipulating documents and pages when indexing in the Operator Console.

To set the Add Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Add Documents**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators append a blank document to the end of the batch.
 - **False** - Selecting this option prevents operators from adding documents.

To set the Browse Batch property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)

2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Browse Batch**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators view the **Browse Batch** window in the Operator Console.
 - **False** - Selecting this option prevents operators from viewing the **Browse Batch** window.

To set the Copy Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Copy Documents**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators copy all pages and append the new document after the selected document.
 - **False** - Selecting this option prevents operators from copying pages.

To set the Copy/Move Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Copy/Move Pages**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators copy/paste and cut/paste consecutive or non-consecutive pages in one document or across multiple documents. The operator can also drag and drop pages from one location to another in the **Thumbnails** window or multiple-display view.
 - **False** - Selecting this option prevents operators from copying and moving pages.

To set the Delete Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Delete Documents**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators delete documents and their associated images.
 - **False** - Selecting this option prevents operators from deleting documents.

To set the Delete Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Delete Pages**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators delete one or multiple page(s) within one document or across multiple documents.
 - **False** - Selecting this option prevents operators from deleting pages.

To set the Extract and Copy Regions property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To

configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)

2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Extract and Copy Regions**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators extract a region of an image and copy it to the next page of the document.
 - **False** - Selecting this option prevents operators from extracting and copying regions.

To set the Import Images property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Import Images**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option allows operators to import images into a document in the Operator Console.
 - **False** - Selecting this option prevents operators from importing images.



NOTE

When you select **True** for this property, the **Indexing** step also consumes a Capture Scan license (in addition to the Capture Index license).

To set the Insert Document Breaks property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Insert Document Breaks**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators insert a document break within a document.
 - **False** - Selecting this option prevents operators from inserting document breaks.

To set the Invert and Save Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Invert and Save Pages**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators invert the polarity of one or multiple pages, and then save the pages.
 - **False** - Selecting this option prevents operators from inverting page polarity and then saving the changes.

To set the Remove Document Breaks property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To

configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)

2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Remove Document Breaks**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators remove an existing document break within a document.
 - **False** - Selecting this option prevents operators from removing document breaks.

To set the Re-Save Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Re-Save Pages**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators save a page that has had rotation or polarity settings applied to it.
 - **False** - Selecting this option prevents operators from saving pages that have had rotation or polarity settings applied.

To set the Rotate and Save Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Rotate and Save Pages**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators rotate one or multiple pages and then save the pages.
 - **False** - Selecting this option prevents operators from rotating pages and then saving them.

To set the Shuffle Documents to Duplex property

1. On the workspace of the **Job Definitions** window, double-click the **Indexing** step. (See "To configure an Indexing step" on page 138 if you need help adding an **Indexing** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Shuffle Documents to Duplex**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option lets operators shuffle documents to duplex
 - **False** - Selecting this option prevents operators from shuffling documents to duplex.

Scanner Settings

PaperVision Capture supports more than 300 ISIS-compatible scanners. If you need additional scanner drivers, please contact Digitech Systems' Technical Support at support@digitechsystems.com or by phone at (877) 374-3569. If the driver is available, our support personnel will help you get it.

Alternatively, PaperVision Capture also supports the use of TWAIN scanners. The use of TWAIN scanners is generally intended for extremely low-volume scanners, as ISIS drivers are available for most scanners on the market.

In the Administration Console, you can test and save scanner settings during index, barcode, and OCR zone configuration. Black and white images are saved in an industry standard Group IV tiff file format, and color or grayscale images are saved in a standard jpg or bmp file format.



You can access scanner settings during index, barcode, and OCR zone configuration.



NOTE

The items available for you to specify will vary depending on the selected device or driver. The following procedure describes all of the options, although some of them may not be available for you to specify.

To specify scanner settings

1. On the toolbar of the zone configuration window, click **Configure Scanner**  or **Scanner Setup**  to open the **Scanner Settings** dialog box. (This command is available from the windows used to configure index, barcode, and OCR zones.)
2. In the **Saved Settings** list, do one of the following:
 - To apply settings that were previously saved, select the name of the settings.
 - To save new scanner settings, type the name for the settings, and then click **Apply**.
To remove a setting, select it from the **Saved Settings** list, and then click **Delete**.
3. In the **Scanner Name** list, select a scanner.



NOTE

For a scanner to appear in the list, it must be installed and detected by PaperVision Capture. The **Properties** list provides various configuration items that differ based on the item selected in the **Scanner Name** list.

4. In the **Properties** list, you can select the following options:
 - **More Settings** may contain additional scanner settings that are available for configuration.
 - **About** displays the driver's version, copyright, and other information specific to the scanner.
 - **Area Settings** let you assign the scanning area.
 - **Extended Settings** may contain additional scanner settings that are available for configuration.
 - **Windows Image Acquisition** may contain additional settings if your scanner supports Windows Image Acquisition.
 - **Calibrate** lets you calibrate the scanner driver.
 - **Configure** lets you configure the scanner driver settings.
5. In the **Color Format** list (also known as the mode), you can select from options such as black and white, and color.

6. In the **Dither** list, you can apply dithering. Dithering converts and simulates unavailable colors. When dithering is turned on, the system combines two or more colors to approximate the unavailable color.
7. In the **Horizontal Resolution** list, you can select the horizontal dots-per-inch resolution setting to apply during the scanning process.
8. In the **Vertical Resolution** list, you can select the vertical dots-per-inch resolution setting to apply during the scanning process.
9. In the **Page Size** list, you can select the default page size of the image as it is scanned.
10. In the **Scan Type** list, you can select whether scanning should be two-sided (duplex), one-sided (simplex), etc.
11. In the **Dual Stream** list, you can select how pages will be scanned (Front/Back, Front Only, Back Only). To disable dual stream scanning, select **None**.
12. In the **Brightness** area, you can set the brightness level to apply during the scanning process and whether it should be applied manually or automatically. Brightness defines a pixel's lightness value from black (darkest) to white (brightest). If you select **Manual** to apply the brightness level manually, use the slider to increase or decrease the amount of brightness.
13. In the **Contrast** area, you can set the contrast level to apply during the scanning process and whether it should be applied manually or automatically. Contrast is a measure of the rate of change of brightness in an image. A high-contrast image contains defined transitions from black to white. If you select **Manual** to apply the contrast level manually, use the slider to increase or decrease the amount of contrast.
14. Click **OK** to save your settings and close the dialog box.

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CHAPTER 7

Barcode Step

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Barcode Step Overview

You can use barcodes to populate index values and insert document breaks. PaperVision Capture recognizes one-dimensional and two-dimensional, black and white, and color barcodes. With the **Barcode** step you can configure a barcode reading process that executes automatically in the PaperVision Capture Operator Console or by the PaperVision Capture Automation Service.



NOTE

Use of the **Scaling** image processing filter can improve the recognition rate of barcode detection. (See "Scaling" on page 417 for more information.)

This content describes how to configure properties that apply to the **Barcode** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

To configure a Barcode step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Barcode** job step to the workspace using one of the following methods.
 - Select the job step that you want the **Barcode** step to follow. On the **Job Step Toolbox** tab, double-click **Barcode**.
 - On the **Job Step Toolbox** tab, drag **Barcode** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Barcode**.
5. Double-click the **Barcode** step to display the **Properties** tab on the left pane.
6. For instructions to set **Barcode** step properties, see the following:
 - See "Configure Barcode Zones" below for instructions to add zones.
 - See "Barcode Zone Properties Overview" on page 185 for instructions to set properties for specific barcode zones.
 - See "Barcode Zone Step Properties" on page 190 for information about setting all other **Barcode** step properties.

Configure Barcode Zones

You can configure a barcode zone that will be recognized during the scanning process in the PaperVision Capture Operator Console.

**N O T E**

If you define more than one barcode zone in a multiple-page document, the last barcode value that is read on the last page overrides all others and populates the index. If you define more than one barcode zone in a single-page document, the last barcode value that passes through the system populates the index.

To access barcode zone settings

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. Select the **Index** on the **Indexes** tab for which you want to access the barcode zone settings. (See "To add an index" on page 139 if you need help adding an index.)
5. If necessary, expand the **General [Step Level]** category and then select **Barcode Zones**.
6. Click the ellipsis button to open the **Edit Barcode Zones** window.
7. See "Barcode Zone Properties Overview" on page 185 for information about setting properties for barcode zones.
8. For instructions to set the index configuration properties that are not specific to the **Barcode** step, see the following:
 - See "General [Job Level] Properties" on page 144 for instructions to set each property under this category.
 - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set each property under this category.
9. For instructions to set the index configuration properties that are specific to the **Barcode** step and appear under the **General [Step Level]** category, see the following:
 - See "Barcode Parsing" on page 179 for instructions to set this property.
 - See "To draw a barcode zone" below for instructions to set the **Barcode Zones** property.

To draw a barcode zone

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on the previous page if you need help adding a Barcode step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to draw a barcode zone. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window. (See "Edit Barcode Zones Window Overview" on page 181 for information on using the **Edit Barcode Zones** window.)

7. If necessary, load an image using one of the following methods:
 - To scan an image click **Start Scanning**. (See "Scanner Settings" on page 171 if you need help configuring a scanner.)
 - To import an image from a directory, click **Import Images**, and the **Open** dialog box appears. Locate the images you want to import, and then click **Open**.
8. Select the page on which you want to draw a barcode zone by doing one of the following:
 - Select the page in the **Barcode Explorer**.
 - Select the page in the **Thumbnails** pane.
9. To draw the barcode zone, do one of the following:
 - On the toolbar, click **Add Zone (Current Page)**. This option will create a zone spanning the whole page. This is useful when you are unsure of the exact location of the barcode, or there are multiple barcodes on a page and you have used a regular expression to define the barcode you want.
 - On the toolbar, click **Add Zone (Select Page)**. Type the page number on which you want to draw a zone in the **Number** box, and then click **OK**. This will create a zone spanning the whole page. This is useful when you are unsure of the exact location of the barcode, or there are multiple barcodes on a page and you have used a regular expression to define the barcode you want.
 - In the workspace, place the pointer on a corner of the zone you want to draw. Click the left mouse button, and then drag the pointer around the zone.
10. See "Barcode Zone Properties Overview" on page 185 to set the **Barcode Zone** properties.
11. After you have defined the zone and set the properties, on the **Edit Barcode Zones** toolbar, click **Save OCR Zones**.

To move a barcode zone

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 if you need help adding a Barcode step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing barcode zone.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window.
7. To select the zone you want to edit, do one of the following:
 - In the **Barcode Explorer**, select the zone you want to edit.
 - In the **Thumbnails** window, select the page which contains the zone you want to edit. Select the zone you want to edit in the workspace.

8. Double-click the zone and do one of the following:
 - While holding down the left mouse button, move the zone to the location you want.
 - Place the pointer on one of the corners of the zone and hold down the left mouse button. Drag the borders of the zone to the size you want.
9. After you have defined the zone and set the properties, on the toolbar, click **Save Barcode Zones** to save your changes.

To delete a barcode zone

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 if you need help adding a Barcode step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to delete an existing barcode zone.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window.
7. To select the zone you want to delete, do one of the following:
 - In the **Barcode Explorer**, select the zone you want to delete.
 - In the **Thumbnails** window, select the page which contains the zone you want to edit. Select the zone on the page in the workspace.
8. On the **Barcode Explorer** toolbar, click **Remove Zone**.

To delete all barcode zones on a page

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 if you need help adding a Barcode step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to delete an existing barcode zone.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window.
7. Select the page for which you want to delete all barcode zones by doing one of the following:
 - In the **Barcode Explorer**, select the page on which you want to delete all the barcode zones.
 - In the **Thumbnails** window, select the page on which you want to delete all the barcode zones.
8. On the **Barcode Explorer** toolbar, click **Remove All Zones On This Page**.

Barcode Parsing

During indexing configuration in a **Barcode** step, you can configure a text delimiter or a regular expression to parse specific index fields from a barcode. You can then specify which field in the parsed

index is extracted. For example, if you parsed a social security number and specified the third field, the last four numbers of the social security number would be extracted. Optionally, you can verify that an exact number of fields result from the parsing operation (for example, three fields indicative of a complete social security number).



NOTE

See

<http://msdn.microsoft.com/enus/library/vstudio/28hw3sce%28v=vs.100%29.aspx> if you need additional information on regular expressions.

If errors occur during barcode parsing, such as when the parsed number of index fields differs from your specified number of fields, you can select one of three subsequent actions.

- The entire index value can be skipped (therefore, no barcode parsing occurs).
- The complete barcode value is used (therefore, no barcode parsing occurs).
- You can specify the text that will be used as the parsed value (for example: "unknown value").

To configure Barcode Parsing

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 if you need help adding a Barcode step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Select **Barcode Parsing**, and then click the ellipsis button to open the **Configure Barcode Parsing** dialog box.
7. In the **Delimiter** area, select the method you want to use to split the original index value into fields.
 - Click **Text**, and then type the text you want to use as a delimiter.
 - Click **Regular Expression**, and then type the regular expression you want to use as a delimiter.
8. In the **Field Parsing** area, specify the field index position from which you want to extract data.
9. Optionally, you can verify that an exact number of index fields (two or more) result from the parse operation. For example, you can set the **Field Index** value to "4" to parse only the last four digits of a credit card number. You can then select the **Verify Number of Fields** option to verify that four index fields (indicative of a credit card number) result from the parsing operation.
10. In the **Parsing Errors** area, check one of the following to specify how the system will handle parsing errors.
 - **Skip Index Value** - The entire index value is skipped, and no barcode parsing occurs.
 - **Use Complete Barcode Value** - The complete barcode value is used, and no barcode parsing occurs.
 - **Use Error Text** - Type in the box the error message you want to appear.

11. In the **Preview** area, you can type a sample index value to view how the delimiter is applied, which field index is extracted, and how any parsing errors are handled.

Edit Barcode Zones Window Overview

You use the **Edit Barcode Zones** window to import and scan images, create and edit barcode zones, and set or change barcode zone properties.

To access the Edit Barcode Zones window

1. On the workspace of the **Job Definitions** window, double-click the Barcode step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to access the barcode zone settings. (See "To add an index" on page 139 if you need help adding an index.)
5. If necessary, expand the **General [Step Level]** category and then select **Barcode Zones**.
6. Click the ellipsis button to open the **Edit Barcode Zones** window.

Components of the Edit Barcode Zones Window

The **Edit Barcode Zones** window contains the following components:

- The toolbar contains commands for commonly used options.
- The **Barcode Explorer** provides an expandable view of each defined zone, its location, dimensions, and test results.
- The main workspace contains the image you are working with. This is where you draw and edit barcode zones.
- The properties grid displays all the page and zone properties for any zone you select in the **Barcode Explorer** or main workspace.
- The **Thumbnails** pane displays thumbnails of all the images. You can right-click on any thumbnail and perform basic operations such as cut/paste, copy/paste, delete, or select all.



NOTE

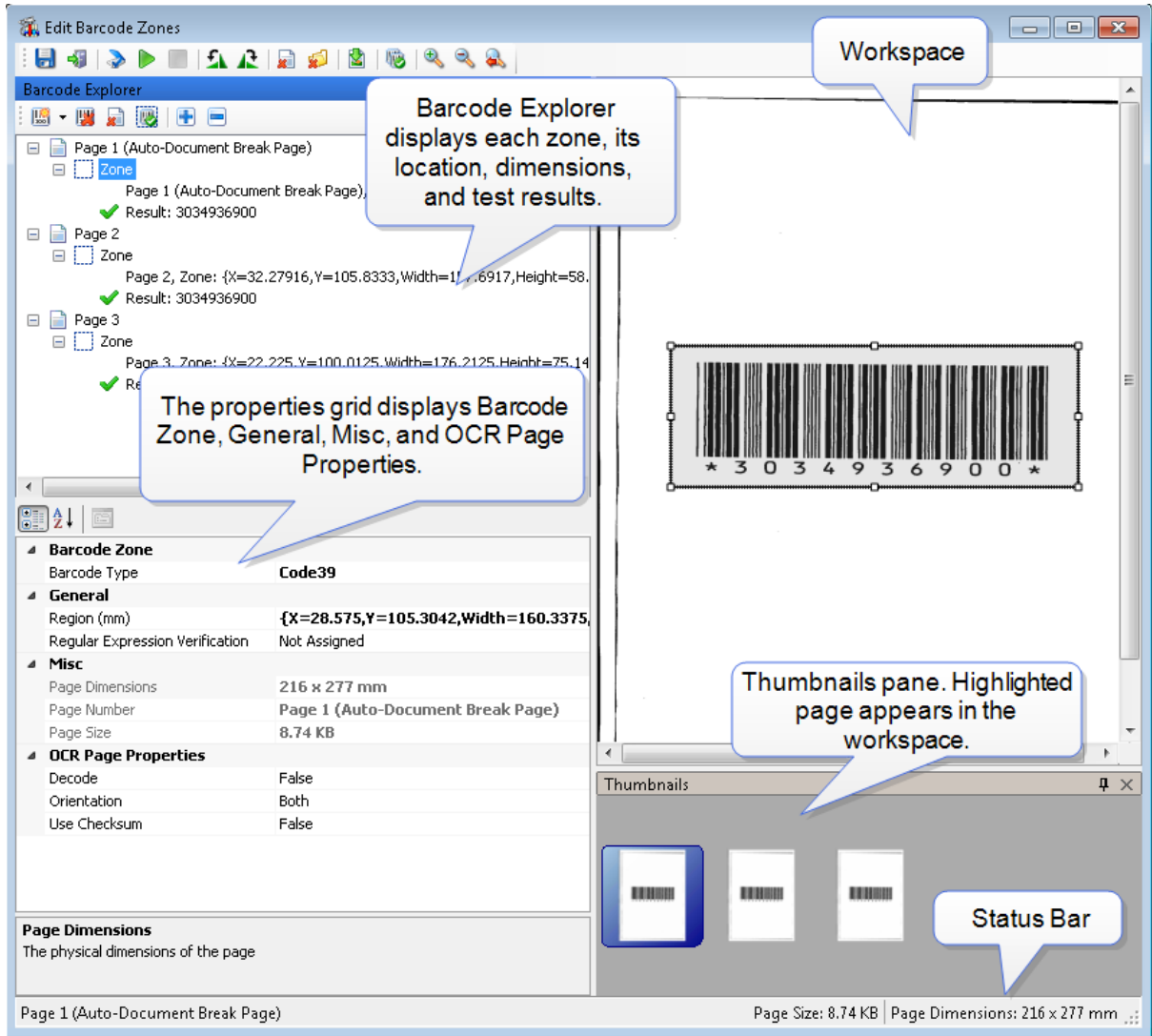
Images viewed as thumbnails can have maximum dimensions of 32,768 x 32,768 pixels.

- The status bar on the bottom of the screen displays each selected image's page number, page size in KB, and page dimensions in mm.













NOTE





The page dimensions 215 x 279 mm are approximately equivalent to 8.5 x 11 inches.



Available Commands on the Edit Barcode Zones Window






The following commands are available on the **Edit Barcode Zones** toolbar.



Toolbar Button and Command Name	Function
 Save Barcode Zones	Saves all defined Barcode zones and settings, and returns to the Index Configuration dialog box.
 Exit	Closes the Edit Barcode Zones dialog box. A dialog box appears with the option to save barcode changes, or cancel the operation.
 Configure Scanner	Opens the Scanner Settings dialog box where you can specify options for the scanner. (See "Scanner Settings" on page 171 for a description of the available options.)
 Start Scanning	Scans an image into the Edit Barcode Zones window.
 Stop Scanning	Stops the scanning process.
 Rotate 90° Counter-Clockwise	Rotates the image 90 degrees counter-clockwise.
 Rotate 90° Clockwise	Rotates the image 90 degrees clockwise.
 Remove Selected Image(s)	Removes the images you have selected from the Edit Barcode Zones window.
 Remove All Images	Removes all of the images from the Edit Barcode Zones window.
 Import Images	Opens a dialog box where you can locate the images, and import them into the Edit Barcode Zones dialog box.

Toolbar Button and Command Name	Function
 Test All Barcode Zones	Tests all barcode zones on all pages and displays the extraction results in the Barcode Explorer .
 Zoom-In	Increases the size of the image each time you click the command.
 Zoom-Out	Decreases the size of the image each time you click the command.
 Zoom Reset	Resets the image to its original size.

Available Commands on the Barcode Explorer

The following commands are available on the **Barcode Explorer** toolbar.

Toolbar Button and Command Name	Function
 Add Zone (Current Page)	Adds a zone to the current page.
 Add Zone (Select Page)	Adds a zone to the page you select.
 Remove Zone	Removes the zone you have selected.
 Remove All Zones On This Page	Removes all the zones on the selected page.
 Test OCR Zone	Tests the selected Barcode Zone and displays the extraction results in the Barcode Explorer .

Toolbar Button and Command Name	Function
 <p>Expand All</p>	Expands the pages in the Barcode Explorer to show all the zones on all the pages.
 <p>Collapse All</p>	Collapses all the pages in the Barcode Explorer .

Barcode Zone Properties Overview

This content describes how to configure properties that apply to barcode zones.

To access barcode zone properties

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 step if you need help adding a **Barcode** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to configure barcode zone properties.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window.
7. In the **Barcode Explorer**, select the zone for which you want to set the zone properties. (If you need to create a new barcode zone, see "Configure Barcode Zones" on page 176 for more information.)

The properties grid in the **Edit Barcode Zones** window, displays the following properties for any zone you select in the **OCR Explorer** or main workspace.

- The **Barcode** category is only available if you have selected a page with a defined barcode zone. The **Barcode Type** property is available for all barcode zones. The **Required for Delete** property is only available for **Auto Document Break** barcode zones. See "Barcode Type" on the next page and "Required for Delete (Auto Document Break only)" on page 187 for information to set these properties.
- The **General** category is only available if you have selected a page with a defined zone.
 - **Region** - displays the X and Y coordinates of the upper-left corner of the zone and its dimensions. You can edit the location and dimensions by clicking the ellipsis, and typing new dimensions and X, Y coordinates in the **Zone Rectangle** dialog box.
 - **Regular Expression Verification** See "Regular Expression Verification" on page 187 for information to set this property.
- The **Misc** category is only available if you have selected a page with a defined barcode zone. It is read-only, and displays the following information:

- **Page Dimensions** - displays the dimensions, in millimeters, of the image in the workspace
- **Page Number** - displays the page number of the image in the workspace
- **Page Size** - displays the file size, in KBs, of the image in the workspace
- The **OCR Page Properties** category is available for all barcode zones. You can set the following properties.
 - See "Decode" on page 188 for instructions on setting the **Decode** property.
 - See "Orientation" on page 189 for instructions on setting the **Orientation** property.
 - See "Use Checksum" on page 189 for instructions on setting the Use **Checksum** property.

Barcode Type

The following two-dimensional barcode types are supported in PaperVision Capture.

- AZTEC
- DataMatrix
- PDF417
- QR Code
- Royal Post
- Intelligent Mail
- Australian Post - A 4-state barcode that supports the following different formats:
 - Standard Customer Barcode - The barcode is 37 bars long and contains no customer information.
 - Reply Paid Barcode - The barcode is 37 bars long and is similar to the Standard Customer barcode.

The following one-dimensional barcode types are supported in PaperVision Capture

- Addon2
- Addon5
- BCDMATRIX
- Codabar
- Code25_Datalogic
- Code25_IATA
- Code25_Industrial
- Code25_Interleaved
- Code25_Invert
- Code25_Matrix
- Code32
- Code39
- Code93
- EAN13
- EAN8
- Postnet
- Type128
- UCC128
- UPC_A
- UPC_E

To set the Barcode Type property

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 step if you need help adding a **Barcode** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the barcode zone properties.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** dialog box.

7. In the **Barcode Explorer**, select the barcode zone for which you want to set the **Barcode Type** property.
8. In the properties grid, select **Barcode Type**, and then click the ellipsis button.
9. In the **Barcode Types** list, select the barcode type(s), and then click **OK**.

Required for Delete (Auto Document Break only)

This property is available when you define **Auto Document Breaks** with barcodes. When set to **True**, the break page will be deleted if all defined barcode zones are read successfully, and the **Save Page** property, in the **Auto Document Break** category is set to **False**. See "Auto Document Break Property" on page 190 for more information on the **Auto Document Break** category.

To set the Required for Delete property



1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 step if you need help adding a **Barcode** step.)
2. On the **Properties** tab, select **Auto Document Break**, and then click the ellipsis button.
3. In the **Barcode Explorer**, select the barcode zone for which you want to set the **Required for Delete** property.
4. In the properties grid, (if necessary) expand the **Barcode Zone** category.
5. Select **Required for Delete**, click the down arrow, and then do one of the following:
 - Select **True** if you want the break pages deleted after all the defined barcode zones are read successfully.
 - Select **False** if you want the break pages to remain in the document.

Regular Expression Verification

You can create a regular expression to validate the values returned by the barcode zone. A regular expression is a pattern of text that consists of ordinary characters (for example, letters A through Z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching a body of text. The regular expression serves as a template for matching a character pattern to the string being searched.

To set the Regular Expression Verification property

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 if you need help adding a **Barcode** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure.
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window.
7. In the **Barcode Explorer**, select the zone for which you want to define a regular expression.
8. In the properties grid, expand the **General** category, and select **Regular Expression Verification**.

9. Click the ellipsis button to open the **Regular Expression** dialog box.
10. In the **Regular Expression** box, type the regular expression.
11. In the **Text to Validate** box, type the text you want validated.
The text you type is automatically validated.
 - For a successful validation, the **Validation Status** displays .
 - For invalid entries, the **Validation Status** displays .
12. Click **OK** to save your settings and close the dialog box.

Decode

Some barcode types, such as Code 128, do not represent data as ASCII characters. Other barcode types, such as Code 3 of 9, use special characters to extend the basic character set to include the entire ASCII set. When set to **True**, barcode values are converted into human-readable ASCII strings. For example, if the barcode uses escape characters, as in "%K123%M?*", and the **Decode** property is set to **True**, then "[123]" will be returned. If the **Decode** property is set to **False**, the raw barcode is returned.



NOTE

You should set this setting to **True** unless the barcode results should not be converted into ASCII strings. For example, this setting should be set to **False** if you are detecting Code 3 of 9 barcodes that represent dates using the slash mark "r;" character (for example, 01/01/1999). If this setting is set to **True**, no results are returned because "r;/0" and "r;/1" are not valid ASCII characters.

To set the Decode property

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 step if you need help adding a **Barcode** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the **Decode** property.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** dialog box.
7. In the **Barcode Explorer**, select the barcode zone for which you want to set the **Decode** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Click **Decode**, click the down arrow, and then do one of the following:
 - Select **True** to convert barcode values into readable ASCII strings.
 - Select **False** to return raw barcode values.

Orientation

PaperVision Capture detects horizontal and vertical barcodes with skew angles of no more than 15 degrees from the horizontal and vertical axes. Horizontal barcode detection is slightly faster than vertical barcode detection. If you are unsure of the expected barcode orientation, or if the documents contain barcodes with different orientations, select **Both** from the list.

To set the Orientation property

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 step if you need help adding a **Barcode** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the **Orientation** property.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** dialog box.
7. In the **Barcode Explorer**, select the barcode zone for which you want to set the **Orientation** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Click **Orientation**, click the down arrow, and then do one of the following:
 - Select **Horizontal** if the barcode in the selected zone is horizontal.
 - Select **Vertical** if the barcode in the selected zone is vertical.
 - Select **Both** if the barcode(s) in the selected zone may be either horizontal or vertical.

Use Checksum

A checksum is an error detection process where additional characters are appended to a barcode to ensure more accurate readings. Set this property to **True** if you want the checksum to be recognized during the scanning process.

To set the Use Checksum property



1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 step if you need help adding a **Barcode** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the **Use Checksum** property.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **Barcode Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** dialog box.
7. In the **Barcode Explorer**, select the barcode zone for which you want to set the **Use Checksum** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.

9. Click **Use Checksum**, click the down arrow, and then do one of the following:
 - Select **True** if you want to recognize the barcode checksum in the scanning process.
 - Select **False** if you do not want to recognize the barcode checksum in the scanning process.

Barcode Zone Step Properties

This content describes how to configure properties that apply to the **Barcode** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure Barcode step properties

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "Barcode Step Overview" on page 176 if you need help adding a **Barcode** step.)
2. Double-click the **Barcode** step to display the **Properties** tab on the left pane.
3. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized**  .
 - To alphabetically sort the properties without any categories, click **Alphabetical**  .
5. For instructions to set **Barcode** step properties, see the following:
6. See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **Appearance** category.
7. See "Auto Document Break Property" below for instructions to set the properties under the **Auto Document Break** category.
8. See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **General** category.
9. See "To add an index" on page 139, and "Configure Barcode Zones" on page 176 for instructions to set the properties under the **Indexes** category.

Auto Document Break Property

The **Auto Document Break** property lets you specify whether determining where one document ends and the next document begins is handled manually or automatically.

To set the Auto Document Break property

1. On the workspace of the **Job Definitions** window, double-click the **Barcode** step. (See "To configure a Barcode step" on page 176 step if you need help adding a **Barcode** step.)

2. On the **Properties** tab, if necessary, expand **Auto Document Break**.
3. Click **Mode**, and then click the down arrow to select one of the following options:
 - **None** - This is the default auto-document break type for a newly created step. When set to **None**, the system will expect you to manually separate new documents. No options are available for this setting.
 - **Barcode** - If you select the **Barcode** mode, click **Barcode Zones**, and then click the ellipsis button to define the zone. (See "Configure Barcode Zones" on page 176 for instructions to specify a barcode zone.) To include the page with the barcode in the batch, set the **Save Page** option to **True**. To remove the barcode page from the batch, select **False**.

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CHAPTER 8

Nuance Zonal OCR Steps

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Nuance Zonal OCR Step Overview

In PaperVision Capture you can customize Optical Character Recognition (OCR) settings for individual index fields and pages of text that you define within zones. With the Nuance Zonal OCR job step you can configure an OCR process that executes automatically in the PaperVision Capture Operator Console or by the PaperVision Capture Automation Service. You can also configure OCR zones to insert document breaks.

This content describes how to configure properties that apply to the Nuance Zonal OCR step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure a Nuance Zonal OCR step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Nuance Zonal OCR** step to the workspace using one of the following methods.
 - Select the step that you want **Nuance Zonal OCR** to follow. On the **Job Step Toolbox** tab, double-click **Nuance Zonal OCR**.
 - On the **Job Step Toolbox** tab, drag **Nuance Zonal OCR** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Nuance Zonal OCR**.
5. Double-click the **Nuance Zonal OCR** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

7. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Nuance Zonal OCR** step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions in setting the **Appearance** and **General** properties for the Nuance Zonal OCR step.
 - See "Auto Document Break Property" on page 232 for instructions to set this property.

9. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
10. In the **Indexes** list, select the index for which you want to configure a Nuance OCR zone. See "Configure Indexes" on page 138 if you need help with adding an index.
11. You configure the Nuance OCR zone under the **OCR Zones** property in the **General [Step Level]** category.
 - See "General [Job Level] Properties" on page 144 for instructions to set each property under this category.
 - See "Configure Nuance OCR Zones" below for instructions to create an OCR zone and set the **General [Step Level]** properties.
 - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set each property under this category.

Configure Nuance OCR Zones

You can extract index data by adding a **Nuance Zonal OCR** step. In the step, you can draw a zone around the data on the form that you want to extract, and the OCR process will extract that data and populate the index field.



NOTE

The Nuance OCR engine supports incoming images ranging from 75 to 2400 dots per inch (DPI). In pixels, this ranges from 16 x 16 to 8400 x 8400 pixels. Larger images can be ingested into PaperVision Capture provided that no Full-Text OCR will be performed on the images (unless they are processed using the Image Fit filter and cropped to meet size requirements); no image processing will be performed on the images (unless they are processed using the Image Fit filter and cropped to meet size requirements); and, images will not be viewed as thumbnails. Additionally, if you process multiple pages containing large amounts of text, testing and executing the Nuance Full-Text OCR step may take a few minutes.

To view OCR zone settings

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. Select the **Index** in the **Indexes** list for which you want to access the nuance zonal OCR settings. (See "To add an index" on page 139 if you need help adding an index.)
5. If necessary, expand **General [Step Level]** and then select **OCR Zones**.
6. Click the ellipsis button to open the **Edit OCR Zones** window.
7. See "Edit OCR Zones Properties Overview" on page 204 for information about setting properties for Nuance OCR zones.
8. For instructions to set the index configuration properties that are not specific to the **Nuance Zonal OCR** step, see the following:
 - See "General [Job Level] Properties" on page 144 for instructions to set each property under this category.

- See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set each property under this category.
9. For instructions to set the index configuration properties that are specific to the **Nuance Zonal OCR** step and appear under the **General [Step Level]** category, see the following:
 - See "Line Feed Delimiter" on page 198 for instructions to set this property
 - See "OCR Parsing" on page 198 for instructions to set this property
 - See "To draw an OCR zone" below for instructions to set the **OCR Zones** property

To draw an OCR zone

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to draw a barcode zone. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window. See "Edit OCR Zone Window Overview" on page 199 for information on using the **Edit OCR Zones window**.
7. If necessary, load an image using one of the following methods:
 - To scan an image click **Start Scanning**. See "Scanner Settings" on page 171 if you need help configuring a scanner.
 - To import an image from a directory, click **Import Images**, and the **Open** dialog box appears. Locate the images you want to import, and then click **Open**.
8. Select the page on which you want to draw an OCR zone by doing one of the following:
 - Select the page in the **OCR Explorer**
 - Select the page in the **Thumbnails** pane
9. To draw the OCR zone, do one of the following:
 - On the toolbar, click **Add Zone (Current Page)**. This option will create a zone spanning the whole page. You can then size the zone.
 - On the toolbar, click **Add Zone (Select Page)**. Type the page number on which you want to draw a zone in the **Number** box, and then click **OK**. This will create a zone spanning the whole page. You can then size the zone.
 - In the workspace, place the pointer on a corner of the zone you want to draw. Click the left mouse button, and then drag the pointer around the zone.
10. See "Edit OCR Zones Properties Overview" on page 204 to set the **OCR Zone** properties.
11. After you have defined the zone and set the properties, on the **Edit OCR Zones** toolbar, click **Save OCR Zones**.

To move an OCR zone

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing barcode zone.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. To select the zone you want to edit, do one of the following:
 - In the **OCR Explorer**, select the zone you want to edit.
 - In the **Thumbnails** window, select the page which contains the zone you want to edit. Select the zone you want to edit in the workspace.
8. Double-click the zone and do one of the following:
 - While holding down the left mouse button, move the zone to the location you want.
 - Place the pointer on one of the corners of the zone and hold down the left mouse button. Drag the borders of the zone to the size you want.
9. After you have defined the zone and set the properties, on the toolbar, click **Save OCR Zones** to save your changes.

To delete an OCR zone

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing barcode zone.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. To select the zone you want to delete, do one of the following:
 - In the **OCR Explorer**, select the zone you want to delete.
 - In the **Thumbnails** window, select the page which contains the zone you want to edit. Select the zone on the page in the workspace.
8. On the **OCR Explorer** toolbar, click **Remove Zone**.

To delete all OCR zones on a page

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.

3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing barcode zone.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. Select the page for which you want to delete all the zones by doing one of the following:
 - In the **OCR Explorer**, select the page on which you want to delete all the zones.
 - In the **Thumbnails** window, select the page on which you want to delete all the zones.
8. On the **OCR Explorer** toolbar, click **Remove All Zones On This Page**.

Line Feed Delimiter

The **Line Feed Delimiter** property is specific to OCR zones. You can use this option to define extra spaces or characters that will replace carriage returns located during the OCR process. This property is available for both the **Nuance Zonal OCR** and the **Open Text OCR** step.

To define line feed delimiters for the OCR zone

1. On the workspace of the **Job Definitions** window, double-click the Zonal OCR step for which you want to define the **Line Feed Delimiter** property. (See "Nuance Zonal OCR Step Overview" on page 194 step or "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an Open Text or Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, select the index for which you want to specify a line feed delimiter. (See "To add an index" on page 139 if you need help in adding an index.)
5. If necessary, in the **Index Properties** area, expand **General [Step Level]**.
6. Select **Line Feed Delimiter**, and then click the ellipsis button. The **OCR Line Feed** dialog box appears.
7. In the **OCR Line Feed** dialog box, click **Replace**, and then type the delimiter in the **Delimiter** box that you want to use to replace carriage returns found during the OCR process.

OCR Parsing

During indexing configuration in an OCR step, you can configure a text delimiter or a regular expression to parse specific index fields from OCR text. You can then specify which field in the parsed index is extracted. For example, if you parsed a social security number and specified the third field, the last four numbers of the social security number would be extracted. Optionally, you can verify that an exact number of fields result from the parsing operation (for example, three fields indicative of a complete social security number).



NOTE

See

<http://msdn.microsoft.com/enus/library/vstudio/28hw3sce%28v=vs.100%29.aspx> if you need additional information on regular expressions.

If errors occur during OCR parsing, such as when the parsed number of index fields differs from your specified number of fields, you can select one of three subsequent actions.

- The entire index value can be skipped (therefore, no OCR parsing occurs).
- The entire OCR value is used (therefore, no OCR parsing occurs).
- You can specify the text that will be used as the parsed value (for example: "unknown value").

To configure OCR Parsing

1. On the workspace of the **Job Definitions** window, double-click the Nuance Zonal OCR step. (See "Configure Nuance OCR Zones" on page 195 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, select the index for which you want to configure OCR Parsing. (See "To add an index" on page 139 if you need help in adding an index.)
5. If necessary, in the **Index Properties** area, expand **General [Step Level]**.
6. Select **OCR Parsing**, and then click the ellipsis button to open the **Configure OCR Parsing**.
7. In the **Delimiter** area, select the method you want to use to split the original index value into fields.
 - Click **Text**, and then type the text you want to use as a delimiter.
 - Click **Regular Expression**, and then type the regular expression you want to use as a delimiter.
8. In the **Field Parsing** area, specify the field index position from which you want to extract data.
9. Optionally, you can verify that an exact number of index fields (two or more) results from the parse operation. For example, you can set the **Field Index** value to "4" to parse only the last four digits of a credit card number. You can then select the **Verify Number of Fields** option to verify that four index fields (indicative of a credit card number) result from the parsing operation.
10. In the **Parsing Errors** area, check one of the following to specify how the system will handle parsing errors.
 - **Skip Index Value** - The entire index value is skipped, and no OCR parsing occurs.
 - **Use Complete OCR Value** - The complete OCR value is used, and no OCR parsing occurs.
 - **Use Error Text** - and then type in the box the error message you want to appear.
11. In the **Preview** area, you can type a sample index value to view how the delimiter is applied, which field index is extracted, and how any parsing errors are handled.

Edit OCR Zone Window Overview

You use the **Edit OCR Zones** window to import and scan images, create OCR zones, and set OCR properties for image pages and zones.

To access the Edit OCR Zones window

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)

2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. Select the **Index** on the **Indexes** list for which you want to access the Nuance Zonal OCR Zone settings. (See "To add an index" on page 139 if you need help adding an index.)
5. If necessary, expand the **General [Step Level]** category and then select **OCR Zones**.
6. Click the ellipsis button to open the **Edit Barcode Zones** window.

Components of the Edit OCR Zones Window

The **Edit OCR Zones** window contains the following components:

- The toolbar contains commands for commonly used options.
- The **OCR Explorer** provides an expandable view of each defined zone, its location, dimensions, and test results.
- The main workspace contains the image you are working with. This is where you draw and edit OCR zone.
- The properties grid displays all the page and zone properties for any zone you select in the OCR Explorer or main workspace.
- The **Thumbnails** window displays thumbnails of all the images. You can right-click on any thumbnail and perform basic operations such as cut/paste, copy/paste, delete, or select all.



NOTE

Images viewed as thumbnails can have maximum dimensions of 32,768 x 32,768 pixels.

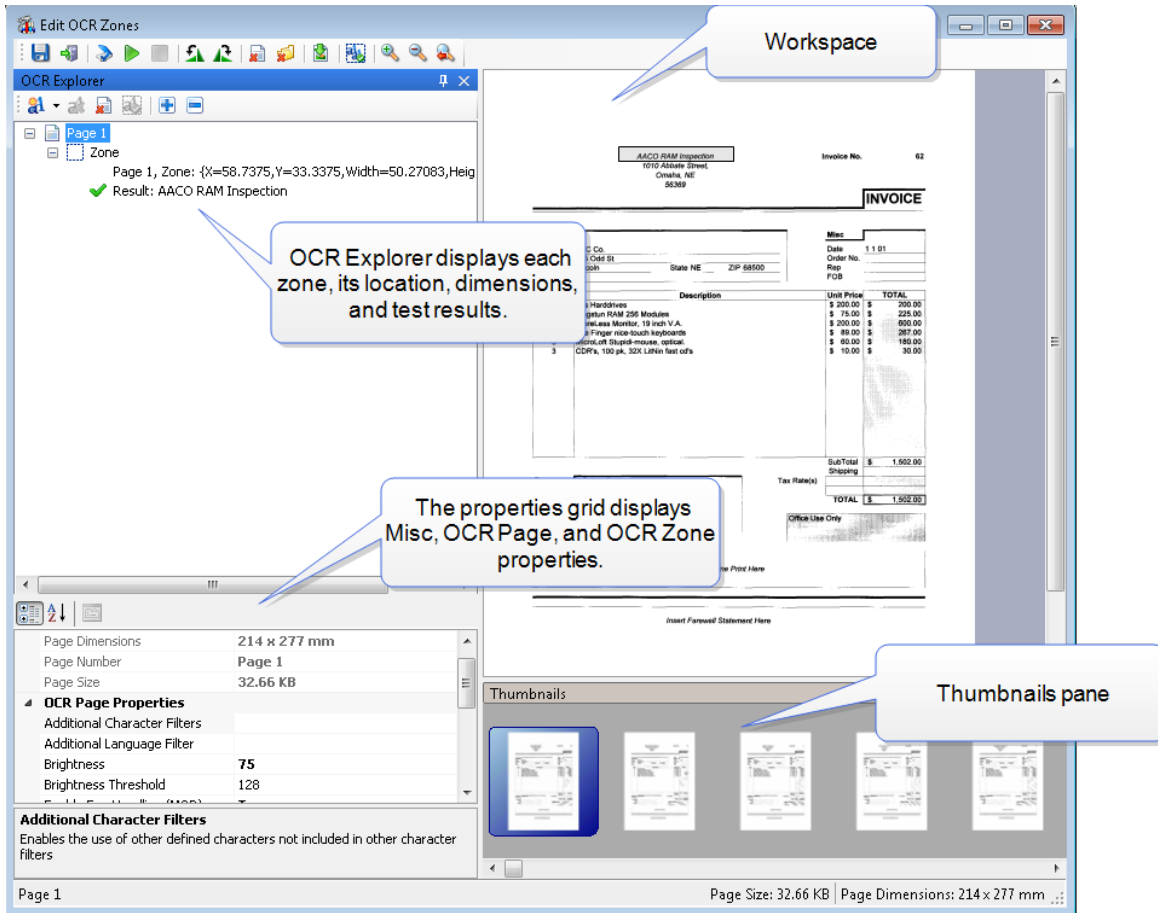
- The status bar displays each image's page number, page size (in KB), and page dimensions (in mm).



NOTE



The page dimensions 215 x 279 mm are approximately equivalent to 8.5 x 11 inches.












The following graphic shows each component of the **Edit OCR Zones** window.





Available Commands on the Edit OCR Zones Window:

The following commands are available on the toolbar of the **Edit OCR Zones** window.








Toolbar Button and Command Name	Function
 Save OCR Zones	Saves all defined OCR zones and settings, and returns to the Index Configuration dialog box.
 Exit	Closes the Edit OCR Zones dialog box. A dialog box appears with the option to save OCR changes, or cancel the operation.

Toolbar Button and Command Name	Function
 Configure Scanner	Opens the Scanner Settings dialog box where you can specify options for the scanner. (See "Scanner Settings" on page 171 for a description of the available options.)
 Start Scanning	Scans an image in to the Edit OCR Zones dialog box.
 Stop Scanning	Stops the scanning process.
 Open Image	Opens a dialog box where you can select an image to load in to the Select Index Zone window.
 Rotate 90° Counter-Clockwise	Rotates the image 90 degrees counter-clockwise.
 Rotate 90° Clockwise	Rotates the image 90 degrees clockwise.
 Remove Selected Image(s)	Removes the images you have selected from the Edit OCR Zones dialog box.
 Remove All Images	Removes all of the images from the Edit OCR Zones dialog box.
 Import Images	Opens a dialog box where you can locate the images you want, and import them into the Edit OCR Zones dialog box.
 Test All OCR Zones	Tests all OCR Zones on all pages and displays the extraction results in the OCR Explorer .
 Zoom-In	Increases the size of the image each time you click the command.

Toolbar Button and Command Name	Function
 Zoom-Out	Decreases the size of the image each time you click the command.
 Zoom Reset	Resets the image to its original size.

Available Commands on the OCR Explorer

The following commands are available on the **OCR Explorer** toolbar.

Toolbar Button and Command Name	Function
 Add Zone	Adds a zone to the current page
 Add Zone (Select Page)	Adds a zone to the page you select.
 Remove Zone	Removes the zone you have selected.
 Remove All Zones On This Page	Removes all the zones on the selected page.
 Test OCR Zone	Tests the selected OCR Zone and displays the extraction results in the OCR Explorer .
 Expand All	Expands the pages in the OCR Explorer to show all the zones on all the pages.
 Collapse All	Opens a dialog box where you can select an image to load in to the Select Index Zone window.

Test Nuance OCR Zones

After you have selected and configured Nuance zones, you can test the configuration to verify that the zones are read successfully.

To test a Nuance OCR zone

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, select **Indexes** to open the **Index Configuration** window.
3. In the **Index Properties** list, if necessary, expand the **General [Step level]** category.
4. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
5. Do one of the following to load your test document.
 - On the toolbar, click **Start Scanning** to scan the test document. (See "Scanner Settings" on page 171 for information on scanner settings.)
 - Click **Import Images**, and navigate to the test document you want to test. Then click **Open**. Thumbnails of the loaded document appear in the **Thumbnails** pane, and the selected thumbnail appears in the work area.
6. Do one of the following to load your test document.
 - On the toolbar, click **Start Scanning** to scan the test document. (See "Scanner Settings" on page 171 for information on scanner settings.)
 - Click **Import Images**, and navigate to the test document you want to test. Then click **Open**.
7. Do one of the following to test the OCR zones
 - If you want to test a single zone, select the zone in the **OCR Explorer**, and then click **Test OCR Zone** on the **OCR Explorer** toolbar. The results appear in the **OCR Explorer**.
 - If you want to test all zones, on the **Edit OCR Zones** toolbar, click **Test All OCR Zones**. The results appear in the **OCR Explorer**.

Edit OCR Zones Properties Overview

This content describes how to configure properties that apply to any zone you select in the **OCR Explorer** or main workspace.

To access OCR zone properties

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 step if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to configure OCR zone properties.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.

7. In the **OCR Explorer**, select the zone for which you want to set the zone properties.

The properties grid in the **Edit OCR Zones** window, displays the following properties for any zone you select in the **OCR Explorer** or main workspace.

- The **General** category is only available if you have selected a page with a defined zone.
 - **Region** - displays the X and Y coordinates of the upper-left corner of the zone and its dimensions. You can edit the location and dimensions by clicking the ellipsis, and typing new dimensions and X, Y coordinates in the **Zone Rectangle** dialog box.
 - **Regular Expression Verification** See "Regular Expression Verification" below
- The **Misc** category is read-only, and displays the following information:
 - **Page Dimensions** - displays the dimensions, in millimeters, of the image in the workspace
 - **Page Number** - displays the page number of the image in the workspace
 - **Page Size** - displays the file size, in KBs, of the image in the workspace
- See "OCR Page Properties" on the next page for information on setting these properties.
- See "OCR Zone Properties" on page 215 for information on setting these properties.

Regular Expression Verification

A regular expression is a pattern of text that consists of ordinary characters (for example, letters A through Z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching a body of text. The regular expression serves as a template for matching a character pattern to the string being searched.



Regular expressions are applied on a per-zone basis, and are used to verify the OCR results. When you define Auto Document Breaks using OCR zones, you can assign an exact value or regular expression, and a document break will only be inserted when the system reads an OCR zone matching that exact value or regular expression. If you leave this field blank, any OCR zone read by the system will cause a document break to be inserted.

To set the Regular Expression Verification property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a **Nuance Zonal OCR** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure.
5. In the **Index Properties** list, if necessary, expand **General [Job Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit Barcode Zones** window.
7. In the Barcode Explorer, select the zone for which you want to define a regular expression.
8. In the properties grid, expand the **General** category and select **Regular Expression Verification**.
9. Click the ellipsis button to open the **Regular Expression** dialog box.
10. In the **Regular Expression** box, type the regular expression.

11. In the **Text to Validate** box, type the text you want validated.

The text you type is automatically validated.

- For a successful validation, the **Validation Status** displays .
- For invalid entries, the **Validation Status** displays .

12. Click **OK** to save your settings and close the dialog box.

OCR Page Properties

The Nuance **OCR Page Properties** described in this section can be configured for each page. These page properties are available for both the **Nuance Zonal OCR** job step, and the **Nuance Full-Text OCR** job step. Some of the settings refer to the temporary black and white image that is created during OCR processing. Under the **OCR Page Properties** category, you can set the following properties.

- See "Additional Character Filters" below for instructions to set this property.
- See "Additional Language Filter" on the facing page for instructions to set this property.
- See "Brightness" on the facing page for instructions to set this property.
- See "Brightness Threshold" on page 208 for instructions to set this property.
- See "Enable Fax Handling (MOR)" on page 208 for instructions to set this property.
- See "Hand-Printed Character Height" on page 209 for instructions to set this property.
- See "Hand-Printed Character Width" on page 209 for instructions to set this property.
- See "Hand-Printed Detect Spaces" on page 210 for instructions to set this property.
- See "Hand-Printed Leading Spaces" on page 211 for instructions to set this property.
- See "Hand-Printed Style" on page 211 for instructions to set this property.
- See "Recognition Languages" on page 212 for instructions to set this property.
- See "Recognition Process Setting" on page 212 for instructions to set this property.
- See "Rejection Symbol" on page 213 for instructions to set this property.
- See "Spelling Language" on page 214 for instructions to set this property.
- See "Vertical Dictionaries" on page 214 for instructions to set this property.

Additional Character Filters

This setting allows you to define additional characters to recognize during OCR processing. Characters that you define here are processed when you have set the **Character Filter** setting in the **OCR Zone Properties** category to **Plus** or **Numbers**.

To set the Additional Character Filters property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.

4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Additional Character Filters** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Additional Character Filters**, and then type the characters you want to add to the OCR process.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Additional Language Filter

You can assign additional characters to increase the number of acceptable characters as determined by your selected spelling language.

To set the Additional Language Filter property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Additional Language Filter** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Additional Language Filter**, and then type the characters you want to add to the OCR process.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Brightness

You can assign the brightness value (between 0 and 100) for the page. A value of 0 is lightest; 100 results in the darkest image. The default value is 50.

To set the Brightness property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.

4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Brightness** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Brightness**, and then type the brightness value you want to use.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Brightness Threshold

You can assign a brightness threshold value (between 0 and 255) when converting an image to black and white. The default value is 128.

To set the Brightness Threshold property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Brightness Threshold** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Brightness Threshold**, and then type the brightness threshold value you want to use.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Enable Fax Handling (MOR)

You should enable this setting if you are processing a scanned image that was faxed in draft mode (200 x 100 dpi).

To set the Enable Fax Handling (MOR) property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)

5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Enable Fax Handling (MOR)** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Enable Fax Handling (MOR)**, and then click the down arrow
10. You can select one of the following options.
 - **True** - Select this option to process a scanned image that was faxed in draft mode.
 - **False** - Select this option if you do not want to process a scanned image that was faxed in draft mode.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Hand-Printed Character Height

You can assign the expected character height (in 1/1200 of an inch) for the **Constrained Handprint Recognition (Numeric)** module in the **OCR Zone Properties** category. The default value is 0.



N O T E

1/1200 of an inch is equivalent to approximately 0.021 mm.

To set the Hand-Printed Character Height property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Hand-Printed Character Height** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Hand-Printed Character Height**, and then type the character height value you want to use.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Hand-Printed Character Width

You can assign the expected character width (in 1/1200th of an inch) for the **Constrained Handprint Recognition (Numeric)** module in the **OCR Zone Properties** category. The default value is 0.

To set the Hand-Printed Character Width property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Hand-Printed Character Width** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Hand-Printed Character Width**, and then type the character width value you want to use.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Hand-Printed Detect Spaces

If this setting is enabled, the **Constrained Handprint Recognition (Numeric)** module will detect spaces between characters. The default value is True.

To set the Hand-Printed Detect Spaces property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Hand-Printed Detect Spaces** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Hand-Printed Detect Spaces**, and then click the down arrow
10. You can select one of the following options.
 - **True** - Select this option if you want the Constrained Handprint Recognition (Numeric) module to detect spaces between characters.
 - **False** - Select this option if you do not want the Constrained Handprint Recognition (Numeric) module to detect spaces between characters.

11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Hand-Printed Leading Spaces

You can assign the expected leading spaces (in 1/1200th of an inch) for the **Constrained Handprint Recognition (Numeric)** module. The default value is 0.

To set the Hand-Printed Leading Spaces property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Hand-Printed Leading Spaces** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Hand-Printed Leading Spaces**, and then type the leading space value you want to use.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Hand-Printed Style

You can select either the European or U.S. writing style of the **Constrained Handprint (Numeric)** module. For example, the number seven is crossed in European style and uncrossed in American style. The default value is US.

To set the Hand-Printed Style property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Hand-Printed Style** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Hand-Printed Style**, and then click the down arrow
10. You can select one of the following options.

- **European** - Select this option if you want the Constrained Handprint Recognition (Numeric) module to use the European writing style.
- **US** - Select this option if you want the Constrained Handprint Recognition (Numeric) module to use the US writing style.

11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Recognition Languages

The default recognition language is English, and any combination of recognition languages can be selected. You can increase the number of recognized characters by assigning the **Additional Language Filter** property, and you can narrow them by selecting from the **Character Filter** list. See "Nuance OCR Spelling Languages" on page 664 for a complete list of available languages. The default value is English.



NOTE

A faster reading will result if you match the Spelling Language to your selected Recognition Language.

To set the Recognition Languages property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the properties grid, if necessary, expand **OCR Page Properties**.
8. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Recognition Languages** property.
9. Select **Recognition Languages**, and then click the ellipsis button. The **Select OCR Recognition Languages** dialog box appears.
10. Do one of the following:
 - Click **Select All** to select all of the OCR recognition languages.
 - Click any of the OCR recognition languages you want to include.
11. Click **OK** to save your selection.
12. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Recognition Process Setting

The **Recognition Process Setting** property is applied at the page level during the OCR process. You can choose the setting that best balances speed and accuracy for your job step. The default value is Accuracy.

To set the Recognition Process Setting property

1. On the workspace of the **Job Definitions** window, double-click the Nuance Zonal OCR step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the Thumbnails pane, or the OCR Explorer, select the page for which you want to set the Recognition Process Setting property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select Recognition Process Setting, and then click the down arrow.
10. You can select one of the following:
 - **Accuracy** - the default setting. This results in the most accurate OCR recognition, but speed may be compromised.
 - **Balanced** - This applies average accuracy and speed recognition.
 - **Speed** - This results in the fastest recognition, but accuracy may be compromised.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Rejection Symbol

This property lets you choose a character that represents rejected characters in output documents. A rejected character is not recognized by the active OCR recognition engine configuration. The default value is the tilde character (~). Only a single character can be entered in this field.



T I P

To prevent unrecognized characters from appearing in output documents, leave this box blank.

To set the Rejection Symbol property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.

7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Rejection Symbol** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Rejection Symbol**, and then type the character you want displayed in the output in place of characters that are not recognized during the OCR process.
10. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Spelling Language

This property accepts all possible recognition languages. The **Automatic** setting matches the recognition language with the corresponding spelling language. Only one spelling language can be selected at a time. See "Nuance OCR Spelling Languages" on page 664 for a list of all available languages. The default value is Automatic.

To set the Spelling Language property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Spelling Language** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Spelling Language**, and then click the down arrow.
10. Select the spelling language you want to use from the list.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Vertical Dictionaries

Vertical dictionaries are based on specific professions. They can be treated as extensions to the language dictionaries, but can also be used when no language dictionary is specified. By default, Vertical Dictionaries are disabled, however, you can select any combination of dictionaries to include in the OCR process. PaperVision Capture supports the following dictionaries:

- Dutch Legal Dictionary
- Dutch Medical Dictionary
- English Financial Dictionary
- English Legal Dictionary
- English Medical Dictionary
- French Legal Dictionary
- French Medical Dictionary
- German Legal Dictionary
- German Medical Dictionary

To set the Vertical Dictionary property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **Thumbnails** pane, or the **OCR Explorer**, select the page for which you want to set the **Vertical Dictionaries** property.
8. In the properties grid, if necessary, expand **OCR Page Properties**.
9. Select **Vertical Dictionary**, and then click the ellipsis button. The **Select OCR Vertical Dictionaries** dialog box appears.
10. Do one of the following:
 - Click **Select All** to select all of the vertical dictionaries.
 - Click any of the vertical dictionaries you want to include.
11. Click **OK** to save your selection.
12. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

OCR Zone Properties

The Nuance **OCR Zone Properties** let you configure settings that apply specifically to the zone you have selected. You can set the following properties.

- See "Capitalize Proper Names" below for instructions to set this property.
- See "Character Filter" on the next page for instructions to set this property.
- See "Filling Method" on page 217 for instructions to set this property.
- See "Ignore Blank Spaces" on page 219 for instructions to set this property.
- See "Ignore Character Case" on page 219 for instructions to set this property.
- See "Include Punctuation" on page 220 for instructions to set this property.
- See "Recognition Module" on page 220 for instructions to set this property.
- See "Verify Complete Lines" on page 230 for instructions to set this property.
- See "Zone Type" on page 231 for instructions to set this property.

Capitalize Proper Names

You can enable this setting if you want the correction feature of the recognition subsystem to capitalize names inside recognized text. The default value is False.

To set the Capitalize Proper Names property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Capitalize Proper Names** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Capitalize Proper Names**, and then click the down arrow.
10. You can select one of the following options.
 - Select **True** if you want the proper names inside recognized text to be capitalized.
 - Select **False** if you do not want proper names inside recognized text to be capitalized.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Character Filter

Character filters that are defined at the zone level will narrow the search for only your specified sets of characters. By default, all character filters are selected, but you can select a specific set of characters that will be recognized during OCR processing.

Your selected recognition module may restrict the character filters recognized during OCR processing. For example, the Constrained Handprint (Numeric) module only supports numerals and four other characters, so if you select the Alphanumeric character filter, your character filters will not be recognized. All character filters are supported by the **Omnifont Multi-Lingual**, **Constrained Handprint (Alphanumeric)**, **Omnifont Multi-Lingual (FRX)**, and **Draft Dot-Matrix** modules.

The table below describes each character filter that you can define for the zone:

Character Filter	Description
All	Since all filters are enabled, all results are returned
Alpha	Recognizes upper- and lower-case letters only
Default	Causes the zone to be handled globally; do not combine with any other filter
Digit	Recognizes only numerals (e.g. 1, 2, 3, etc.)
Lower-Case	Recognizes only lower-case letters (e.g. a, b, c, etc.), including accented letters

Character Filter	Description
Miscellaneous	Only recognizes other miscellaneous characters (e.g. +, -, etc.)
Numbers	Recognizes only the digits and any values defined in the Additional Character Filters field for the page
Plus	Enables the use of the defined Additional Character Filters; these characters added after all other filters
Punctuation	Recognizes only punctuation signs (e.g. !, @, #, etc.)
Upper-Case	Recognizes only upper-case letters (e.g. A, B, C, etc.), including accented letters

To set the Character Filter property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Character Filter** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Character Filter**, and then click the down arrow.
10. Select the character filter you want to use from the list.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Filling Method

This setting is based on the selected recognition module and contains the filling method for the specified OCR zone. The filling method corresponds with the zone's contents. If an incorrect filling method is chosen for the zone, its contents will not be recognized. The following table displays the filling methods, their descriptions, and the supported recognition modules. The default value is Default.

Filing Method	Description	Supported Recognition Module
Dash-Digit	Dash-digit zone filling method	Matrix Matching Recognition
Default	This is the filling method to be used, acquired from the page's Default Filling Method property	N/A

Filing Method	Description	Supported Recognition Module
Dot-Digit	Indicates the dot-digit zone filling method	Matrix Matching Recognition
Draft Dot -24	24-pin draft dot-matrix printout	Omnifont Multi-Lingual Omnifont Matrix
Draft Dot-9	9-pin draft dot-matrix printout	Draft Dot-Matrix Omnifont Matrix
Hand-Printed	Hand-printing within the zone	Constrained Handprinted Recognition(Numeric) Constrained Handprinted(Alphanumeric) Recognition
Magnetic Ink Character Recognition	Magnetic ink character filling method	Matrix Matching Recognition
OCR-A	OCR-A filling method	Omnifont Multi-Lingual Omnifont Matrix Matrix Matching Recognition
OCR-B	OCR-B filling method	Omnifont Multi-Lingual Omnifont Matrix Matrix Matching Recognition
Omni-Font	(Default setting) indicates machine-printed text with any typeface	Omnifont Plus (2W) Omnifont Plus (3W) Omnifont Multi-Lingual Omnifont Multi-Lingual (FRX) Omnifont Matrix

To set the Filing Method property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Filing Method** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.

9. Select **Filling Method**, and then click the down arrow.
10. Select the filling method you want to use from the list.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Ignore Blank Spaces

You can set this property so that white space characters (including white space created by the Spacebar and Tab keys) are excluded (ignored) during OCR processing. The default value is False.

To set the Ignore Blank Spaces property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Ignore Blank Spaces** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Ignore Blank Spaces**, and then click the down arrow.
10. You can select one of the following options.
 - Select **True** if you want blank spaces excluded during the OCR process.
 - Select **False** if you do not want blank spaces excluded during the OCR process.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Ignore Character Case

You can set this property so that uppercase and lowercase characters are ignored during OCR processing. If this setting is disabled, uppercase and lowercase characters will be discerned during OCR processing. The default value is False.

To set the Ignore Character Case property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.

7. In the **OCR Explorer**, select the zone for which you want to set the **Ignore Character Case** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Ignore Character Case**, and then click the down arrow.
10. You can select one of the following options.
 - Select **True** if you want uppercase and lowercase characters ignored during the OCR process.
 - Select **False** if you the OCR process to discern uppercase and lowercase characters.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Include Punctuation

You can set this property so that punctuation is recognized during the OCR process. If this setting is disabled, punctuation is ignored during the OCR process. The default value is False.

To set the Ignore Punctuation property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Include Punctuation** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Ignore Punctuation**, and then click the down arrow.
10. You can select one of the following options.
 - Select **True** if you want punctuation characters discerned during the OCR process.
 - Select **False** if you the OCR process to ignore punctuation characters.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Recognition Module

You must assign a recognition module to an OCR zone so that the OCR process can be successfully completed. The default value is Omnifont Plus (3W).

To set the Recognition Module property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.

3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Recognition Module** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Recognition Module**, and then click the down arrow.
10. You can select from the following options.
 - **Constrained Hand-Print Recognition (Alphanumeric)** Module. See "Constrained Handprint Recognition (Alphanumerical) Module" below for more information.
 - **Constrained Hand-Print Recognition (Numeric)** Module. See "Constrained Handprint Recognition (Numeric) Module" on the next page for more information.
 - **Draft Dot-Matrix** Module. See "Draft Dot matrix Module" on page 223 for more information.
 - **Matrix Matching Recognition** Module. See "Matrix Matching Recognition Module" on page 224 for more information.
 - **Omnifont Matrix** Module. See "Omnifont Matrix Module" on page 227 for more information.
 - **Omnifont Multi-Lingual** Module. See "Omnifont Multi-Lingual Module" on page 227 for more information.
 - **Omnifont Multi-Lingual (FRX)** Module. See "Omnifont Multi-Lingual (FRX) Module" on page 228 for more information.
 - **Omnifont Plus (2W)** Module. See "Omnifont Plus (2W) and (3W) Modules" on page 229 for more information.
 - **Omnifont Plus (3W)** Module. See "Omnifont Plus (2W) and (3W) Modules" on page 229 for more information.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Constrained Handprint Recognition (Alphanumerical) Module

The Constrained Handprint Recognition (Alphanumeric) module recognizes hand-printed alphanumerical characters such as upper- and lower-case letters, digits, and others. You can use the Constrained Handprint Recognition (Numeric) module in conjunction with this module since both modules are provided under one license. This module can read flowed text, but is applied mainly in hand-printed forms.

The Constrained Handprint Recognition (Alphanumeric) module differentiates over 150 characters, including digits, punctuation marks, miscellaneous characters, English alphabet letters, and accented characters.



NOTE

Cyrillic and Greek languages are not supported in this module.

The only supported Filling Method is Handprint, but all filter types are supported. Hand-printed text is more difficult to recognize, but enhanced character quality can improve recognition. Structured forms and zone filters can improve OCR processing for this module.

- For better recognition, characters should not touch one another.
- Each character must be between 30-180 pixels in height.
- Well-formed characters written in pen are best recognized.
- Pencil and felt-tip pens result in poorer recognition.
- The maximum number of characters per line is 200.
- An infinite number of lines can be assigned per zone.

Recognized Punctuation and Miscellaneous Characters

- | | | |
|------------------------------------|---------------------------------------|----------------------------------|
| ■ Ampersand (&) | ■ Apostrophe or Single Quote (') | ■ Asterisk (*) |
| ■ At Sign (@) | ■ Backslash (\) | ■ Colon (:) |
| ■ Comma (,) | ■ Dollar Sign (\$) | ■ Equal Sign (=) |
| ■ Exclamation Point (!) | ■ Greater Than Sign (>) | ■ Hyphen or Minus Sign (-) |
| ■ Less Than Sign (<) | ■ Number Sign (#) | ■ Opening and Closing Braces { } |
| ■ Opening and Closing Brackets [] | ■ Opening and Closing Parentheses () | ■ Percent Sign (%) |
| ■ Period or full-stop (.) | ■ Plus Sign (+) | ■ Question Mark (?) |
| ■ Quotation Mark (") | ■ Semicolon (;) | ■ Slash (/) |
| ■ Underscore (_) | ■ Vertical Bar () | |

Supported Recognition Process Settings

- Fast
- Balanced
- Accurate

Constrained Handprint Recognition (Numeric) Module

The Constrained Handprint Recognition (Numeric) module recognizes hand-printed numeric characters and four calculation signs. You can use the Constrained Handprint Recognition (Alphanumeric) module in conjunction with this module since both modules are included with the ICR license.

For better recognition, characters should not touch one another, and each character must be between 30-180 pixels in height. Well-formed numbers written in pen are best recognized; pencil and felt-tip pens result in poorer recognition.

The maximum number of characters that can be contained in a zone is 3000; maximum number of lines, 40; maximum number of characters per line, 600. Each OCR zone can contain only one character or

each zone can contain several lines of characters. Optimally, the OCR zone region should be 5 mm x 6 mm separated by 3 mm.

Character Range

- Digits (0-9)
- Plus Sign (+)
- Minus Sign (-)
- Period or full-stop (.)
- Comma (,)

Supported Filter types

- All
- Digit
- Punctuation
- Miscellaneous



NOTE

You can use the Digit filter to exclude the plus sign, minus sign, period, and comma during processing.

Supported Recognition Processing Settings

- Fast
- Balanced and Accurate (merged into one value)

Draft Dot matrix Module

The Draft Dot-Matrix recognition module is only designed for draft-quality 9-pin dot-matrix text. No Recognition Processing settings are supported, but all filters are supported in the module. Expanded characters are not recognized, but condensed characters can be (although their accuracy may be low).

For NLQ or LQ text, the following Omnifont modules produce better results.

- Omnifont Plus (2W)
- Omnifont Plus (3W)
- Omnifont Matrix
- Omnifont Multi-Lingual

Character Range (Accented)


Uppercase and Lowercase	Lowercase Only
A Acute (A´)	A Circumflex (a^)
AE (Ae)	A Macron (a-)
A Ring (Ao)	A Grave (a`)
A Umlaut (A:)	E Umlaut (e:)
A Tilde (A~)	
C Cedilla (C,)	E Grave (e`)
E Acute (E´)	I Umlaut (I:)
I Acute (I´)	I Circumflex (I^)
N Tilde (N~)	I Grave (I`)
O Double Acute (O´´)	O Circumflex (O^)
O Acute (O´)	O Macron (O-)
O Umlaut (O:)	O Grave (O`)
O Tilde (O~)	S Hacek (Sv)
O Slash (O/)	U Circumflex (U^)
AE (OE)	U Grave (U`)
U Double Acute (U´´)	
U Acute (U´)	
U Umlaut (U:)	

Matrix Matching Recognition Module

The Matrix Matching Recognition module reads groups of fixed-font characters designed specifically for OCR or imaging applications in which no two characters have similar shapes. Relevant applications include banking, check handling, product distribution, and document validation, where accuracy is critical. Each character group has its own filling method. Additionally, some non-fixed print styles are also recognized. No recognition processing settings are supported, but all filters (except the Lower-Case filter) are supported in the module.

Character Range

Character Type	Included Characters
<p>OCR-A(Only recognized when enabled in the Additional Language Filter)</p>	<ul style="list-style-type: none"> ■ Uppercase English letters ■ Digits ■ Some punctuation ■ OCR symbols: Chair, Hook, and Fork <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>The image shows three distinct symbols arranged vertically within a rectangular box. The top symbol is a vertical line with a horizontal bar at the top and a small hook on the right side. The middle symbol is a vertical line with a horizontal bar at the top, a hook on the right side, and a horizontal bar at the bottom. The bottom symbol is a vertical line with a horizontal bar at the top and a hook on the right side.</p> </div>
<p>OCR-B</p>	<ul style="list-style-type: none"> ■ Uppercase English letters ■ Digits ■ Some punctuation

Character Type	Included Characters
<p>Magnetic Ink Character (Only recognized when enabled in the Additional Language Filter)</p>	<ul style="list-style-type: none"> ■ Digits ■ Some punctuation ■ Magnetic Ink Character symbols: OCR Branch Bank, OCR Amount of Check, OCR Dash, and OCR Customer Account Number 
<p>Dot-Digit Zone</p>	<ul style="list-style-type: none"> ■ Ten digits and period ■ Commas are read, but converted to periods
<p>Dash-Digit Zone</p>	<ul style="list-style-type: none"> ■ Ten digits and period ■ Commas are read, but converted to periods

Supported Filling Methods

- OCR-A
- OCR-B
- Magnetic Ink Character Recognition
- Dot-Digit
- Dash-Digit

Omnifont Matrix Module

The Omnifont Matrix recognition module recognizes machine-printed text from printed publications, laser and ink-jet printers, and electric typewriters. Mechanical typewriters may also produce readable output. This module can also be used with Letter Quality (LQ) or Near Letter Quality (NLQ) output from dot-matrix printers, and can also be used for Draft Quality.

Omnifont Matrix detects and transmits bold, italic, and underlined text (including combinations). This module also detects and transmits character size and classifies font types into the serif, sans serif, and mono-spaced categories.

Supported Filling Methods

- Omnifont
- Draft-Dot 9
- Draft-Dot 24
- OCR-A
- OCR-B

Supported Filter Types

- All
- Digit
- Alphanumeric

Supported Recognition Processing Settings

- Fast
- Balanced and Accurate merged into one value

Omnifont Multi-Lingual Module

The Omnifont Multi-Lingual module recognizes machine printed text from printed publications, laser and ink jet printers, and electric typewriters. Mechanical typewriters may produce readable output. Additionally, dot matrix printers with NLQ and LQ output may produce readable results. Use the DRAFTDOT24 filling method for draft quality 24-pin dot-matrix documents. NLQ and LQ output can be better recognized without using the filling method DRAFTDOT24. A maximum of 500 OCR zones can be defined on one image for this module.

Omnifont Multi-Lingual detects and transmits bold, italic, and underlined text (including combinations). This module also detects and transmits character size and classifies font types into serif, sans serif, and mono spaced categories.

Character Range

- Latin, Greek, and Cyrillic alphabets and accented letters
- 500 characters

Supported Character Set

Characters	Non-Accented	Accented
Latin alphabet uppercase letters	26	89
Latin alphabet lowercase letters	26	91
Digits	10	
Punctuation	29	
Miscellaneous symbols	55	
Cyrillic uppercase letters	33	14
Cyrillic lowercase letters	33	14
Greek uppercase letters	24	9
Greek lowercase letters	25	11
OCR (OCR-A and MICR) characters	3	

Supported Filling Methods

- Omnifont
- Draft Dot-24
- OCR-A
- OCR-B

Supported Filter Types

- Default
- Uppercase
- Punctuation
- Plus
- Alphanumeric
- Digit
- Lowercase
- Miscellaneous
- All
- Number

Supported Recognition Process Settings

- Fast
- Balanced
- Accurate

Omnifont Multi-Lingual (FRX) Module

The Omnifont Multi-Lingual (FRX) module recognizes machine-printed text from printed publications, laser and ink jet printers, and electric typewriters. Mechanical typewriters may produce readable output. Additionally, dot-matrix printers with NLQ and LQ output may produce readable results. No Recognition

Processing Settings are supported, but all filters are supported in this module. Only the Omnifont filling method is supported in this module.

This module supports Latin, Greek, and Cyrillic alphabets with accented letters. Omnifont Multi-Lingual (FRX) detects and transmits bold, italic, and underlined text (including combinations). This module also detects and transmits character size and classifies font types into serif, sans serif, and mono-spaced categories.

You can select multiple languages for OCR recognition, but languages are only recognized if they belong to the same code page. For example, OCR can process English, Spanish, and French since they belong to the Latin 1 code page. OCR may fail to recognize both English and Russian since they belong to different code pages. The following table lists the supported languages for each code page:

Code Page	Supported Languages
Latin 1	English, German, French, Spanish, Italian, Dutch, Swedish, Norwegian, Finnish, Danish, Portuguese, Portuguese Brazilian, Catalan, Afrikaans, Aymara, Basque, Breton, Faroese, Friulian, Gaelic, Galician, Eskimo, Icelandic, Indonesian, Latin, Malaysian, Pidgin English, Swahili, Tahitian, Welsh, Frisian, Zulu
Latin 2	Polish, Czech, Hungarian, Romanian, Albanian, Croatian, Wend (Sorbian), Slovak, Slovenian
Cyrillic	Russian, Ukrainian, Byelorussian, Bulgarian, Macedonian, Serbian
Greek	Greek
Turkish	Turkish, Kurdish (written in Latin alphabet)
Baltic	Estonian, Hawaiian, Latvian, Lithuanian

Omnifont Plus (2W) and (3W) Modules

The Omnifont Plus (2W) and (3W) modules recognize machine-printed text from printed publications, laser and ink-jet printers, and electric typewriters. Mechanical typewriters may also produce good output. These modules provide improved recognition results and combine results from the Omnifont Multi-Lingual and Omnifont Matrix modules (2W) and Omnifont Multi-Lingual, Omnifont Matrix, and Omnifont Multi-Lingual (FRX) modules (3W). Only the Omnifont filling method is supported in these modules. Both modules detect and transmit bold, italic, and underlined text (including combinations). They also detect and transmit character size and classify font types into serif, sans serif, and mono-spaced categories.

Supported Character Set

Characters	Non-Accented	Accented
Latin alphabet uppercase letters	26	89
Latin alphabet lowercase letters	26	91

Characters	Non-Accented	Accented
Digits	10	
Punctuation	29	
Miscellaneous symbols	55	
Cyrillic uppercase letters	33	14
Cyrillic lowercase letters	33	14
Greek uppercase letters	24	9
Greek lowercase letters	25	11
OCR (OCR-A and MICR) characters	3	

Supported Filters

- All
- Digit
- Alpha

Supported Recognition Processing Settings

- Fast
- Balanced
- Accurate

Verify Complete Lines

You can set this property so that entire lines of text, instead of individual words, are processed through OCR. Set this property to **False** (the default value) so that individual words are passed through the OCR process.

To set the Verify Complete Lines property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Verify Complete Lines** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.

9. Select **Verify Complete Lines**, and then click the down arrow.
10. You can select from the following options.
 - Select **True** if you want entire lines of text to process through OCR
 - Select **False** if you want individual words to process through OCR.
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Zone Type

This setting describes the area inside the OCR zone, and whether that area should be recognized or ignored. You can assign zone types to be treated as text, a table, or a form. The default value is Auto.



To set the Zone Type property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a Nuance Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to set the Zonal OCR properties. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. In the **OCR Explorer**, select the zone for which you want to set the **Zone Type** property.
8. If necessary, in the properties grid, expand **OCR Zone Properties**.
9. Select **Zone Type**, and then click the down arrow.
10. You can select from the following options.
 - **Auto** - automatically performs a parsing algorithm, and may create several OCR zone types including Flow, Table, and Form
 - **Flow** - contains flowed text without a table structure inside the zone
 - **Form** - represents an unfilled form
 - **Horizontal Text** - zone contains horizontal text
 - **Table** - contains a table with rows and columns, with or without a grid
 - **Vertical Text** zone contains vertical text
11. On the toolbar, click **Save OCR Zones** to save your settings and close the window.

Nuance Zonal OCR Step Properties

This content describes how to configure properties that apply to the **Nuance Zonal OCR** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure Nuance Zonal OCR step properties

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a **Nuance Zonal OCR** step.)
2. Double-click the **Nuance Zonal OCR** step to display the **Properties** tab on the left pane.
3. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
5. For instructions to set **Open Text Zonal** step properties, see the following:
6. See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **Appearance** category.
7. See "Auto Document Break Property" on page 190 for instructions to set the properties under the **Auto Document Break** category.
8. See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **General** category.
9. See "To add an index" on page 139, for instructions to set the properties under the **Indexes** category.

Auto Document Break Property

The **Auto Document Break** property lets you specify whether determining where one document ends and the next document begins is handled manually or automatically.

To set the Auto Document Break property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Zonal OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 step if you need help adding a **Nuance Zonal OCR** step.)
2. On the **Properties** tab, if necessary, expand **Auto Document Break**.
3. Click **Mode**, and then click the down arrow to select one of the following options:
 - **None** - This is the default auto-document break type for a newly created step. When set to **None**, the system will expect you to manually separate new documents. No options are available for this setting.
 - **OCR Zone** - If you select the **OCR** mode, click **OCR Zones**, and then click the ellipsis button to define the zone. (See "Configure Nuance OCR Zones" on page 195 for instructions)

to specify an OCR zone. To include the page with the barcode in the batch, set the **Save Page** option to **True**. To remove the barcode page from the batch, select **False**.

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CHAPTER 9

Open Text Zonal OCR Step

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Open Text Zonal OCR Step Overview

PaperVision Capture enables you to customize Optical Character Recognition (OCR) settings for individual index fields and pages of text that you define within zones. The **Open Text Zonal OCR** job steps allow you to configure an OCR process that executes automatically in the PaperVision Capture Operator Console or by the PaperVision Capture Automation Service. You can also configure OCR zones to insert document breaks.

This content describes how to configure properties that apply to the **OpenText Zonal OCR** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps

Maximum Supported Image Sizes

The maximum supported image dimensions that can be processed through the Open Text engine vary with resolution. The maximum width is approximately 32,000 pixels, and the maximum height is approximately 24,000 pixels. For example, the maximum supported image dimensions at 300 dpi are approximately 106 inches x 80 inches. Images that are processed through the Open Text OCR engine must contain matching horizontal and vertical resolutions.



IMPORTANT

These dimensions are provided only as estimates to identify size limits processing images in PaperVision Capture. Variations in technical environments may cause maximum image sizes to fluctuate across systems.

To configure an OpenText Zonal OCR step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **OpenText Zonal OCR** step to the workspace using one of the following methods.
 - Select the step that you want **OpenText Zonal OCR** to follow. On the **Job Step Toolbox** tab, double-click **OpenText Zonal OCR**.
 - On the **Job Step Toolbox** tab, drag **OpenText Zonal OCR** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **OpenText Zonal OCR**.
5. Double-click the **OpenText Zonal OCR** step to display the **Properties** tab on the left pane.
6. For instructions to set Open Text Zonal OCR step properties, see the following:
7. See "Configure Nuance OCR Zones" on page 195 for instructions to add OCR zones
8. See "Edit OCR Zones Properties Overview" on page 244 for instructions to set properties for specific Open Text OCR zones.

9. See "Open Text Zonal OCR Step Properties" on page 246 for information about setting all other Open Text step properties.

Configure Open Text OCR Zones

The OCR Zones property lets you draw a zone around an area on an image that will use OpenText OCR to extract index information.

To view OCR zone settings

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. Select the **Index** in the **Indexes** list for which you want to access the nuance zonal OCR settings. (See "To add an index" on page 139 if you need help adding an index.)
5. If necessary, expand the **General [Step Level]** category and then select **OCR Zones**.
6. Click the ellipsis button and the **Edit OCR Zones** window appears.
7. See "Edit OCR Zones Properties Overview" on page 244 for information about setting properties for Open Text OCR zones.
8. For instructions to set the index configuration properties that are not specific to the **Open Text Zonal OCR** step, see the following:
 - See "General [Job Level] Properties" on page 144 for access to instructions to set each property under this category.
 - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set each property under this category.
9. For instructions to set the index configuration properties that are specific to the **Nuance Zonal OCR** step and appear under the **General [Step Level]** category, see the following:
 - See "Line Feed Delimiter" on page 198 for instructions to set this property.
 - See "OCR Parsing" on page 198 for instructions to set this property.
 - See "To draw an OCR zone" below for instructions to set the OCR Zones property.

To draw an OCR zone

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step. (See "Open Text Zonal OCR Step Overview" on the previous page if you need help adding an **OpenText Zonal OCR** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to draw an OCR zone. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
7. If necessary, load an image using one of the following methods:

- To scan an image click **Start Scanning**. See "Scanner Settings" on page 171 if you need help configuring a scanner.
 - To import an image from a directory, click **Import Images**, and the **Open** dialog box appears. Locate the images you want to import, and then click **Open**.
8. Select the page on which you want to draw an OCR zone by doing one of the following:
 - Select the page in the **OCR Explorer**
 - Select the page in the **Thumbnails** pane
 9. To draw the OCR zone, do one of the following:
 - On the toolbar, click **Add Zone (Current Page)**. This option will create a zone spanning the whole page. You can then size the zone.
 - On the toolbar, click **Add Zone (Select Page)**. Type the page number on which you want to draw a zone in the **Number** box, and then click **OK**. This will create a zone spanning the whole page. You can then size the zone.
 - In the workspace, place the pointer on a corner of the zone you want to draw. Click the left mouse button, and then drag the pointer around the zone.
 10. See "Edit OCR Zones Properties Overview" on page 244 to set the OCR Zone properties
 11. After you have defined the zone and set the properties, on the **Edit OCR Zones** toolbar, click **Save OCR Zones**.

To move an OCR zone

1. On the workspace of the **Job Definitions** window, double-click the Open Text Zonal OCR step. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an Open Text Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing OCR zone. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window. See "Edit OCR Zone Window Overview" on the facing page for more information.
7. To select the zone you want to edit, do one of the following:
 - In the **OCR Explorer**, select the zone you want to edit.
 - In the **Thumbnails** window, select the page on which contains the OCR zone you want to edit.
8. Double-click the OCR zone and do one of the following:
 - While holding down the left mouse button, move the zone to the location you want.
 - Place the pointer on one of the corners of the zone and hold down the left mouse button. Drag the borders of the zone to the size you want.
9. After you have defined the zone and set the properties, click **Save OCR Zones** to save your changes.

To delete an OCR zone

1. On the workspace of the **Job Definitions** window, double-click the Nuance Zonal OCR step. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an Open Text Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing OCR zone. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window. See "Edit OCR Zone Window Overview" below for more information.
7. To select the zone you want to delete, do one of the following:
 - In the OCR Explorer, select the zone you want to edit.
 - In the **Thumbnails** window, select the page on which contains the OCR zone you want to edit.
8. On the **OCR Explorer** toolbar, click **Remove Zone**.

To delete all OCR zones on a page

1. On the workspace of the **Job Definitions** window, double-click the Nuance Zonal OCR step. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an Open Text Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to edit an existing OCR zone. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window. See "Edit OCR Zone Window Overview" below for more information.
7. To select the page on which you want to delete all the zone by doing one of the following:
 - In the **OCR Explorer**, select the page on which you want to delete all the zones.
 - In the **Thumbnails** window, select the page on which you want to delete all the zones.
8. On the **OCR Explorer** toolbar, click **Remove All Zones On This Page**.

Edit OCR Zone Window Overview

You use the **Edit OCR Zones** window to import and scan images, create OCR zones, and set OCR properties for image pages and zones.

To access the Edit OCR Zones window

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.

3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. Select the **Index** on the **Indexes** tab for which you want to access the Nuance Zonal OCR Zone settings. See "To add an index" on page 139 if you need information on adding and index.
5. If necessary, expand the **General [Step Level]** category and then select **OCR Zones**.
6. Click the ellipsis button to open the **Edit Barcode Zones** window.

Components of the Edit OCR Zones Window

The **Edit OCR Zones** window contains the following components:

- The toolbar contains commands for commonly used options.
- The **OCR Explorer** provides an expandable view of each defined zone, its location, dimensions, and test results.
- The main workspace contains the image you are working with. This is where you draw and edit OCR zone.
- The properties grid displays all the page and zone properties for any zone you select in the OCR Explorer or main workspace.
- The **Thumbnails** window displays thumbnails of all the images. You can right-click on any thumbnail and perform basic operations such as cut/paste, copy/paste, delete, or select all.



NOTE

Images viewed as thumbnails can have maximum dimensions of 32,768 x 32,768 pixels.

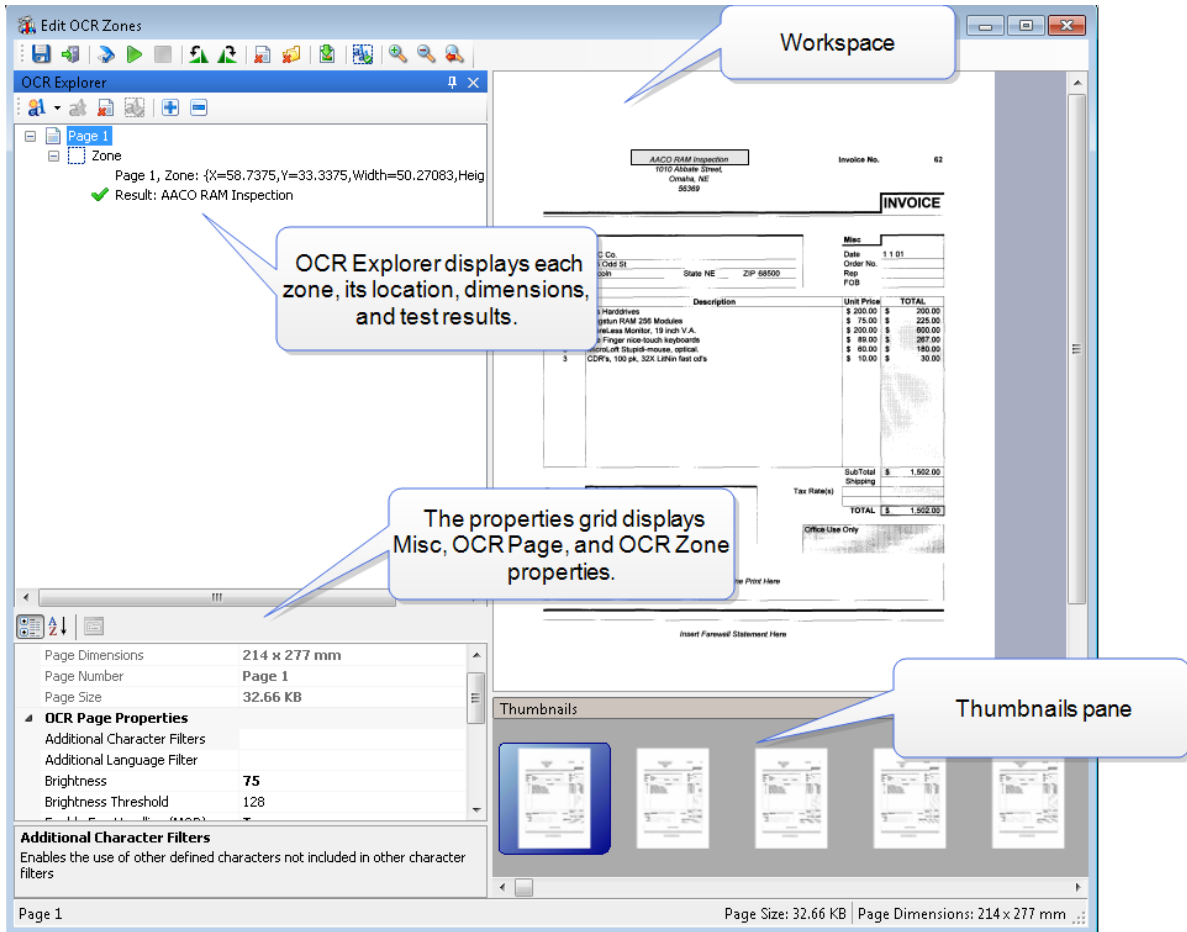
- The status bar displays each image's page number, page size (in KB), and page dimensions (in mm).



NOTE



The page dimensions 215 x 279 mm are approximately equivalent to 8.5 x 11 inches.












The following graphic shows each component of the **Edit OCR Zones** window.





Available Commands on the Edit OCR Zones Window

The following commands are available on the toolbar of the **Edit OCR Zones** window.








Toolbar Button and Command Name	Function
 Save OCR Zones	Saves all defined OCR zones and settings, and returns to the Index Configuration dialog box.
 Exit	Closes the Edit OCR Zones dialog box. A dialog box appears with the option to save OCR changes, or cancel the operation.

Toolbar Button and Command Name	Function
 Configure Scanner	Opens the Scanner Settings dialog box where you can specify options for the scanner. (See "Scanner Settings" on page 171 for a description of the available options.)
 Start Scanning	Scans an image in to the Edit OCR Zones dialog box.
 Stop Scanning	Stops the scanning process.
 Open Image	Opens a dialog box where you can select an image to load in to the Select Index Zone window.
 Rotate 90° Counter-Clockwise	Rotates the image 90 degrees counter-clockwise.
 Rotate 90° Clockwise	Rotates the image 90 degrees clockwise.
 Remove Selected Image(s)	Removes the images you have selected from the Edit OCR Zones dialog box.
 Remove All Images	Removes all of the images from the Edit OCR Zones dialog box.
 Import Images	Opens a dialog box where you can locate the images you want, and import them into the Edit OCR Zones dialog box.
 Test All OCR Zones	Tests all OCR Zones on all pages and displays the extraction results in the OCR Explorer .
 Zoom-In	Increases the size of the image each time you click the command.

Toolbar Button and Command Name	Function
 Zoom-Out	Decreases the size of the image each time you click the command.
 Zoom Reset	Resets the image to its original size.

Available Commands on the OCR Explorer

The following commands are available on the **OCR Explorer** toolbar.

Toolbar Button and Command Name	Function
 Add Zone	Adds a zone to the current page
 Add Zone (Select Page)	Adds a zone to the page you select.
 Remove Zone	Removes the zone you have selected.
 Remove All Zones On This Page	Removes all the zones on the selected page.
 Test OCR Zone	Tests the selected OCR Zone and displays the extraction results in the OCR Explorer .
 Expand All	Expands the pages in the OCR Explorer to show all the zones on all the pages.
 Collapse All	Opens a dialog box where you can select an image to load in to the Select Index Zone window.

Test Open Text OCR Zones

Once you have selected and configured Open Text zones, you can test the configuration to verify that the zones are read successfully.

To test an Open Text OCR zone

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an **Open Text Zonal OCR** step.)
2. On the **Properties** tab, select **indexes** to open the **Index Configuration** window.
3. On the **Index Properties** pane, if necessary, expand the **General [Step level]** category.
4. Select **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
5. Do one of the following to load your test document.
 - On the toolbar, click **Start Scanning** to scan the test document. See "Scanner Settings" on page 171 for information on scanner settings.
 - Click **Import Images**, and navigate to the test document you want to test. Then click **Open**.
6. Thumbnails of the loaded document appear in the **Thumbnails** pane, and the selected thumbnail appears in the work area.
7. Do one of the following to load your test document.
 - On the toolbar, click **Start Scanning** to scan the test document. See "Scanner Settings" on page 171 for information on scanner settings.
 - Click **Import Images**, and navigate to the test document you want to test. Then click **Open**.
8. Do one of the following to test the OCR zones
 - If you want to test a single zone, select the zone in **OCR Explorer**, and then click **Test OCR Zone** on the **OCR Explorer** toolbar. The results appear in the **OCR Explorer**.
 - If you want to test all zones, on the **Edit OCR Zones** toolbar, click **Test All OCR Zones**. The results appear in the **OCR Explorer**.

Edit OCR Zones Properties Overview

This content describes how to configure properties that apply to any zone you select in the **OCR Explorer** or main workspace.

To access OCR zone properties

1. On the workspace of the **Job Definitions** window, double-click the **Open text Zonal OCR** step. (See "Open Text Zonal OCR Step Overview" on page 236 step if you need help adding an Open Text Zonal OCR step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index for which you want to configure OCR zone properties.
5. In the **Index Properties** list, if necessary, expand **General [Step Level]**.
6. Click **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.

7. In the **OCR Explorer**, select the zone for which you want to set the zone properties.

The properties grid in the **Edit OCR Zones** window, displays the following properties for any zone you select in the **OCR Explorer** or main workspace.

- The See "OCR Statistics" on page 340 for information on this property.
- The **Engine** category contains the following properties.
 - see "Auto Rotate" on page 340 for information on setting this property.
 - See "Country/Language" on page 341 for information on setting this property.
 - See "Minimum Confidence" on page 342 for information setting this property.
 - See "Remove Line System" on page 343 for information on setting this property.
 - See "Timeout Value (in seconds)" on page 343 for information on setting this property.
- The **General** category is only available if you have selected a page with a defined zone.
 - **Region** - displays the X and Y coordinates of the upper-left corner of the zone and its dimensions. You can edit the location and dimensions by clicking the ellipsis, and typing new dimensions and X, Y coordinates in the **Zone Rectangle** dialog box.
 - **Regular Expression Verification** See "Regular Expression Verification" on page 205
- The **Zone** category contains the following properties.
 - See "Reader Engine" below for information on setting this property.
 - See "Rejection Symbol" on page 345 for information on setting this property.
 - See "Syntax Mode" on the next page for information on setting this property.

Reader Engine

Two internal OCR reader engines, RecoStar and AEGReader, are available for selection in the **Open Text Zonal OCR** step. Document content may cause one engine to generate more accurate recognition results, so the **Voter** option is selected by default. The **Voter** option automatically "votes" between the recognition results of both engines, and then generates results from the engine with the highest confidence level.

To set the Reader Engine Property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step for which you want to define the **Reader Engine** property. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an **Open Text Zonal OCR** step.)
2. On the **Properties** tab, Select **Indexes**, and then click the ellipsis button to open the **Index Configuration** window.
3. Select the index for which you want to set the **Reader Engine** property from the Indexes list.
4. On the **Index Properties** pane, expand the **General [Step Level]** category if necessary.
5. Select **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
6. Select the zone you want to configure on the **OCR Explorer**.
7. In the properties grid, expand the **Zone** category and select the **Reader Engine** property.

8. Click the down arrow and choose one of the following OCR reader engines.

- **AEGReader**
- **RecoStar**
- **Voter** to use the OCR results with the highest confidence level

Syntax Mode

When you assign the syntax mode to alphanumerical, the default character set is alphanumerical. If a character is ambiguous, the OCR engine will attempt to process the character as a letter before a number. For example, the OCR engine will process a "G" before "6", "S" before "5", etc.

When you assign the syntax mode to numerical, the default character set is numeric. If a character is ambiguous, the OCR engine will attempt to process the character as a number before a letter. For example, the OCR engine will process a "6" before "G", "5" before "S", etc.



To set the Syntax Mode property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step for which you want to define the **Reader Engine** property. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding an **Open Text Zonal OCR** step.)
2. On the **Properties** tab, Select **Indexes**, and then click the ellipsis button to open the **Index Configuration** window.
3. Select the index for which you want to set the **Reader Engine** property from the Indexes list.
4. On the **Index Properties** pane, expand the **General [Step Level]** category if necessary.
5. Select **OCR Zones**, and then click the ellipsis button to open the **Edit OCR Zones** window.
6. Select the zone you want to configure on the **OCR Explorer**.
7. In the properties grid, expand the **Zone** category and select the **Syntax Mode** property.
8. Click the down arrow and choose one of the following:
 - **Alphanumerical**
 - **Numerical**

Open Text Zonal OCR Step Properties



This content describes how to configure properties that apply to the **Open Text Zonal OCR** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

To configure Open Text Zonal OCR step properties

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Zonal OCR** step. (See "Open Text Zonal OCR Step Overview" on page 236 if you need help adding a **Nuance Zonal OCR** step.)
2. Double-click the **Open Text Zonal OCR** step to display the **Properties** tab on the left pane.
3. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.

**T I P**

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
5. For instructions to set **Open Text Zonal** step properties, see the following:
6. See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **Appearance** category.
7. See "Auto Document Break Property" on page 190 for instructions to set the properties under the **Auto Document Break** category.
8. See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **General** category.
9. See "To add an index" on page 139, for instructions to set the properties under the **Indexes** category.

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CHAPTER 10

Nuance Full-Text OCR Step

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Nuance Full-Text OCR Step Overview

With the **Nuance Full-Text OCR** job step you can configure an automated process that reads pages of text, and then converts recognized results into one or more file types. Once configured, this step runs automatically in the PaperVision Capture Automation Service. A Capture Full-Text license is required to run the **Nuance Full-Text OCR** step.

The **Nuance Full-Text OCR** step converts extracted text into various file types such as .txt, .rtf, .csv, .pdf, .doc (and .docx) .htm, .xls (and .xlsx), and others. Each converter output type contains unique settings that you can configure to support your full-text OCR requirements. Prior to activating the job, you can test and preview the full-text OCR results. After the **Nuance Full-Text OCR** step runs, a maximum of 500 pages will comprise each full-text document before a subsequent full-text output file is created for that same document.





N O T E

The Nuance OCR engine supports incoming images ranging from 75 to 2400 dots per inch (DPI). In pixels, this ranges from 16 x 16 to 8400 x 8400 pixels. Larger images can be ingested into PaperVision Capture provided that no Full-Text OCR will be performed on the images (unless they are processed using the Image Fit filter and cropped to meet size requirements); no image processing will be performed on the images (unless they are processed using the Image Fit filter and cropped to meet size requirements); and, images will not be viewed as thumbnails. Additionally, if you process multiple pages containing large amounts of text, testing and running the Nuance Full-Text OCR step may take a few minutes.



This content describes how to configure properties that apply to the **Nuance Full-Text OCR** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

To configure a Nuance Full-Text OCR step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Nuance Full-Text OCR** step to the workspace using one of the following methods.
 - Select the step that you want **Nuance Full-Text OCR** to follow. On the **Job Step Toolbox** tab, double-click **Nuance Full-Text OCR**.
 - On the **Job Step Toolbox** tab, drag **Nuance Full-Text OCR** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Nuance Full-Text OCR**.
5. Double-click the **Nuance Full-Text OCR** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.

**T I P**

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

7. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Nuance Full-Text OCR** step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
 - See "Configure Nuance Full-Text Outputs" below for instructions to set properties under the **Full-Text OCR step** category.
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.

Configure Nuance Full-Text Outputs

You can configure and test Nuance full-text outputs before applying them to the job. Zooming, rotation, and scanning operations are available, as well as image import and removal functions. You can also draw and configure Image Processing (IP) zones if you want only specific regions to be processed. You configure Nuance Full-Text OCR outputs on the **Edit Nuance Full-Text OCR Settings** window. See "Edit Nuance Full-Text OCR Settings Window Overview" on page 329 for more information.

To configure a Nuance Full-Text output

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR Step**.
3. Click **Outputs**, and then click the ellipsis button to open the **Edit Nuance Full-Text OCR Settings** window.
4. Make your selection from the following outputs in the **Available Output** list.
 - See "ePub" on the next page for instructions to configure this output type.
 - See "HTML 3.2" on page 254 for instructions to configure this output type.
 - See "HTML 4.0" on page 256 for instructions to configure this output type.
 - See "InfoPath" on page 259 for instructions to configure this output type.
 - See "Kindle" on page 261 for instructions to configure this output type.
 - See "Microsoft Excel 2007" on page 263 for instructions to configure this output type.
 - See "Microsoft Excel XP" on page 265 for instructions to configure this output type.
 - See "Microsoft PowerPoint 2007" on page 267 for instructions to configure this output type.
 - See "Microsoft PowerPoint 97" on page 270 for instructions to configure this output type.
 - See "Microsoft Publisher 98" on page 272 for instructions to configure this output type.

- See "Microsoft Word 2003 (WordML)" on page 275 for instructions to configure this output type.
- See "Microsoft Word 2007" on page 277 for instructions to configure this output type.
- See "MP3 Premium Quality Audio" on page 281 for instructions to configure this output type.
- See "PaperFlow Full-Text" on page 283 for instructions to configure this output type.
- See "PaperVision Full-Text" on page 284 for instructions to configure this output type.
- See "PDF" on page 284 for instructions to configure this output type.
- See "PDF Edited" on page 290 for instructions to configure this output type.
- See "PDF Searchable Image" on page 296 for instructions to configure this output type.
- See "PDF with Image Substitutes" on page 302 for instructions to configure this output type.
- See "RTF Word 2000" on page 308 for instructions to configure this output type.
- See "Text" on page 311 for instructions to configure this output type.
- See "Text - Comma Separated" on page 313 for instructions to configure this output type.
- See "Text - Formatted" on page 314 for instructions to configure this output type.
- See "Text with Line Breaks" on page 315 for instructions to configure this output type.
- See "Unicode Text" on page 316 for instructions to configure this output type.
- See "Unicode Text - Comma Separated" on page 317 for instructions to configure this output type.
- See "Unicode Text - Formatted " on page 319 for instructions to configure this output type.
- See "Unicode Text with Line Breaks" on page 320 for instructions to configure this output type.
- See "WordPad" on page 321 for instructions to configure this output type.
- See "WordPerfect 12" on page 323 for instructions to configure this output type.
- See "XML" on page 326 for instructions to configure this output type.
- See "XPS" on page 327 for instructions to configure this output type.
- See "XPS Searchable Image" on page 328 for instructions to configure this output type.

ePub

The **ePub** output type generates an e-book file format (.epub file) packaged in a .zip file that you can upload to hand-held devices, including Apple, Android, Nook, Sony, and Kobo.

To configure the ePub output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.

4. In the **Output Configuration** pane, select the **ePub** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **ePub** from the **Available Outputs** list. The **ePub** output type appears in the **Selected Outputs** list.
 - Select **ePub** from the **Available Outputs** list, and then click the right arrow. The **ePub** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **ePub** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

ePub Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select In Boxes to encase the headers and footers in text boxes. ▪ Select Tabulated Form in Box to place tab stops between header and footer text and encase the header and footer text in boxes. ▪ Select Tabulated Form to place tab stops between header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

ePub Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select Ignore All to disregard all format styles in the original file.
Tables	<p>This property determines whether tables are included in the output file. Select TRUE to include tables.</p>

HTML 3.2

The **HTML 3.2** output type creates a clear, small, HTML file format that is supported by many HTML editors. After it is processed, the HTML output is packaged in a .zip file for easy transmission.

To configure the HTML 3.2 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **HTML 3.2** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **HTML 3.2** from the **Available Outputs** list. The **HTML 3.2** output type appears in the **Selected Outputs** list.
 - Select **HTML 3.2** from the **Available Outputs** list, and then click the right arrow. The **HTML 3.2** output type appears in the **Selected Outputs** list.

5. See the following table for instructions to set the **HTML 3.2** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

HTML 3.2 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text.
Horizontal Rule Line	This property determines whether to insert a horizontal rule line between sections. Select TRUE to place a horizontal rule line between sections.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original

HTML 3.2 Property	Description
Index Page	<p>This property determines how an index page is created in the output file.</p> <ul style="list-style-type: none"> ■ Select In Frame for the index page to appear in a separate column on the same page as the full-text output file. ■ Select None for no index page. ■ Select Simple HTML for the index page to display as a thumbnail preview with a hyperlink to the full-text output file.
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Navigation (Next)	<p>This property determines what displays for the “Next” navigation text for Simple HTML or In Frame index pages. Type the text you want to appear.</p>
Navigation (Previous)	<p>This property determines what displays for the “Previous” navigation text for Simple HTML or In Frame index pages. Type the text you want to appear.</p>
Navigation (TOC)	<p>This property determines what displays for the “Table of Contents” navigation text for Simple HTML or In Frame index pages. Type the text you want to appear.</p>
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ■ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ■ Select Spreadsheet to export results in a tabular form suitable for spreadsheet use. Each document is placed in a separate worksheet. ■ Select Ignore All to disregard all format styles in the original file.
Page Breaks	<p>This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.</p>

HTML 4.0

The **HTML 4.0** output type uses cascading style sheet technology for box-like absolute positioned objects, styles, and manipulating all paragraph and character attributes. After it is processed, the HTML output is packaged in a .zip file for easy transmission.

To configure the HTML 4.0 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a

Nuance Full-Text OCR step.)

2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **HTML 4.0** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **HTML 4.0** from the **Available Outputs** list. The **HTML 4.0** output type appears in the **Selected Outputs** list.
 - Select **HTML 4.0** from the **Available Outputs** list, and then click the right arrow. The **HTML 4.0** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **HTML 4.0** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

HTML 4.0 Property	Description
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
CSS (External)	This property determines whether an external Cascading Style Sheet is enabled. Select TRUE to use an external Cascading Style Sheet.
File (Subdirectory)	This property determines whether files are placed in a subdirectory. Select TRUE to place every file into a subdirectory.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text.
Horizontal Rule Line	This property determines whether to insert a horizontal rule line between sections. Select TRUE to place a horizontal rule line between sections.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

HTML 4.0 Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Index Page	<p>This property determines how an index page is created in the output file.</p> <ul style="list-style-type: none"> ▪ Select In Frame for the index page to appear in a separate column on the same page as the full-text output file. ▪ Select None for no index page. ▪ Select Simple HTML for the index page to display as a thumbnail preview with a hyperlink to the full-text output file.
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Name (Output File)	<p>This property determines the name of the output file. Type the name you want to use.</p>
Navigation (Next)	<p>This property determines what displays for the “Next” navigation text for Simple HTML or In Frame index pages. Type the text you want to appear.</p>
Navigation (Previous)	<p>This property determines what displays for the “Previous” navigation text for Simple HTML or In Frame index pages. Type the text you want to appear.</p>
Navigation (TOC)	<p>This property determines what displays for the “Table of Contents” navigation text for Simple HTML or In Frame index pages. Type the text you want to appear.</p>

HTML 4.0 Property	Description
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ▪ Select Ignore All to disregard all format styles in the original file.
Rule Lines	<p>This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.</p>
Styles	<p>This property determines whether styles are retained in the output file. Select TRUE to include styles from the original document.</p>

InfoPath

The **InfoPath** output type saves various form elements such as check boxes and input lines. It generates a Microsoft InfoPath file (.xsn file type).

To configure the InfoPath output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **InfoPath** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **InfoPath** from the **Available Outputs** list. The **InfoPath** output type appears in the **Selected Outputs** list.
 - Select **InfoPath** from the **Available Outputs** list, and then click the right arrow. The **InfoPath** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **InfoPath** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

InfoPath Property	Description
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ▪ Select Ignore All to disregard all format styles in the original file.

InfoPath Property	Description
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Tables	This property determines how tables are handled in the output file. <ul style="list-style-type: none"> ▪ Select Convert to Separated by Tabs to convert table content to columns separated by tab stops. ▪ Select Retain Tables to retain all tables from the original file.

Kindle

The Kindle output type generates a .DOC file that is compatible with Kindle devices.

To configure the Kindle output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Kindle** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Kindle** from the **Available Outputs** list. The **Kindle** output type appears in the **Selected Outputs** list.
 - Select **Kindle** from the **Available Outputs** list, and then click the right arrow. The **Kindle** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Kindle** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Kindle Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.

Kindle Property	Description
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Auto Format to let PaperVision Capture select the most suitable header and footer option based on the output format and the formatting level. ▪ Select In Boxes to encase the headers and footers in text boxes. ▪ Select Tabulated Form in Box to place tab stops between header and footer text and encase the header and footer text in boxes. ▪ Select Tabulated Form to place tab stops between header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>

Kindle Property	Description
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ■ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ■ Select Ignore All to disregard all format styles in the original file. ■ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ■ Select Flowing Page to preserve the original page and column layout so text flows across columns. Boxes and frames are used only when necessary.
Tables	<p>This property determines how tables are handled in the output file.</p> <ul style="list-style-type: none"> ■ Select Retain Tables to retain all tables from the original file. ■ Select Convert to Separated by Tabs to convert table content to columns separated by tab stops.

Microsoft Excel 2007

The **Microsoft Excel 2007** output type generates a Microsoft Excel 2007 binary file (.xlsx file type).

To configure the Microsoft Excel 2007 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Microsoft Excel 2007** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft Excel 2007** from the **Available Outputs** list. The **Microsoft Excel 2007** output type appears in the **Selected Outputs** list.
 - Select **Microsoft Excel 2007** from the **Available Outputs** list, and then click the right arrow. The **Microsoft Excel 2007** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft Excel 2007** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft Excel 2007 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Tabulated Form to place tab stops between header and footer text
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Leader Dots	This property determines whether leader dots are retained in the output file. Select TRUE to include leader dots.
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.

Microsoft Excel 2007 Property	Description
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) Each detected table or spreadsheet is saved to a separate worksheet. Remaining content is placed on the last worksheet, representing an index. Each table is subsequently replaced by hyperlinks to its own worksheet. ▪ Select Spreadsheet to export results in a tabular form suitable for spreadsheet use. Each document is placed in a separate worksheet. ▪ Select Ignore All to disregard all format styles in the original file.
Overview Sheet Name	This property determines the name of the overview sheet. Type the name you want to use.
Overview Sheet Name (Include)	This property determines whether to include an overview sheet as the last sheet when the Output Format property is set to Formatted Text . Select TRUE to include the overview sheet.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.
Page Color	This property determines whether to retain the background color in the output file. Select TRUE to include the background color.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.

Microsoft Excel XP

The **Microsoft Excel XP** output type generates a Microsoft Excel XP binary file (.xls file type).

To configure the Microsoft Excel XP output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.

4. In the **Output Configuration** pane, select the **Microsoft Excel XP** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft Excel XP** from the **Available Outputs** list. The **Microsoft Excel XP** output type appears in the **Selected Outputs** list.
 - Select **Microsoft Excel XP** from the **Available Outputs** list, and then click the right arrow. The **Microsoft Excel XP** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft Excel XP** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft Excel XP Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Convert to Plain Text to convert headers and footers to plain text. ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Ignore All to disregard all format styles in the original file.
Image Color	This property lets you assign an image color for the output file. You can choose from the following options: <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

Microsoft Excel XP Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) Each detected table or spreadsheet is saved to a separate worksheet. Remaining content is placed on the last worksheet, representing an index. Each table is subsequently replaced by hyperlinks to its own worksheet. ▪ Select Spreadsheet to export results in a tabular form suitable for spreadsheet use. Each document is placed in a separate worksheet. ▪ Select Ignore All to disregard all format styles in the original file.
Page Breaks	<p>This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.</p>
Page Color	<p>This property determines whether to retain the background color in the output file. Select TRUE to include the background color.</p>
Read-Only	<p>This property determines whether the output file is marked as read-only. Select TRUE to make the output file read-only.</p>

Microsoft PowerPoint 2007

The **Microsoft PowerPoint 2007** output type generates a Microsoft PowerPoint 2007 file (.pptx file type).

To configure the Microsoft PowerPoint 2007 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a

Nuance Full-Text OCR step.)

2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Microsoft PowerPoint 2007** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft PowerPoint 2007** from the **Available Outputs** list. The **Microsoft PowerPoint 2007** output type appears in the **Selected Outputs** list.
 - Select **Microsoft PowerPoint 2007** from the **Available Outputs** list, and then click the right arrow. The **Microsoft PowerPoint 2007** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft PowerPoint 2007** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft PowerPoint 2007 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Character Colors	This property determines whether character colors are retained in the output file. Select TRUE to retain character colors.
Character Scaling	This property determines whether character scaling is retained in the output file. Select TRUE to retain character scaling.
Character Spacing	This property determines whether character spacing is retained in the output file. Select TRUE to retain character spacing. When this property is set to TRUE , text characters can be expanded or condensed in the output file. If images contain text with approximately two spaces between words, a single space is generated; if four or five spaces exist between words, a tab is generated.
Column Breaks	This property determines whether column breaks are inserted in the output file. Select TRUE to insert column breaks.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Drop Caps	This property determines whether drop caps are retained in the output file. Select TRUE to include drop caps.
Field Codes	This property determines whether field codes are retained in the output file. Select TRUE to include field codes.

Microsoft PowerPoint 2007 Property	Description
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Tabulated Form In Box to place tab stops between header and footer text and encase the headers and footer in text boxes. ▪ Select In Boxes to encase the headers and footers in text boxes. ▪ Select Auto Format to let PaperVision Capture select the most suitable header and footer option based on the output format and the formatting level. ▪ Select Tabulated Form to place tab stops between header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>

Microsoft PowerPoint 2007 Property	Description
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ■ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ■ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ■ Select Ignore All to disregard all format styles in the original file.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.
Page Color	This property determines whether to retain the background color in the output file. Select TRUE to include the background color.
Page Margins	This property determines whether to retain the page margins in the output file. Select TRUE to retain the page margins.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.
Title	This property determines the title for the output file. Type the title you want to use.

Microsoft PowerPoint 97

The **Microsoft PowerPoint 97** output type generates an RTF file that you can import into Microsoft PowerPoint 97.

To configure the Microsoft PowerPoint 97 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.

4. In the **Output Configuration** pane, select the **Microsoft PowerPoint 97** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft PowerPoint 97** from the **Available Outputs** list. The **Microsoft PowerPoint 97** output type appears in the **Selected Outputs** list.
 - Select **Microsoft PowerPoint 97** from the **Available Outputs** list, and then click the right arrow. The **Microsoft PowerPoint 97** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft PowerPoint 97** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft PowerPoint 97 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	This property lets you assign an image color for the output file. You can choose from the following options: <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

Microsoft PowerPoint 97 Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Tabs	<p>This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.</p>

Microsoft Publisher 98

The **Microsoft Publisher 98** output type generates a Microsoft Publisher file (.rtf file type).



NOTE

The page width and height must be between 0.1 and 22 inches for all Microsoft Word output types and those that create files in the .rtf file format. Otherwise, an error will appear if you set the **Output Format** property to **Flowing Page** or **True Page** output formats with .doc(x) and .rtf file extensions.

To configure the Microsoft Publisher 98 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Microsoft Publisher 98** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft Publisher 98** from the **Available Outputs** list. The **Microsoft Publisher 98** output type appears in the **Selected Outputs** list.

- Select **Microsoft Publisher 98** from the **Available Outputs** list, and then click the right arrow. The **Microsoft Publisher 98** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft Publisher 98** properties in the property grid.
 6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft Publisher 98 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Character Colors	This property determines whether character colors are retained in the output file. Select TRUE to retain character colors.
Character Scaling	This property determines whether character scaling is retained in the output file. Select TRUE to retain character scaling.
Character Spacing	This property determines whether character spacing is retained in the output file. Select TRUE to retain character spacing. When this property is set to TRUE , text characters can be expanded or condensed in the output file. If images contain text with approximately two spaces between words, a single space is generated; if four or five spaces exist between words, a tab is generated.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

Microsoft Publisher 98 Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
No Text Box	<p>This property determines whether to exclude text boxes from the output files. Select TRUE to exclude text boxes.</p>
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select Ignore All to disregard all format styles in the original file.
Page Breaks	<p>This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.</p>
Tables	<p>This property determines how tables are handled in the output file.</p> <ul style="list-style-type: none"> ▪ Select Convert to Separated by Tabs to convert table content to columns separated by tab stops. ▪ Select Retain Tables to retain all tables from the original file.
Tabs	<p>This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.</p>

Microsoft Word 2003 (WordML)

The **Microsoft Word 2003 (WordML)** output type generates a .doc file type and uses features supported by Microsoft Word 2003 and later.



NOTE

The page width and height must be between 0.1 and 22 inches for all Microsoft Word output types and those that create files in the .rtf file format. Otherwise, an error will appear if you set the **Output Format** property to **Flowing Page** or **True Page** output formats with .doc(x) and .rtf file extensions.

To configure the Microsoft Word 2003 (WordML) output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Microsoft Word 2003 (WordML)** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft Word 2003 (WordML)** from the **Available Outputs** list. The **Microsoft Word 2003 (WordML)** output type appears in the **Selected Outputs** list.
 - Select **Microsoft Word 2003 (WordML)** from the **Available Outputs** list, and then click the right arrow. The **Microsoft Word 2003 (WordML)** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft Word 2003 (WordML)** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft Word 2003 (WordML) Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Character Colors	This property determines whether character colors are retained in the output file. Select TRUE to retain character colors.
Character Scaling	This property determines whether character scaling is retained in the output file. Select TRUE to retain character scaling.

Microsoft Word 2003 (WordML) Property	Description
Character Spacing	This property determines whether character spacing is retained in the output file. Select TRUE to retain character spacing. When this property is set to TRUE , text characters can be expanded or condensed in the output file. If images contain text with approximately two spaces between words, a single space is generated; if four or five spaces exist between words, a tab is generated.
Column Breaks	This property determines whether column breaks are inserted in the output file. Select TRUE to insert column breaks.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Drop Caps	This property determines whether drop caps are retained in the output file. Select TRUE to include drop caps.
Field Codes	This property determines whether field codes are retained in the output file. Select TRUE to include field codes.
Image Color	This property lets you assign an image color for the output file. You can choose from the following options: <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options: <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Image in Text Box	This property determines whether to keep images in text boxes. Select TRUE to retain images in text boxes.
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.

Microsoft Word 2003 (WordML) Property	Description
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ■ Select Flowing Page to preserve the original page and column layout so text flows across columns. Boxes and frames are used only when necessary. ■ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ■ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ■ Select Ignore All to disregard all format styles in the original file.
Page Color	This property determines whether to retain the background color in the output file. Select TRUE to include the background color.
Page Consolidation	This property determines whether pages are consolidated in the output file. Select TRUE to consolidate pages.
Read-Only	This property determines whether the output file is marked as read-only. Select TRUE to make the output file read-only.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.

Microsoft Word 2007

The **Microsoft Word 2007** output type generates a .docx file type and uses features supported by Microsoft Word 2007.



NOTE

The page width and height must be between 0.1 and 22 inches for all Microsoft Word output types and those that create files in the .rtf file format. Otherwise, an error will appear if you set the **Output Format** property to **Flowing Page** or **True Page** output formats with .doc(x) and .rtf file extensions.

To configure the Microsoft Word 2007 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Microsoft Word 2007** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Microsoft Word 2007** from the **Available Outputs** list. The **Microsoft Word 2007** output type appears in the **Selected Outputs** list.
 - Select **Microsoft Word 2007** from the **Available Outputs** list, and then click the right arrow. The **Microsoft Word 2007** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Microsoft Word 2007** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Microsoft Word 2007 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Character Colors	This property determines whether character colors are retained in the output file. Select TRUE to retain character colors.
Character Scaling	This property determines whether character scaling is retained in the output file. Select TRUE to retain character scaling.
Character Spacing	This property determines whether character spacing is retained in the output file. Select TRUE to retain character spacing. When this property is set to TRUE , text characters can be expanded or condensed in the output file. If images contain text with approximately two spaces between words, a single space is generated; if four or five spaces exist between words, a tab is generated.
Column Breaks	This property determines whether column breaks are inserted in the output file. Select TRUE to insert column breaks.
Columns	This property determines whether columns are retained in the output file. Select TRUE to retain columns.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.

Microsoft Word 2007 Property	Description
Drop Caps	This property determines whether drop caps are retained in the output file. Select TRUE to include drop caps.
Field Codes	This property determines whether field codes are retained in the output file. Select TRUE to include field codes.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Tabulated Form In Box to place tab stops between header and footer text and encase the headers and footer in text boxes. ▪ Select In Boxes to encase the headers and footers in text boxes. ▪ Select Auto Format to let PaperVision Capture select the most suitable header and footer option based on the output format and the formatting level. ▪ Select Tabulated Form to place tab stops between header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

Microsoft Word 2007 Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Image in Text Box	<p>This property determines whether to keep images in text boxes. Select TRUE to retain images in text boxes.</p>
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Flowing Page to preserve the original page and column layout so text flows across columns. Boxes and frames are used only when necessary. ▪ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select Ignore All to disregard all format styles in the original file.
Page Breaks	<p>This property determines how page breaks are handled in the output file.</p> <ul style="list-style-type: none"> ▪ Select Auto to let PaperVision Capture determine the page break option based on the output format type. ▪ Select Always to insert page breaks in the same location as the original document. ▪ Select Never to never insert page breaks.
Page Color	<p>This property determines whether to retain the background color in the output file. Select TRUE to include the background color.</p>

Microsoft Word 2007 Property	Description
Page Consolidation	This property determines whether pages are consolidated in the output file. Select TRUE to consolidate pages.
Read-Only	This property determines whether the output file is marked as read-only. Select TRUE to make the output file read-only.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Styles	This property determines whether styles are retained in the output file. Select TRUE to include styles from the original document.
Tables	This property determines how tables are handled in the output file. <ul style="list-style-type: none"> ▪ Select Convert to Separated by Tabs to convert table content to columns separated by tab stops. ▪ Select Retain Tables to retain all tables from the original file.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.

MP3 Premium Quality Audio

The **MP3 Premium Quality Audio** output type generates an MP3 audio file that reads recognized text aloud with an English (U.S. or U.K.), French, or German speaking voice.



NOTE

In addition to the Capture Full-Text OCR license, the MP3 Premium Quality Audio converter requires an additional software license to run.

To configure the MP3 Premium Quality Audio output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **MP3 Premium Quality Audio** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **MP3 Premium Quality Audio** from the **Available Outputs** list. The **MP3 Premium Quality Audio** output type appears in the **Selected Outputs** list.

- Select **MP3 Premium Quality Audio** from the **Available Outputs** list, and then click the right arrow. The **MP3 Premium Quality Audio** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **MP3 Premium Quality Audio** properties in the property grid.
 6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

MP3 Premium Quality AudioProperty	Description
Save Mode	<p>This property determines the mode in which the output file is saved. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Separated Pages ▪ Job Separator ▪ All Pages
Speech Rate	<p>This property determines the speed of the speaking voice in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Slowest ▪ Slow ▪ Normal ▪ Fast ▪ Fastest

MP3 Premium Quality AudioProperty	Description
Voice Name	<p>This property determines the language for the speaking voice. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ English ▪ US English ▪ French ▪ German <p>The language used for the speaking voice is determined by the order in which folders appear in the PaperVision Capture\OCR\speech\rssolov4 directory where PaperVision Capture was installed. Folders residing in this directory include the following:</p> <ul style="list-style-type: none"> ▪ eng (English-U.K.) ▪ enu (English-U.S.) ▪ frf (French) ▪ ged (German) <p>Do not rename any language folders in the PaperVision Capture\OCR\speech\rssolov4 directory. Otherwise, the audio output type may not function properly.</p>

PaperFlow Full-Text

The **PaperFlow Full-Text** output type generates an .mdb file containing the full-text results that you can subsequently import into either PaperVision Enterprise, or the OCRFlow application.

To configure the PaperFlow Full-Text output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **PaperFlow Full-Text** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **PaperFlow Full-Text** from the **Available Outputs** list. The **PaperFlow Full-Text** output type appears in the **Selected Outputs** list.
 - Select **PaperFlow Full-Text** from the **Available Outputs** list, and then click the right arrow. The **PaperFlow Full-Text** output type appears in the **Selected Outputs** list.

5. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

PaperVision Full-Text

The **PaperVision Full-Text** output type generates a .txt file containing the full-text results that you can subsequently import into the PaperVision Enterprise application.

To configure the PaperVision Full-Text output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **PaperFlow Full-Text** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **PaperFlow Full-Text** from the **Available Outputs** list. The **PaperFlow Full-Text** output type appears in the **Selected Outputs** list.
 - Select **PaperFlow Full-Text** from the **Available Outputs** list, and then click the right arrow. The **PaperFlow Full-Text** output type appears in the **Selected Outputs** list.
5. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

PDF

The **PDF** output type supports several PDF features and is dependent upon the positions of recognized characters. When the **Output Format** property is set to **True Page**, the resulting PDF is viewable, searchable, and editable in a PDF viewer.


To configure the PDF output type


1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **PDF** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **PDF** from the **Available Outputs** list. The **PDF** output type appears in the **Selected Outputs** list.
 - Select **PDF** from the **Available Outputs** list, and then click the right arrow. The **PDF** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **PDF** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

PDF Property	Description
Color Quality	<p>This property determines the color quality in the output file.</p> <ul style="list-style-type: none"> ■ Select Minimum for the least color quality. ■ Select Good for better than minimal color quality. ■ Select Lossless (Best Quality) for the best possible color quality.
Compress (Contents)	<p>This property determines whether text content and line art are compressed. Select TRUE to compress contents and line art.</p>
Compress (Embedded Files)	<p>This property determines whether embedded files are compressed. Select TRUE to compress embedded files.</p>
Compress (Flate)	<p>This property determines whether flate compression is applied. This compression is suitable for use on images with large areas of single colors or repeating patterns. Select TRUE to apply flate compression.</p>
Compress (JBIG2)	<p>This property determines whether JBIG2 compression is applied. This compression is suitable for use on highly compressed black and white images or monochrome images. Select TRUE to apply JBIG2 compression.</p>
Compress (JPEG2000)	<p>This property determines whether JPEG2000 compression is applied. This compression is suitable for photographs or images with gradual color changes. Select TRUE to apply JPEG2000 compression.</p>
Compress (LZW)	<p>This property determines whether LZW compression is applied. This compression is suitable for compressing text files. It reduces file size and is suitable for use with .gif images from web sites and TIFF images. Select TRUE to apply LZW compression.</p>
Cross-References	<p>This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.</p>
Enable Assembly	<p>This property determines whether document assembly (insert, rotate, and delete pages) is enabled. Select TRUE to enable document assembly.</p>
Enable Commenting	<p>This property determines whether the ability to change or edit comments and forms fields is enabled. Select TRUE to enable document commenting.</p>
Enable Copying	<p>This property determines whether the ability to copy content is enabled. Select TRUE to enable content copying.</p>
Enable Extraction	<p>This property determines whether content can be copied for accessibility. Select TRUE to enable the copying of content for accessibility.</p>
Enable Form Filling	<p>This property determines whether form fields can be filled in. Select TRUE to enable the filling in of forms.</p>

PDF Property	Description
Enable HQ Print	This property determines whether high-quality printing is enabled. Select TRUE to enable high-quality printing.
Enable Modification	This property determines whether the document can be changed. Select TRUE to enable document modification.
Enable Print	This property determines whether the document can be printed. Select TRUE to enable document printing.
Encryption Level	<p>This property determines the level of encryption.</p> <ul style="list-style-type: none"> ▪ Select None to apply no encryption. ▪ Select 40-bit RC4 to apply the lowest encryption level (used in Adobe Acrobat 3.x and 4.x). ▪ Select 128-bit RC4 to apply a medium encryption level (used in Adobe Acrobat 5.x and later). ▪ Select 128-bit AES to apply a higher encryption level (used in Adobe Acrobat 7.x and later). ▪ Select 256-bit AES to apply the highest encryption level (used in Adobe Acrobat 9.x and later).
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Auto Format to automatically format the headers and footers to match the original style.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

PDF Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Image Substitutes	<p>This property determines whether suspect words are covered with small images. Select TRUE to enable image substitutes.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Linearized PDF	<p>This property determines whether PDF files are optimized for efficient web display. When set to TRUE, the first page will load quickly into a web page, and the remaining pages will load while the PDF file is being viewed. The browser determines which page elements appear first (typically, headings and text), and the elements that follow, for example, larger pictures. Efficiency is also optimized when you skip to another page in the PDF file.</p>
Mixed Raster Content	<p>This property determines the level of Mixed Raster Content (MRC) in the output file. (MRC is a process that uses image segmentation methods to improve contrast resolution of raster images comprised of pixels.)</p> <ul style="list-style-type: none"> ▪ Select No MRC to apply no compression. ▪ Select Medium Compression for medium quality. ▪ Select Lossless Compression (Best Quality) for the best possible quality. ▪ Select Best Compression (Smallest File Size) to produce the smallest file size. ▪ Select High Compression (Image Place Holder) to reduce images to placeholders.
Outline Props	<p>This property determines whether to retain bookmarks for pages. Select TRUE to retain bookmarks.</p>
Output Format	<p>This property determines the format retention for the output file. Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames).</p>

PDF Property	Description
Password (Open)	This property defines a password that must be entered to open the file. Type the password you want to use.
Password (Permissions)	<p>This property defines a password required to set or change the restricted features found under the Enable options of the PDF file. Type the password you want to use.</p> <hr/> <p> NOTE</p> <p>If you apply any password (Open or Permissions), you must also select the appropriate Encryption Level setting. If you apply both types of passwords, either password will open the PDF. However, only the Permissions password will allow the recipient to set or change the applicable restricted features. If you apply only a Permissions password, a password is not required to open the document, but the user must type the Permissions password to set or change the restricted features. By default, the Enable options are set to TRUE, and cannot be set to FALSE until a Permissions password is assigned. So, after you assign a Permissions password, you must then set the appropriate Enable options to FALSE.</p> <hr/>

PDF Property	Description
PDF Compatibility	<p>This property lets you select the compatible PDF version or optimization type. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Optimize for Quality ▪ Optimize for Size ▪ PDF 1.7 ▪ PDF 1.6 ▪ PDF 1.5 ▪ PDF 1.4 ▪ PDF 1.3 ▪ PDF 1.2 ▪ PDF 1.1 ▪ PDF 1.0 ▪ PDF-A ▪ PDF/A-2b ▪ PDF/A-2u ▪ PDF/A-1a ▪ PDF/A-2a ▪ PDF/A-3b ▪ PDF/A-3u ▪ PDF/A-3a <hr/> <p> NOTE PDF/A documents are optimized for archival storage therefore, some options such as encryption levels and passwords are not applied to the output file. (see PDF/A Standards and Information for more information.)</p>
PDF Form Visuality	This property determines whether the visual components are displayed for a PDF form. Select TRUE to display the visual components.
PDF Form Visuality (User Set)	This property determines whether the visual components are set by the user. Select TRUE to have the PDF form visuality set by the user.
PDF Thumbnails	This property determines whether thumbnail images are created in the output file. Select TRUE to create thumbnail images.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Signature (Certification Description)	This property defines a description for the signature's certificate. Type the description you want to use.
Signature (SHA Thumbprint)	This property defines an SHA thumbprint for the signature. Type the SHA1 thumbprint that you want to use.

PDF Property	Description
Signature Type	This property lets you select a signature handler type. You can choose from the following options: <ul style="list-style-type: none"> ▪ None ▪ PPKLite ▪ VeriSign
URL (Highlight)	This property determines whether the URL address is highlighted in the output file. Select TRUE to highlight the URL.
URL (Underline)	This property determines whether the URL address is underlined in the output file. Select TRUE to underline the URL.

PDF Edited

Unlike the **PDF** output type, the **PDF Edited** output type does not rely on the position of recognized characters, so you can insert sections of text in the editor. The **PDF Edited** output type is recommended if you have made significant edits in the recognition results. The resulting PDF file is viewable, searchable, and editable.

To configure the PDF Edited output type



1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **PDF Edited** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **PDF Edited** from the **Available Outputs** list. The **PDF Edited** output type appears in the **Selected Outputs** list.
 - Select **PDF Edited** from the **Available Outputs** list, and then click the right arrow. The **PDF Edited** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **PDF Edited** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

PDF Edited Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Color Quality	This property determines the color quality in the output file. <ul style="list-style-type: none"> ■ Select Minimum for the least color quality. ■ Select Good for better than minimal color quality. ■ Select Lossless (Best Quality) for the best possible color quality.
Compress (Contents)	This property determines whether text content and line art are compressed. Select TRUE to compress contents and line art.
Compress (Embedded Files)	This property determines whether embedded files are compressed. Select TRUE to compress embedded files.
Compress (Flate)	This property determines whether flate compression is applied. This compression is suitable for use on images with large areas of single colors or repeating patterns. Select TRUE to apply flate compression.
Compress (JBIG2)	This property determines whether JBIG2 compression is applied. This compression is suitable for use on highly compressed black and white images or monochrome images. Select TRUE to apply JBIG2 compression.
Compress (JPEG2000)	This property determines whether JPEG2000 compression is applied. This compression is suitable for photographs or images with gradual color changes. Select TRUE to apply JPEG2000 compression.
Compress (LZW)	This property determines whether LZW compression is applied. This compression is suitable for compressing text files. It reduces file size and is suitable for use with .gif images from web sites and TIFF images. Select TRUE to apply LZW compression.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Drop Caps	This property determines whether drop caps are retained in the output file. Select TRUE to include drop caps.
Enable Assembly	This property determines whether document assembly (insert, rotate, and delete pages) is enabled. Select TRUE to enable document assembly.
Enable Commenting	This property determines whether the ability to change or edit comments and forms fields is enabled. Select TRUE to enable document commenting.
Enable Copying	This property determines whether the ability to copy content is enabled. Select TRUE to enable content copying.

PDF Edited Property	Description
Enable Extraction	This property determines whether content can be copied for accessibility. Select TRUE to enable the copying of content for accessibility.
Enable Form Filling	This property determines whether form fields can be filled in. Select TRUE to enable the filling in of forms.
Enable HQ Print	This property determines whether high-quality printing is enabled. Select TRUE to enable high-quality printing.
Enable Modification	This property determines whether the document can be changed. Select TRUE to enable document modification.
Enable Print	This property determines whether the document can be printed. Select TRUE to enable document printing.
Encryption Level	<p>This property determines the level of encryption.</p> <ul style="list-style-type: none"> ■ Select None to apply no encryption. ■ Select 40-bit RC4 to apply the lowest encryption level (used in Adobe Acrobat 3.x and 4.x). ■ Select 128-bit RC4 to apply a medium encryption level (used in Adobe Acrobat 5.x and later). ■ Select 128-bit AES to apply a higher encryption level (used in Adobe Acrobat 7.x and later). ■ Select 256-bit AES to apply the highest encryption level (used in Adobe Acrobat 9.x and later).
Field Codes	This property determines whether field codes are retained in the output file. Select TRUE to include field codes.
Fonts (External)	This property determines whether external fonts are included in the output file. Select TRUE to include external fonts.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ■ Select Ignore Headers/Footers to disregard header and footer text. ■ Select Auto Format to automatically format the headers and footers to match the original style.

PDF Edited Property	Description
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Linearized PDF	<p>This property determines whether PDF files are optimized for efficient web display. When set to TRUE, the first page will load quickly into a web page, and the remaining pages will load while the PDF file is being viewed. The browser determines which page elements appear first (typically, headings and text), and the elements that follow, for example, larger pictures. Efficiency is also optimized when you skip to another page in the PDF file.</p>

PDF Edited Property	Description
Mixed Raster Content	<p>This property determines the level of Mixed Raster Content (MRC) in the output file. (MRC is a process that uses image segmentation methods to improve contrast resolution of raster images comprised of pixels.)</p> <ul style="list-style-type: none"> ■ Select No MRC to apply no compression. ■ Select Medium Compression for medium quality. ■ Select Lossless Compression (Best Quality) for the best possible quality. ■ Select Best Compression (Smallest File Size) to produce the smallest file size. ■ Select High Compression (Image Place Holder) to reduce images to placeholders.
Outline Props	<p>This property determines whether to retain bookmarks for pages. Select TRUE to retain bookmarks.</p>
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ■ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ■ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ■ Select Ignore All to disregard all format styles in the original file.
Password (Open)	<p>This property defines a password that must be entered to open the file. Type the password you want to use.</p>

PDF Edited Property	Description
Password (Permissions)	<p>This property defines a password required to set or change the restricted features found under the Enable options of the PDF file. Type the password you want to use.</p> <hr/> <p> NOTE</p> <p>If you apply any password (Open or Permissions), you must also select the appropriate Encryption Level setting. If you apply both types of passwords, either password will open the PDF. However, only the Permissions password will allow the recipient to set or change the applicable restricted features. If you apply only a Permissions password, a password is not required to open the document, but the user must type the Permissions password to set or change the restricted features. By default, the Enable options are set to TRUE, and cannot be set to FALSE until a Permissions password is assigned. So, after you assign a Permissions password, you must then set the appropriate Enable options to FALSE.</p> <hr/>
PDF Compatibility	<p>This property lets you select the compatible PDF version or optimization type. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Optimize for Quality ▪ Optimize for Size ▪ PDF 1.7 ▪ PDF 1.6 ▪ PDF 1.5 ▪ PDF 1.4 ▪ PDF 1.3 ▪ PDF 1.2 ▪ PDF 1.1 ▪ PDF 1.0 ▪ PDF-A ▪ PDF/A-2b ▪ PDF/A-2u ▪ PDF/A-1a ▪ PDF/A-2a ▪ PDF/A-3b ▪ PDF/A-3u ▪ PDF/A-3a <hr/> <p> NOTE</p> <p>PDF/A documents are optimized for archival storage, therefore, some options such as encryption levels and passwords are not applied to the output file. (see PDF/A Standards and Information for more information.)</p> <hr/>

PDF Edited Property	Description
PDF Form Visuality	This property determines whether the visual components are displayed for a PDF form. Select TRUE to display the visual components.
PDF Form Visuality (User Set)	This property determines whether the visual components are set by the user. Select TRUE to have the PDF form visuality set by the user.
PDF Forms	This property determines whether form layers are shown in the output file. Select TRUE to show form layers.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Signature (Certification Description)	This property defines a description for the signature's certificate. Type the description you want to use.
Signature (SHA Thumbprint)	This property defines an SHA thumbprint for the signature. Type the SHA1 thumbprint that you want to use.
Signature Type	This property lets you select a signature handler type. You can choose from the following options: <ul style="list-style-type: none"> ▪ None ▪ PPKLite ▪ VeriSign
Styles	This property determines whether styles are retained in the output file. Select TRUE to include styles from the original document.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.
Title	This property defines the title for the output file. Type the title you want to use.
URL (Highlight)	This property determines whether the URL address is highlighted in the output file. Select TRUE to highlight the URL.
URL (Underline)	This property determines whether the URL address is underlined in the output file. Select TRUE to underline the URL.

PDF Searchable Image

Suitable for archiving and indexing, the **PDF Searchable Image** output type retains the original image in the foreground and preserves recognized text in the background. This output type allows the OCR

contents of an image-based PDF to remain searchable without compromising the original (hidden) text layer. Text is positioned directly behind corresponding image text, making it searchable and selectable in most PDF viewers. The resulting PDF file is viewable only and cannot be modified in a PDF editor. Words recognized in a document are highlighted in the image.

To configure the PDF Searchable Image output type



1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **PDF Searchable Image** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **PDF Searchable Image** from the **Available Outputs** list. The **PDF Searchable Image** output type appears in the **Selected Outputs** list.
 - Select **PDF Searchable Image** from the **Available Outputs** list, and then click the right arrow. The **PDF Searchable Image** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **PDF Searchable Image** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

PDF Searchable Image Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Color Quality	This property determines the color quality in the output file. <ul style="list-style-type: none"> ▪ Select Minimum for the least color quality. ▪ Select Good for better than minimal color quality. ▪ Select Lossless (Best Quality) for the best possible color quality.
Compress (Contents)	This property determines whether text content and line art are compressed. Select TRUE to compress contents and line art.
Compress (Embedded Files)	This property determines whether embedded files are compressed. Select TRUE to compress embedded files.
Compress (Flate)	This property determines whether flate compression is applied. This compression is suitable for use on images with large areas of single colors or repeating patterns. Select TRUE to apply flate compression.

PDF Searchable Image Property	Description
Compress (JBIG2)	This property determines whether JBIG2 compression is applied. This compression is suitable for use on highly compressed black and white images or monochrome images. Select TRUE to apply JBIG2 compression.
Compress (JPEG2000)	This property determines whether JPEG2000 compression is applied. This compression is suitable for photographs or images with gradual color changes. Select TRUE to apply JPEG2000 compression.
Compress (LZW)	This property determines whether LZW compression is applied. This compression is suitable for compressing text files. It reduces file size and is suitable for use with .gif images from web sites and TIFF images. Select TRUE to apply LZW compression.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Enable Assembly	This property determines whether document assembly (insert, rotate, and delete pages) is enabled. Select TRUE to enable document assembly.
Enable Commenting	This property determines whether the ability to change or edit comments and forms fields is enabled. Select TRUE to enable document commenting.
Enable Copying	This property determines whether the ability to copy content is enabled. Select TRUE to enable content copying.
Enable Extraction	This property determines whether content can be copied for accessibility. Select TRUE to enable the copying of content for accessibility.
Enable Form Filling	This property determines whether form fields can be filled in. Select TRUE to enable the filling in of forms.
Enable HQ Print	This property determines whether high-quality printing is enabled. Select TRUE to enable high-quality printing.
Enable Modification	This property determines whether the document can be changed. Select TRUE to enable document modification.
Enable Print	This property determines whether the document can be printed. Select TRUE to enable document printing.

PDF Searchable Image Property	Description
Encryption Level	<p>This property determines the level of encryption.</p> <ul style="list-style-type: none"> ■ Select None to apply no encryption. ■ Select 40-bit RC4 to apply the lowest encryption level (used in Adobe Acrobat 3.x and 4.x). ■ Select 128-bit RC4 to apply a medium encryption level (used in Adobe Acrobat 5.x and later). ■ Select 128-bit AES to apply a higher encryption level (used in Adobe Acrobat 7.x and later). ■ Select 256-bit AES to apply the highest encryption level (used in Adobe Acrobat 9.x and later).
Fonts (External)	<p>This property determines whether external fonts are included in the output file. Select TRUE to include external fonts.</p>
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ■ Select Ignore Headers/Footers to disregard header and footer text. ■ Select Auto Format to automatically format the headers and footers to match the original style.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ■ 24-bit Color (True Color) ■ Grayscale ■ Black and White ■ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ■ DPI 72 ■ DPI 100 ■ DPI 150 ■ DPI 200 ■ DPI 300 ■ None ■ Original

PDF Searchable Image Property	Description
Layer Type	This property determines whether the layer type is displayed in the output file. Select TRUE to display the layer type.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Linearized PDF	This property determines whether PDF files are optimized for efficient web display. When set to TRUE , the first page will load quickly into a web page, and the remaining pages will load while the PDF file is being viewed. The browser determines which page elements appear first (typically, headings and text), and the elements that follow, for example, larger pictures. Efficiency is also optimized when you skip to another page in the PDF file.
Mixed Raster Content	<p>This property determines the level of Mixed Raster Content (MRC) in the output file. (MRC is a process that uses image segmentation methods to improve contrast resolution of raster images comprised of pixels.)</p> <ul style="list-style-type: none"> ■ Select No MRC to apply no compression. ■ Select Medium Compression for medium quality. ■ Select Lossless Compression (Best Quality) for the best possible quality. ■ Select Best Compression (Smallest File Size) to produce the smallest file size. ■ Select High Compression (Image Place Holder) to reduce images to placeholders.
Outline Props	This property determines whether to retain bookmarks for pages. Select TRUE to retain bookmarks.
Output Format	This property determines the format retention for the output file. Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames).
Password (Open)	This property defines a password that must be entered to open the file. Type the password you want to use.

PDF Searchable Image Property	Description
Password (Permissions)	<p>This property defines a password required to set or change the restricted features found under the Enable options of the PDF file. Type the password you want to use.</p> <hr/> <p> NOTE</p> <p>If you apply any password (Open or Permissions), you must also select the appropriate Encryption Level setting. If you apply both types of passwords, either password will open the PDF. However, only the Permissions password will allow the recipient to set or change the applicable restricted features. If you apply only a Permissions password, a password is not required to open the document, but the user must type the Permissions password to set or change the restricted features. By default, the Enable options are set to TRUE, and cannot be set to FALSE until a Permissions password is assigned. So, after you assign a Permissions password, you must then set the appropriate Enable options to FALSE.</p> <hr/>
PDF Compatibility	<p>This property lets you select the compatible PDF version or optimization type. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Optimize for Quality ▪ Optimize for Size ▪ PDF 1.7 ▪ PDF 1.6 ▪ PDF 1.5 ▪ PDF 1.4 ▪ PDF 1.3 ▪ PDF 1.2 ▪ PDF 1.1 ▪ PDF 1.0 ▪ PDF-A ▪ PDF/A-2b ▪ PDF/A-2u ▪ PDF/A-1a ▪ PDF/A-2a ▪ PDF/A-3b ▪ PDF/A-3u ▪ PDF/A-3a <hr/> <p> NOTE</p> <p>PDF/A documents are optimized for archival storage, therefore, some options such as encryption levels and passwords are not applied to the output file. (see PDF/A Standards and Information for more information.)</p> <hr/>

PDF Searchable Image Property	Description
PDF Thumbnail	This property determines whether thumbnail images are created in the output file. Select TRUE to create thumbnail images.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Signature (Certification Description)	This property defines a description for the signature's certificate. Type the description you want to use.
Signature (SHA Thumbprint)	This property defines an SHA thumbprint for the signature. Type the SHA1 thumbprint that you want to use.
Signature Type	<p>This property lets you select a signature handler type. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ None ▪ PPKLite ▪ VeriSign
Styles	This property determines whether styles are retained in the output file. Select TRUE to include styles from the original document.
URL (Highlight)	This property determines whether the URL address is highlighted in the output file. Select TRUE to highlight the URL.
URL (Underline)	This property determines whether the URL address is underlined in the output file. Select TRUE to underline the URL.

PDF with Image Substitutes

With the **PDF with Image Substitutes** output type, reject and suspect characters contain image overlays in the resulting output file, so uncertain characters display as they appeared in the original document. The resulting PDF file is viewable, editable, and searchable.

To configure the PDF with Image Substitutes output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **PDF with Image Substitutes** output type from the **Available Outputs** list by doing one of the following:



- Double-click **PDF with Image Substitutes** from the **Available Outputs** list. The **PDF with Image Substitutes** output type appears in the **Selected Outputs** list.
 - Select **PDF with Image Substitutes** from the **Available Outputs** list, and then click the right arrow. The **PDF with Image Substitutes** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **PDF with Image Substitutes** properties in the property grid.
 6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

PDF with Image Substitutes Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Color Quality	This property determines the color quality in the output file. <ul style="list-style-type: none"> ▪ Select Minimum for the least color quality. ▪ Select Good for better than minimal color quality. ▪ Select Lossless (Best Quality) for the best possible color quality.
Compress (Contents)	This property determines whether text content and line art are compressed. Select TRUE to compress contents and line art.
Compress (Embedded Files)	This property determines whether embedded files are compressed. Select TRUE to compress embedded files.
Compress (Flate)	This property determines whether flate compression is applied. This compression is suitable for use on images with large areas of single colors or repeating patterns. Select TRUE to apply flate compression.
Compress (JBIG2)	This property determines whether JBIG2 compression is applied. This compression is suitable for use on highly compressed black and white images or monochrome images. Select TRUE to apply JBIG2 compression.
Compress (JPEG2000)	This property determines whether JPEG2000 compression is applied. This compression is suitable for photographs or images with gradual color changes. Select TRUE to apply JPEG2000 compression.
Compress (LZW)	This property determines whether LZW compression is applied. This compression is suitable for compressing text files. It reduces file size and is suitable for use with .gif images from web sites and TIFF images. Select TRUE to apply LZW compression.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.

PDF with Image Substitutes Property	Description
Enable Assembly	This property determines whether document assembly (insert, rotate, and delete pages) is enabled. Select TRUE to enable document assembly.
Enable Commenting	This property determines whether the ability to change or edit comments and forms fields is enabled. Select TRUE to enable document commenting.
Enable Copying	This property determines whether the ability to copy content is enabled. Select TRUE to enable content copying.
Enable Extraction	This property determines whether content can be copied for accessibility. Select TRUE to enable the copying of content for accessibility.
Enable Form Filling	This property determines whether form fields can be filled in. Select TRUE to enable the filling in of forms.
Enable HQ Print	This property determines whether high-quality printing is enabled. Select TRUE to enable high-quality printing.
Enable Modification	This property determines whether the document can be changed. Select TRUE to enable document modification.
Enable Print	This property determines whether the document can be printed. Select TRUE to enable document printing.
Encryption Level	<p>This property determines the level of encryption.</p> <ul style="list-style-type: none"> ■ Select None to apply no encryption. ■ Select 40-bit RC4 to apply the lowest encryption level (used in Adobe Acrobat 3.x and 4.x). ■ Select 128-bit RC4 to apply a medium encryption level (used in Adobe Acrobat 5.x and later). ■ Select 128-bit AES to apply a higher encryption level (used in Adobe Acrobat 7.x and later). ■ Select 256-bit AES to apply the highest encryption level (used in Adobe Acrobat 9.x and later).
Fonts (External)	This property determines whether external fonts are included in the output file. Select TRUE to include external fonts.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ■ Select Ignore Headers/Footers to disregard header and footer text. ■ Select Auto Format to automatically format the headers and footers to match the original style.

PDF with Image Substitutes Property	Description
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Image Substitutes	<p>This property determines whether suspect words are covered with small images. Select TRUE to enable image substitutes.</p>
Layer Type	<p>This property determines whether the layer type is displayed in the output file. Select TRUE to display the layer type.</p>
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Linearized PDF	<p>This property determines whether PDF files are optimized for efficient web display. When set to TRUE, the first page will load quickly into a web page, and the remaining pages will load while the PDF file is being viewed. The browser determines which page elements appear first (typically, headings and text), and the elements that follow, for example, larger pictures. Efficiency is also optimized when you skip to another page in the PDF file.</p>

PDF with Image Substitutes Property	Description
Mixed Raster Content	<p>This property determines the level of Mixed Raster Content (MRC) in the output file. (MRC is a process that uses image segmentation methods to improve contrast resolution of raster images comprised of pixels.)</p> <ul style="list-style-type: none"> ■ Select No MRC to apply no compression. ■ Select Medium Compression for medium quality. ■ Select Lossless Compression (Best Quality) for the best possible quality. ■ Select Best Compression (Smallest File Size) to produce the smallest file size. ■ Select High Compression (Image Place Holder) to reduce images to placeholders.
Outline Props	<p>This property determines whether to retain bookmarks for pages. Select TRUE to retain bookmarks.</p>
Output Format	<p>This property determines the format retention for the output file. Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames).</p>
Page Breaks	<p>This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.</p>
Password (Open)	<p>This property defines a password that must be entered to open the file. Type the password you want to use.</p>

PDF with Image Substitutes Property	Description
Password (Permissions)	<p>This property defines a password required to set or change the restricted features found under the Enable options of the PDF file. Type the password you want to use.</p> <hr/> <p> NOTE</p> <p>If you apply any password (Open or Permissions), you must also select the appropriate Encryption Level setting. If you apply both types of passwords, either password will open the PDF. However, only the Permissions password will allow the recipient to set or change the applicable restricted features. If you apply only a Permissions password, a password is not required to open the document, but the user must type the Permissions password to set or change the restricted features. By default, the Enable options are set to TRUE, and cannot be set to FALSE until a Permissions password is assigned. So, after you assign a Permissions password, you must then set the appropriate Enable options to FALSE.</p> <hr/>
PDF Compatibility	<p>This property lets you select the compatible PDF version or optimization type. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Optimize for Quality ▪ Optimize for Size ▪ PDF 1.7 ▪ PDF 1.6 ▪ PDF 1.5 ▪ PDF 1.4 ▪ PDF 1.3 ▪ PDF 1.2 ▪ PDF 1.1 ▪ PDF 1.0 ▪ PDF-A ▪ PDF/A-2b ▪ PDF/A-2u ▪ PDF/A-1a ▪ PDF/A-2a ▪ PDF/A-3b ▪ PDF/A-3u ▪ PDF/A-3a <hr/> <p> NOTE</p> <p>PDF/A documents are optimized for archival storage, therefore, some options such as encryption levels and passwords are not applied to the output file. (see PDF/A Standards and Information for more information.)</p> <hr/>

PDF with Image Substitutes Property	Description
PDF Form Visuality	This property determines whether the visual components are displayed for a PDF form. Select TRUE to display the visual components.
PDF Thumbnail	This property determines whether thumbnail images are created in the output file. Select TRUE to create thumbnail images.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Signature (Certification Description)	This property defines a description for the signature's certificate. Type the description you want to use.
Signature (SHA Thumbprint)	This property defines an SHA thumbprint for the signature. Type the SHA1 thumbprint that you want to use.
Signature Type	<p>This property lets you select a signature handler type. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ None ▪ PPKLite ▪ VeriSign
Styles	This property determines whether styles are retained in the output file. Select TRUE to include styles from the original document.
URL (Highlight)	This property determines whether the URL address is highlighted in the output file. Select TRUE to highlight the URL.
URL (Underline)	This property determines whether the URL address is underlined in the output file. Select TRUE to underline the URL.

RTF Word 2000

The **RTF Word 2000** output type generates files interpreted by most .rtf readers and uses features only supported by Word 2000 and later.



NOTE

The page width and height must be between 0.1 and 22 inches for all Microsoft Word output types and those that create files in the .rtf file format. Otherwise, an error will appear if you set the **Output Format** property to **Flowing Page** or **True Page** output formats with .doc(x) and .rtf file extensions.

To configure the RTF Word 2000 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **RTF Word 2000** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **RTF Word 2000** from the **Available Outputs** list. The **RTF Word 2000** output type appears in the **Selected Outputs** list.
 - Select **RTF Word 2000** from the **Available Outputs** list, and then click the right arrow. The **RTF Word 2000** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **RTF Word 2000** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

RTF Word 2000 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Character Colors	This property determines whether character colors are retained in the output file. Select TRUE to retain character colors.
Character Scaling	This property determines whether character scaling is retained in the output file. Select TRUE to retain character scaling.
Column Breaks	This property determines whether column breaks are inserted in the output file. Select TRUE to insert column breaks.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Drop Caps	This property determines whether drop caps are retained in the output file. Select TRUE to include drop caps.
Field Codes	This property determines whether field codes are retained in the output file. Select TRUE to include field codes.

RTF Word 2000 Property	Description
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Tabulated Form In Box to place tab stops between header and footer text and encase the headers and footer in text boxes. ▪ Select In Boxes to encase the headers and footers in text boxes. ▪ Select Auto Format to let PaperVision Capture select the most suitable header and footer option based on the output format and the formatting level. ▪ Select Tabulated Form to place tab stops between header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>

RTF Word 2000 Property	Description
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Flowing Page to preserve the original page and column layout so text flows across columns. Boxes and frames are used only when necessary. ▪ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select Ignore All to disregard all format styles in the original file.
Page Breaks	<p>This property determines how page breaks are handled in the output file.</p> <ul style="list-style-type: none"> ▪ Select Always to insert page breaks in the same location as the original document. ▪ Select Auto to let PaperVision Capture determine the page break option based on the output format type. ▪ Select Never to never insert page breaks.
Page Color	This property determines whether to retain the background color in the output file. Select TRUE to include the background color.
Page Consolidation	This property determines whether pages are consolidated in the output file. Select TRUE to consolidate pages.
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.

Text

The **Text** output type writes recognized text into a simple text (.txt) file that can be interpreted by most text editors and word processors.

To configure the Text output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)

2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Text** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Text** from the **Available Outputs** list. The **Text** output type appears in the **Selected Outputs** list.
 - Select **Text** from the **Available Outputs** list, and then click the right arrow. The **Text** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Text** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Text Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	This property determines the format retention for the output file. Select Ignore All to disregard all format styles in the original file.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.

Text Property	Description
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.
Tabs (Convert to Spaces)	This property determines whether to convert tabs into spaces in the output file. Select TRUE to convert tabs into spaces.

Text - Comma Separated

The **Text - Comma Separated** output type writes the recognized text into a comma-delimited .csv file that can be interpreted by Microsoft Excel. If you set the **List Separator** property, you can configure it to separate the cells in the output file.

To configure the Text - Comma Separated output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Text - Comma Separated** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Text - Comma Separated** from the **Available Outputs** list. The **Text - Comma Separated** output type appears in the **Selected Outputs** list.
 - Select **Text - Comma Separated** from the **Available Outputs** list, and then click the right arrow. The **Text - Comma Separated** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Text - Comma Separated** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Text - Comma Separated Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)

Text - Comma Separated Property	Description
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ■ Select Ignore Headers/Footers to disregard header and footer text. ■ Select Convert to Plain Text to convert headers and footers to plain text.
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
List Separator	This property lets you enter a string to separate cells in the .csv file. Enter the string you want to use, for example, <code>r;\t</code> .
List Separator (Include)	This property determines whether to include the list separator in the output file. Select TRUE to include the list separator.

Text - Formatted

The **Text - Formatted** output type writes the recognized text into a text file while attempting to retain the page layout by inserting extra spaces.

To configure the Text - Formatted output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Text - Formatted** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Text - Formatted** from the **Available Outputs** list. The **Text - Formatted** output type appears in the **Selected Outputs** list.
 - Select **Text - Formatted** from the **Available Outputs** list, and then click the right arrow. The **Text - Formatted** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Text - Formatted** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Text - Formatted Property	Description
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	This property determines the format retention for the output file. Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames).

Text with Line Breaks

The **Text with Line Breaks** output type inserts line breaks at the end of each line, rather than inserting them at the end of each paragraph.

To configure the Text with Line Breaks output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Text with Line Breaks** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Text - Formatted** from the **Available Outputs** list. The **Text with Line Breaks** output type appears in the **Selected Outputs** list.
 - Select **Text with Line Breaks** from the **Available Outputs** list, and then click the right arrow. The **Text with Line Breaks** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Text with Line Breaks** properties in the property grid.

- See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Text with Line Breaks Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	This property determines the format retention for the output file. Select Ignore All to disregard all format styles in the original file.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.
Tabs (Convert to Spaces)	This property determines whether to convert tabs into spaces in the output file. Select TRUE to convert tabs into spaces.

Unicode Text

The **Unicode Text** output type writes recognized text into a simple text (.txt) file that can be interpreted by most text editors and word processors. The **Unicode Text** output type uses two-byte Unicode characters.

To configure the Unicode Text output type

- On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
- On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
- Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
- In the **Output Configuration** pane, select the **Unicode Text** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Unicode Text** from the **Available Outputs** list. The **Unicode Text** output type appears in the **Selected Outputs** list.

- Select **Unicode Text** from the **Available Outputs** list, and then click the right arrow. The **Unicode Text** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Unicode Text** properties in the property grid.
 6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Unicode Text Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	This property determines the format retention for the output file. Select Ignore All to disregard all format styles in the original file.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.
Tabs (Convert to Spaces)	This property determines whether to convert tabs into spaces in the output file. Select TRUE to convert tabs into spaces.

Unicode Text - Comma Separated

The **Unicode Text - Comma Separated** output type writes the recognized text (using two-byte Unicode characters) into a comma-delimited .csv file that can be interpreted by Microsoft Excel. If you set the **List Separator** property, you can configure it to separate the cells in the output file.

To configure the Unicode Text - Comma Separated output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Unicode Text - Comma Separated** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Unicode Text - Comma Separated** from the **Available Outputs** list. The **Unicode Text - Comma Separated** output type appears in the **Selected Outputs** list.
 - Select **Unicode Text - Comma Separated** from the **Available Outputs** list, and then click the right arrow. The **Unicode Text - Comma Separated** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Unicode Text - Comma Separated** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Unicode Text - Comma Separated Property	Description
Application Extension	This property determines the application extension for the output file, for example, .csv and .txt . Type the application extension you want to use.
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
List Separator	This property lets you enter a string to separate cells in the .csv file. Enter the string you want to use, for example, r;\t .
List Separator (Include)	This property determines whether to include the list separator in the output file. Select TRUE to include the list separator.

Unicode Text - Comma Separated Property	Description
Output Format	This property determines the format retention for the output file. Select Ignore All to disregard all format styles in the original file.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.

Unicode Text - Formatted

The **Unicode Text - Formatted** output type writes the recognized text (using two-byte Unicode characters) into a text file while attempting to retain the page layout by inserting extra spaces.

To configure the Unicode Text - Formatted output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Unicode Text - Formatted** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Unicode Text - Formatted** from the **Available Outputs** list. The **Unicode Text - Formatted** output type appears in the **Selected Outputs** list.
 - Select **Unicode Text - Formatted** from the **Available Outputs** list, and then click the right arrow. The **Unicode Text - Formatted** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Unicode Text - Formatted** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Unicode Text - Formatted Property	Description
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.

Unicode Text with Line Breaks

The **Unicode Text with Line Breaks** output type inserts line breaks at the end of each line (using two-byte Unicode characters), rather than inserting them at the end of each paragraph.

To configure the Unicode Text with Line Breaks output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **Unicode Text with Line Breaks** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **Unicode Text with Line Breaks** from the **Available Outputs** list. The **Unicode Text with Line Breaks** output type appears in the **Selected Outputs** list.
 - Select **Unicode Text with Line Breaks** from the **Available Outputs** list, and then click the right arrow. The **Unicode Text with Line Breaks** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **Unicode Text with Line Breaks** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

Unicode Text with Line Breaks Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Code Page	This property lets you specify a code page (for example, IBM Multi-Lingual and Mac Central EU) whose language will be recognized in the output file. Select the code page you want to use from the list. (See "Nuance Full-Text Code Pages" on page 669 for a complete list of available code pages.)
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Tabs (Convert to Spaces)	This property determines whether to convert tabs into spaces in the output file. Select TRUE to convert tabs into spaces.

WordPad

The **WordPad** output type generates an .rtf file that can be interpreted by Microsoft WordPad and most other RTF readers.

To configure the WordPad output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **WordPad** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **WordPad** from the **Available Outputs** list. The **WordPad** output type appears in the **Selected Outputs** list.

- Select **WordPad** from the **Available Outputs** list, and then click the right arrow. The **WordPad** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **WordPad** properties in the property grid.
 6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

WordPad Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Character Colors	This property determines whether character colors are retained in the output file. Select TRUE to retain character colors.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Breaks	This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.

WordPad Property	Description
No Textbox	This property determines whether to exclude text boxes from the output files. Select TRUE to exclude text boxes.
Output Format	This property determines the format retention for the output file. <ul style="list-style-type: none"> ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select Ignore All to disregard all format styles in the original file.
Page Breaks	This property determines whether page breaks are retained in the output file. Select TRUE to include page breaks.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.

WordPerfect 12

The **WordPerfect 12** output type generates a WordPerfect binary file that supports features of WordPerfect 12 and later.

To configure the WordPerfect 12 output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **WordPerfect 12** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **WordPerfect 12** from the **Available Outputs** list. The **WordPerfect 12** output type appears in the **Selected Outputs** list.
 - Select **WordPerfect 12** from the **Available Outputs** list, and then click the right arrow. The **WordPerfect 12** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **WordPerfect 12** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

WordPerfect 12 Property	Description
Bullets	This property determines whether bullets are retained in the output file. Select TRUE to include bullets.
Column Breaks	This property determines whether column breaks are inserted in the output file. Select TRUE to insert column breaks.
Cross-References	This property determines whether cross-references are retained in the output file. Select TRUE to include cross-references.
Drop Caps	This property determines whether drop caps are retained in the output file. Select TRUE to include drop caps.
Field Codes	This property determines whether field codes are retained in the output file. Select TRUE to include field codes.
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Tabulated Form In Box to place tab stops between header and footer text and encase the headers and footer in text boxes. ▪ Select In Boxes to encase the headers and footers in text boxes. ▪ Select Auto Format to automatically format the headers and footers to match the original style. ▪ Select Tabulated Form to place tab stops between header and footer text. ▪ Select Convert to Plain Text to convert headers and footers to plain text.
Image Color	<p>This property lets you assign an image color for the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ 24-bit Color (True Color) ▪ Grayscale ▪ Black and White ▪ Original

WordPerfect 12 Property	Description
Image DPI	<p>This property lets you select the resolution in Dots Per Inch (DPI) for images in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ DPI 72 ▪ DPI 100 ▪ DPI 150 ▪ DPI 200 ▪ DPI 300 ▪ None ▪ Original
Line Breaks	<p>This property determines whether to insert line breaks in the output file. Select TRUE to insert line breaks between lines of recognized text.</p>
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
Output Format	<p>This property determines the format retention for the output file.</p> <ul style="list-style-type: none"> ▪ Select Flowing Page to preserve the original page and column layout so text flows across columns. Boxes and frames are used only when necessary. ▪ Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames). ▪ Select Formatted Text to retain text (without columns), paragraph format, font, graphics, table styles, highlights, and strikeouts. (Layout-related formatting is ignored.) ▪ Select Ignore All to disregard all format styles in the original file.
Page Breaks	<p>This property lets you specify how page breaks are handled in the output file. You can choose from the following options:</p> <ul style="list-style-type: none"> ▪ Select Always to insert page breaks in the same location as the original document. ▪ Select Auto to let PaperVision Capture determine the page break option based on the output format type. ▪ Select Never to never insert page breaks.
Page Consolidation	<p>This property determines whether page are consolidated in the output file. Select TRUE to consolidate pages.</p>

WordPerfect 12 Property	Description
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.
Tables	This property determines how tables are handled in the output file. <ul style="list-style-type: none"> ▪ Select Convert to Separated by Tabs to convert table content to columns separated by tab stops. ▪ Select Retain Tables to retain all tables from the original file.
Tabs	This property determines whether to retain the original tab positions in the output file. Select TRUE to include the original tab positions.

XML

The **XML** output type generates a standard, plain-text .xml file.

To configure the XML output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **XML** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **XML** from the **Available Outputs** list. The **XML** output type appears in the **Selected Outputs** list.
 - Select **XML** from the **Available Outputs** list, and then click the right arrow. The **XML** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **XML** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

XML Property	Description
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ■ Select Ignore Headers/Footers to disregard header and footer text. ■ Select Tabulated Form In Box to place tab stops between header and footer text and encase the headers and footer in text boxes. ■ Select In Boxes to encase the headers and footers in text boxes. ■ Select Auto Format to automatically format the headers and footers to match the original style. ■ Select Tabulated Form to place tab stops between header and footer text. ■ Select Convert to Plain Text to convert headers and footers to plain text.
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>
XSD Schema	<p>This property determines whether to use an XML Schema Definition (XSD) in the output file. Select TRUE to use an XML Schema Definition (XSD).</p>

XPS

The **XPS** output type generates a Microsoft XML-based Paper Specification (XPS) file, yielding the same appearance on every output device.



NOTE

To view an XPS file, the .NET 4.0 Framework must be installed, which is included on the PaperVision Capture installation media.

To configure the XPS output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane, select the **XPS** output type from the **Available Outputs** list by doing one of the following:

- Double-click **XPS** from the **Available Outputs** list. The **XPS** output type appears in the **Selected Outputs** list.
 - Select **XPS** from the **Available Outputs** list, and then click the right arrow. The **XPS** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **XPS** properties in the property grid.
 6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

XPS Property	Description
Headers/Footers	This property determines how headers and footers appear in the output file. <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Auto Format to automatically format the headers and footers to match the original style.
Line Numbering Zones	This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.
Output Format	This property determines the format retention for the output file. Select True Page to retain the original page and column layout (with text, pictures, table boxes, and frames).
Rule Lines	This property determines whether rule lines are retained in the output file. Select TRUE to include rule lines.

XPS Searchable Image

The **XPS Searchable Image** output type generates a Microsoft XML-based Paper Specification (XPS) file, yielding all text as searchable.



NOTE

To view an XPS file, the .NET 4.0 Framework must be installed, which is included on the PaperVision Capture installation media.

To configure the XPS Searchable Image output type

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis button. The **Edit Nuance Full-Text OCR Settings** window appears.

4. In the **Output Configuration** pane, select the **XPS Searchable Image** output type from the **Available Outputs** list by doing one of the following:
 - Double-click **XPS Searchable Image** from the **Available Outputs** list. The **XPS Searchable Image** output type appears in the **Selected Outputs** list.
 - Select **XPS Searchable Image** from the **Available Outputs** list, and then click the right arrow. The **XPS Searchable Image** output type appears in the **Selected Outputs** list.
5. See the following table for instructions to set the **XPS Searchable Image** properties in the property grid.
6. See "OCR Page Properties" on page 206 for instructions to set the **OCR Page Properties** in the property grid.

XPS Searchable Image Property	Description
Headers/Footers	<p>This property determines how headers and footers appear in the output file.</p> <ul style="list-style-type: none"> ▪ Select Ignore Headers/Footers to disregard header and footer text. ▪ Select Auto Format to automatically format the headers and footers to match the original style.
Line Numbering Zones	<p>This property determines whether the line numbering zones are retained in output files. Select TRUE to include the line numbering zones.</p>

Edit Nuance Full-Text OCR Settings Window Overview

You use the **Edit Nuance Full-text OCR Settings** window to import and scan images for testing, and to set the properties for each output.

To access the Edit Nuance Full-Text OCR Settings window

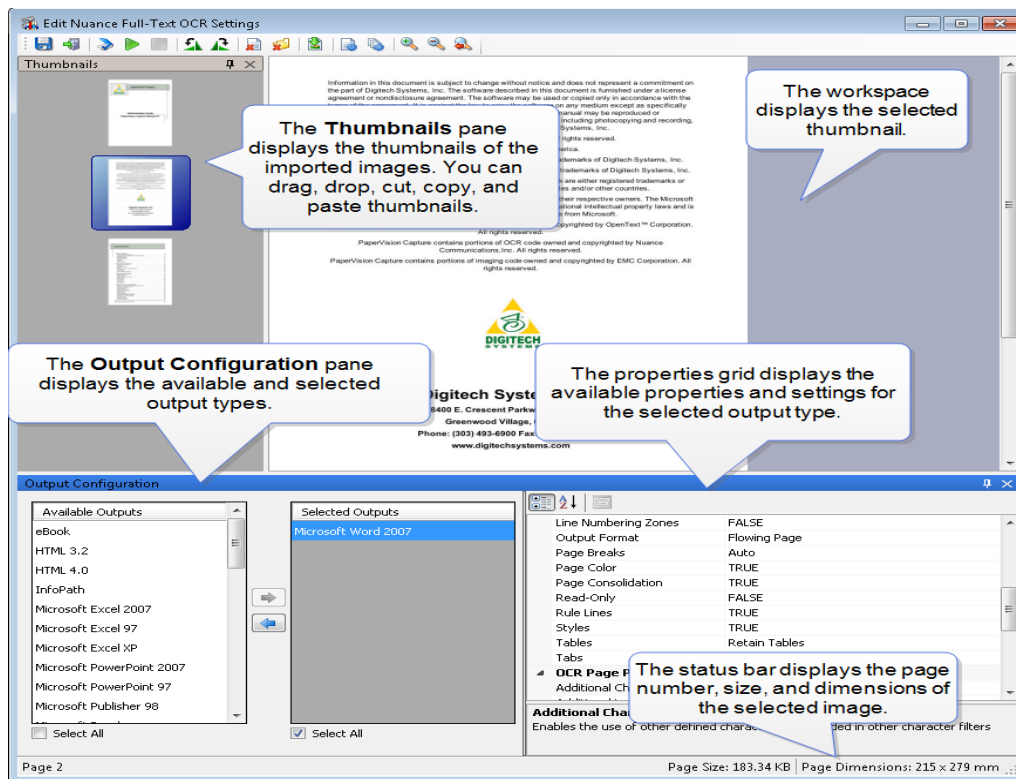
1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR Step**.
3. Click **Outputs**, and then click the ellipsis button to open the **Edit Nuance Full-Text OCR Settings** window.

Components of the Edit Nuance Full-Text OCR Settings Window

- The **Edit Nuance Full-Text OCR Settings** window contains the following components:
 - The toolbar contains commands for commonly used options.
 - The **Thumbnails** pane provides an expandable view of each page imported for testing.



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- The main workspace contains the image of the thumbnail you have selected.
- The **Output Configuration** pane displays the available output types, the selected output types, and the output properties.






Available Commands on the Edit Nuance Full-Text OCR Settings Window

The following commands are available on the toolbar of the **Edit Nuance Full-Text OCR Settings** window.

Toolbar Button and Command Name	Function
 Save Full-Text OCR Configuration	Click Save Full-Text OCR Configuration to save the OCR settings for the job step.
 Exit	Click Exit to close the Edit Nuance Full-Text OCR Settings window.

Toolbar Button and Command Name	Function
 Configure Scanner	Click Configure Scanner to open the Scanner Settings dialog box where you can specify scanner settings. See "Scanner Settings" on page 171 for more information.
 Start Scanning	Click Start Scanning to begin the scanning process.
 Stop Scanning	Click Stop Scanning to stop the scanning process.
 Rotate 90° Counter-Clockwise	Click Rotate 90° Counter-Clockwise to rotate the selected image 90 degrees counter-clockwise.
 Rotate 90° Clockwise	Click Rotate 90° Clockwise to rotate the selected image 90 degrees clockwise.
 Remove Selected Image(s)	Click Remove Selected Image(s) to remove the image(s) you selected.
 Remove All Images	Click Remove All Image(s) to remove all loaded images. If you have defined zones prior to clearing all images, the zones are retained.
 Import Images	Click Import Images to access the Open dialog box where you can locate and select the file(s) you want to import.
 Test Full-Text OCR (Selected Filter, Current Page Only)	Click Test Full-Text OCR (Selected Filter, Current Page Only) to test the selected filter on the current page only. See "Test Nuance Full-Text Outputs" on the next page for more information.
 Test Full-Text OCR (Selected Filter, All Pages)	Click Test Full-Text OCR (Selected Filter, All Pages) to test the selected filter on all pages. See "Test Nuance Full-Text Outputs" on the next page for more information.

Toolbar Button and Command Name	Function
 Zoom In	Click Zoom In to increase the magnification of the selected image each time you click the command.
 Zoom Out	Click Zoom Out to decrease the magnification of the selected image each time you click the command.
 Zoom Reset	Click Zoom Reset to reset the selected image to the original view.

Test Nuance Full-Text Outputs

After you have selected and configured an output type, you can test the configuration to verify that the loaded pages are read successfully and that the output file opens correctly.

To test a Nuance Full-Text OCR Output



1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "Nuance Zonal OCR Step Overview" on page 194 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR Step**.
3. Select **Outputs**, and then click the ellipsis button to open the **Edit Nuance Full-Text OCR Settings** window.
4. On the **Output Configuration** pane, select the output type you want to test from the **Selected Outputs** list. (See "Configure Nuance Full-Text Outputs" on page 251 if you need help configuring an output type.)
5. Do one of the following to load your test document.
 - On the toolbar, click **Start Scanning** to scan the test document. (See "Scanner Settings" on page 171 for information on scanner settings.)
 - Click **Import Images**, locate and select the document you want to test, and then click **Open**. Thumbnails of the loaded document appear in the **Thumbnails** pane, and the selected thumbnail appears in the work area.
6. Do one of the following and the **Specify Output Files** dialog box appears.
 - If you want to test the selected output type on the current page, click **Test Full-Text OCR (Selected Filter, Current Page Only)**.
 - If you want to test the selected output type on all pages, select **Test Full-Text OCR (Selected Filter, All Pages)**.
7. Click the ellipsis button to open the **Save As** dialog box. Browse to the location where you want the output file saved. Type the file name in the **File Name** box, and then click **Save**.
8. Select the **Open** check box if you want the output file to open after it is generated.

- Click **OK** and the Full-Text engine will process the test file you selected and save it in the location you specified.

Set Nuance Full-Text OCR Step Properties

This content describes how to configure properties that apply to the Nuance Full-Text OCR step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure Nuance Full-Text OCR step properties

- On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step. (See "Nuance Full-Text OCR Step Overview" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
- Double-click the **Nuance Full-Text** step to display the **Properties** tab on the left pane.
- On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

- (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
- For instructions to set Index step properties, see the following:
- See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **Appearance** category.
- See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **General** category.
- See "Auto Image Orientation" below for instructions to set this property.
- See "Configure Nuance Full-Text Outputs" on page 251 for information on configuring a Nuance Full-Text output type.
- See "Override Invalid Pages" on the next page for instructions to set this property.
- See "Timeout (sec)" on page 335 for instructions to set this property.

Auto Image Orientation

You can set the **Auto Image Orientation** property to specify that the Nuance Full-Text OCR engine rotate images so that it can recognize text.

To set the Auto Image Orientation property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step for which you want to define the **Auto Image Orientation** property. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Auto Image Orientation**, and then click the down arrow. Select one of the following options.
 - **True** - When this property is set to **True**, the Nuance Full-Text OCR engine will automatically rotate some images so that it can recognize the text. The resulting output images may also be rotated.
 - **False** - When this property is set to **False**, the Nuance Full-Text OCR engine will not rotate images.

Override Invalid Pages

The **Override Invalid Pages** property determines how the Nuance Full-Text OCR engine will handle pages that do not meet the requirements you set in **Recognition Process Setting** and the **Timeout (sec)** properties.

To set the Override Invalid Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step for which you want to define the **Auto Image Orientation** property. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Override Invalid Pages**, and then click the down arrow. Select one of the following options.
 - **True** - When selected, the Nuance Full-Text OCR engine processes each image using the priority specified in the **Recognition Process Setting** property and within the time specified in the **Timeout (sec)** property. If the image cannot be processed with the specified priority, PaperVision Capture then attempts to process the image using the remaining priorities. If it still cannot process the image, the page is processed as a picture for image-based outputs, and as a blank page for text-based outputs. In both cases, these pages are tagged for future review with the "Skipped Full Text Processing" QC tag, and the remaining documents are then processed. After processing, if an error occurs during the conversion to the selected output format, the entire batch will be processed as images, not full text, and no error is returned. All batches are processed through the Nuance Full-Text OCR step without requiring any user intervention.
 - **False** - When selected, the Nuance Full-Text OCR engine processes each image using the priority specified in the **Recognition Process Setting** property within the time specified in the **Timeout (sec)** property. If the image cannot be processed with the specified priority, then PaperVision Capture attempts to process the image using the remaining values. If it still cannot process the image, a timeout error appears in the Administration Console and is logged in the Event Viewer. As a result, the remaining documents are not processed.

**N O T E**

A batch can potentially stop processing in a full-text OCR step only if the **Override Invalid Pages** property is set to **False**.

Timeout (sec)

You can set the **Timeout (sec)** property to specify the maximum number of seconds that the OCR engine can spend processing a single image before it fails.

To set the Timeout (sec) property

1. On the workspace of the **Job Definitions** window, double-click the **Nuance Full-Text OCR** step for which you want to define the **Timeout (sec)** property. (See "To configure a Nuance Full-Text OCR step" on page 250 if you need help adding a **Nuance Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Timeout (sec)**, and then in the box to the right, type the maximum number of seconds that the OCR engine can spend processing a single image before it fails. By default, this property is set to 180 seconds (three minutes). You can assign a value from one second, to 86,400 seconds (24 hours).

**N O T E**

Raising the timeout setting may increase the amount of time it takes to process all images.

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CHAPTER 11

OpenText Full-Text OCR Step

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OpenText Full-Text OCR Step Overview

In PaperVision Capture, full-text OCR processing can be performed by the Open Text engine that recognizes machine-printed text (handwritten text is not recognized). Additionally, new line characters will be removed during Open Text OCR processing. Within the Open Text Full-Text OCR step, you can configure an automated process that reads pages of text and converts recognized results to one or multiple file types. Each output type contains unique settings that you can configure to support your full-text OCR requirements. During full-text processing, documents can be converted to several PDF versions, including those compatible with PDF-A, 1.4, 1.5, 1.6, and 1.7. The engine also converts documents to PaperVision Enterprise, PaperFlow, and text (.txt) output file types.

PaperVision Capture supports the following Open Text full-text OCR output file types:

- **PaperFlow** - The PaperFlow output is a text-based, full-text output file that you can import into OCRFlow
- **PaperVision Enterprise** - The PaperVision Enterprise output is a text-based, full-text output file that you can import into PaperVision Enterprise.
- **PDF** - The PDF output produces a searchable .pdf file, compatible the PDF version you select.
- **Text** - The Text output produces a .txt file.

When you configure full-text OCR outputs and their associated properties, you can preview the full-text OCR results before you process the batch of documents. Thumbnail previews display the document's images and allow you to navigate through the document and perform basic operations including the cut/paste, copy/paste, and delete operations.



This content describes how to configure properties that apply to the **Open Text Full-Text OCR** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

To configure an Open Text Full-Text OCR step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Open text Full-Text OCR** step to the workspace using one of the following methods.
 - Select the step that you want **Open Text Full-Text OCR** to follow. On the **Job Step Toolbox** tab, double-click **Open Text Full-Text OCR**.
 - On the **Job Step Toolbox** tab, drag **Open Text Full-Text OCR** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Open Text Full-Text OCR**.
5. Double-click the **Open Text Full-Text OCR** step to display the **Properties** tab on the left pane.

**T I P**

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

6. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
7. For instructions to set **Open Text Full-Text OCR** step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
 - See "Configure Open Text Full-Text Outputs" below for instructions to set properties under the **Full-Text OCR step** category.
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.

Configure Open Text Full-Text Outputs

[You can configure and test Open Text full-text outputs before applying them to the job. Zooming, rotation, and scanning operations are available, as well as image import and removal functions. You can also draw and configure Image Processing (IP) zones if you want only specific regions to be processed. You configure Open Text Full-Text OCR outputs on the **Edit Open Text Full-Text OCR Settings** window. See "Edit Nuance Full-Text OCR Settings Window Overview" on page 329 for more information.

To configure an Open Text Full-Text output

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR Step**.
3. Click **Outputs**, and then click the ellipsis button to open the **Edit Open Text Full-Text OCR Settings** window.
4. Make your selection from the following outputs in the **Available Output** list by doing one of the following:
 - Double-click the output type from the **Available Outputs** list.
 - Select the output from the **Available Outputs** list, and then click the right arrow.
5. Set the appropriate properties in the property grid for the selected output type.
 - See "OCR Statistics" on the next page for information to set this property.
 - See "Auto Rotate" on the next page for information to set this property.
 - See "Country/Language" on page 341 for information to set this property.
 - See "Minimum Confidence" on page 342 for information to set this property.
 - See "Remove Line System" on page 343 for information to set this property.

- See "Timeout Value (in seconds)" on page 343 for information to set this property.
- See "Compression" on page 344 for information to set this property.
- See "PDF Version" on page 344 for information to set this property.
- See "Rejection Symbol" on page 345 for information to set this property.

OCR Statistics

You can configure custom code that reports OCR statistics whenever a page is processed through the Open Text Full-Text OCR engine. For example, you can configure custom code to record each character's confidence level by using the `OCRFullTextPageStatistics` sample script. Other custom code samples are located in the `Library\Samples` directory (as both xml and text files), where PaperVision Capture was installed.

To configure custom code Open Text Full-Text OCR statistics

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Custom Code** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Click **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. In the **Output Configuration** pane select the output for which you want to configure the **Custom Code** property from the **Selected Outputs** list.
5. In the Properties pane, if necessary, expand the **Custom Code** category and select **OCR Statistics**.
6. Click the ellipsis and the **Select Custom Code Generator** dialog box appears.
7. Select the **Basic** custom code generator, and then click **OK**. The **Script Editor** appears.
8. Do one of the following:
 - On the toolbar, click **Import**, and then browse to the `Library\Samples` directory where PaperVision Capture was installed. Select the custom code you want to use, and then click **Open**.
 - If you have your own custom code, copy it into the **Script Editor**.
9. Click **OK** to save your custom code.

Auto Rotate

You can set the **Auto Rotate** property to specify that the Open Text Full-Text OCR engine rotate images so that it can recognize text. The default setting is **True**.

To set the Auto Rotate property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Auto Rotate** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.

4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Auto Rotate** property.
5. On the properties pane, under the **Engine** category, Click **Auto Rotate**, and then click the down arrow. Select one of the following options.
 - **True** - When this property is set to **True**, the Open Text Full-Text OCR engine will automatically rotate some images so that it can recognize the text. The resulting output images may also be rotated.
 - **False** - When this property is set to **False**, the Open Text Full-Text OCR engine will not rotate images.

Country/Language

When you configure the **Country/Language** property, you can select not only a country or language, but also country groups, (such as Western Europe), language groups (such as Latin), and character sets (such as OCR). Each country corresponds to one or more languages, and countries are automatically expanded into language sets (German corresponds to the German language; Switzerland corresponds to the German, French, Italian, and Rhaeto-Romantic languages).

Specific languages are also available for selection under the **Country/Language** property (English, German, Dutch, Italian, etc.). Narrow your selection as much as possible since OCR recognition may become slower with a greater number of selected countries or languages. Selecting a country rather than a language or country group (Western Europe, South America, Scandinavia) may improve the recognition of certain types of addresses and money transfer forms.



NOTE

You cannot select the OCR character set individually; it must be selected with another language, language group, country, or country group. For a complete list of Open Text supported countries, languages, country groups, and character sets, see "OpenText Languages" on page 671



NOTE

You can only select countries or languages that belong to the same code page. Once you make your first selection, any countries and languages that do not belong to that code page will be unavailable. See "OpenText Languages" on page 671 for a list of code pages.



NOTE

If you select a language group, it is recommended to select only one, since they encompass multiple languages, countries, and code pages:



NOTE

For language groups, recognition results are always represented by Unicode characters. The English character set (A-Z, a-z) is implicitly available with all country-language selections, even Greek or Cyrillic.

To select a country or language for Open Text Full-Text OCR output

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Country/Language** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Country/Language** property.
5. On the properties pane, under the **Engine** category, Click **Country/Language**, and then click the ellipsis. The **Country/Language** dialog box appears.
6. Select the country, language, or language group you want to use by doing one of the following:
 - Double-click the country, language, or language group from the **Available** list.
 - Select the country, language, or language group from the available list, and then click the right arrow.
7. (Optional) To remove an item from the Selected list, do one of the following:
 - Double click the item.
 - Select the item and then click the left arrow.
8. Click **OK** when you are done.

Minimum Confidence

The confidence level reflects the reliability of the OCR recognition results. Values range from zero, the lowest confidence level and the default setting, to 255, the highest confidence level indicating the most reliable recognition results. Characters with lower confidence levels than your specified value will display as the rejection symbol (see "Rejection Symbol" on page 345 for instructions to set the rejection symbol).

To set the Minimum Confidence property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Minimum Confidence** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Minimum Confidence** property.

5. On the properties pane, under the **Engine** category, Click **Minimum Confidence**, and then type a value from zero to 255.

Remove Line System

The **Remove Line System** property determines whether the remove line system is enabled. Selecting **True** will remove any lines from an image before the image is submitted for processing. Selecting **False** will keep the lines as they are.

To set the Remove Line System property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Remove Line System** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Remove Line System** property.
5. On the properties pane, under the **Engine** category, Click **Remove Line System**, and then click the down arrow. Select one of the following options.
 - **True** - When this property is set to **True**, the Open Text Full-Text OCR engine will automatically remove any lines from an image before the image is submitted for processing.
 - **False** - When this property is set to **False**, the Open Text Full-Text OCR engine will not remove any lines in an image before it is processed.

Timeout Value (in seconds)

This property allows you to define the maximum amount of time that the Open Text OCR engine processes a single image before it fails. By default, this property is set to 180 seconds (3 minutes). You can assign a timeout between one second and 3,600 seconds (1 hour).



N O T E

Raising the timeout setting may increase the amount of time to process all images

To set the Timeout Value (in seconds) property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Timeout Value (in seconds)** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Timeout Value (in seconds)** property.

5. On the properties pane, under the **Engine** category, click **Timeout Value (in seconds)**, and then type a value from one to 3,600.

Compression

You can set the level of compression applied to PDF outputs. (The **Compression** property is only available for the PDF output type.)The higher the compression, the smaller the output file size. The default level of compression is **Medium**. You can select from the following compression levels:

- **None** - no compression is applied
- **Low** - a low level of compression is applied
- **Medium** - a medium level of compression is applied
- **High** - the highest level of compression is applied

To set the Compression property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Compression** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Compression** property.
5. On the properties pane, under the **Engine** category, Click **Compression**, and then click the down arrow.
6. Select one of the following:
 - **<None>** - no compression is applied
 - **Low** - a low level of compression is applied
 - **Medium** - a medium level of compression is applied
 - **High** - the highest level of compression is applied

PDF Version

You can select the compatible PDF version for PDF output files. (The **PDF Version** property is only available for the PDF output type.)The following versions are supported by the full-text OCR engine:

- PDF/A: Format for long-term archiving of electronic documents - with Level B compliance in Part 1 (1b)
- PDF 1.4: Acrobat 5.0
- PDF 1.5: Acrobat 6.0
- PDF 1.6: Acrobat 7.0
- PDF 1.7: Acrobat 8 and 9

To set the PDF Version property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **PDF Version** property. (See "OpenText Full-Text OCR

Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)

2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **PDF Version** property.
5. On the properties pane, under the **Engine** category, Click **PDF Version**, and then click the down arrow.
6. Select one of the following:
 - 1.4
 - 1.5
 - 1.6
 - 1.7
 - A

Rejection Symbol

This property represents rejected characters in output documents. A rejected character is not recognized by the active OCR recognition engine configuration. The default value is the tilde character (~). Only a single character can be entered in this field. The **Rejection Symbol** property is available for configuration in text-based outputs (PaperFlow, PaperVision Enterprise, and Text).



N O T E

To prevent unrecognized characters from appearing in output documents, leave this field blank.

To set the Rejection Symbol property

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step for which you want to define the **Rejection Symbol** property. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type from the **Selected Outputs** list, for which you want to set the **Rejection Symbol** property.
5. On the properties pane, under the **Engine** category, Click **Rejection Symbol**, and then type character you want to use.

Edit Open Text Full-Text OCR Settings Window Overview

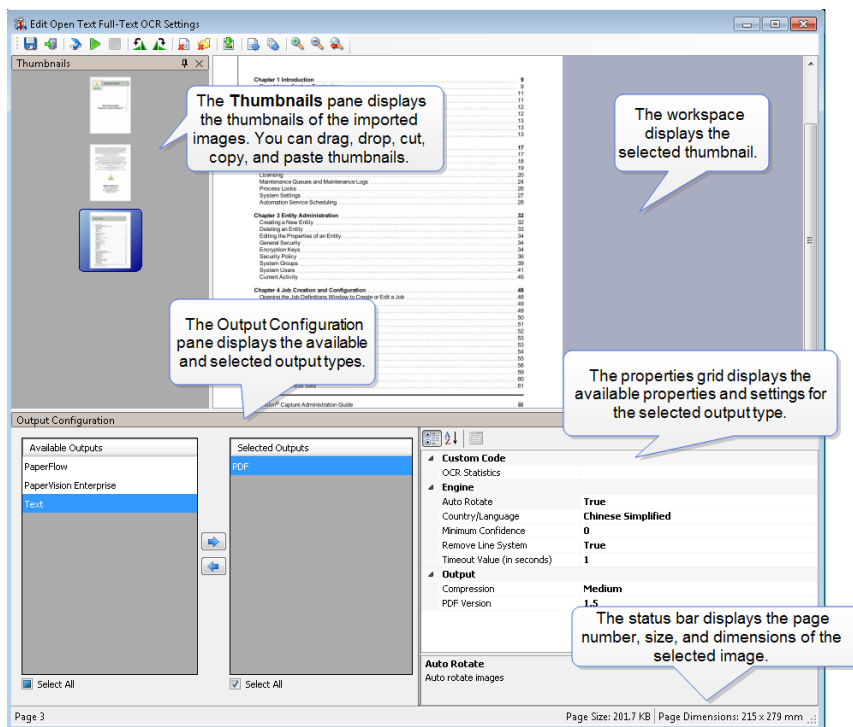
You use the **Edit Open Text Full-text OCR Settings** window to import and scan images for testing, and to set the properties for each output.

To access the **Edit Open Text Full-Text OCR Settings** window

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Open Text Full-Text OCR Step**.
3. Click **Outputs**, and then click the ellipsis button to open the **Edit Open Text Full-Text OCR Settings** window.










Components of the Edit Open Text Full-Text OCR Settings Window







- The **Edit Open Text Full-Text OCR Settings** window contains the following components:
- The toolbar contains commands for commonly used options.
- The **Thumbnails** pane provides an expandable view of each page imported for testing.
- The main workspace contains the image of the thumbnail you have selected.
- The **Output Configuration** pane displays the available output types, the selected output types, and the output properties.



Available Commands on the Edit Open Text Full-Text OCR Settings Window

The following commands are available on the toolbar of the **Edit Nuance Full-Text OCR Settings** window.

Toolbar Button and Command Name	Function
 Save Full-Text OCR Configuration	Click Save Full-Text OCR Configuration to save the OCR settings for the job step.
 Exit	Click Exit to close the Edit Nuance Full-Text OCR Settings window.
 Configure Scanner	Click Configure Scanner to open the Scanner Settings dialog box where you can specify scanner settings. See "Scanner Settings" on page 171 for more information.
 Start Scanning	Click Start Scanning to begin the scanning process.
 Stop Scanning	Click Stop Scanning to stop the scanning process.
 Rotate 90° Counter-Clockwise	Click Rotate 90° Counter-Clockwise to rotate the selected image 90 degrees counter-clockwise.
 Rotate 90° Clockwise	Click Rotate 90° Clockwise to rotate the selected image 90 degrees clockwise.
 Remove Selected Image(s)	Click Remove Selected Image(s) to remove the image(s) you selected.
 Remove All Images	Click Remove All Image(s) to remove all loaded images. If you have defined zones prior to clearing all images, the zones are retained.

Toolbar Button and Command Name	Function
 Import Images	Click Import Images to access the Open dialog box where you can locate and select the file(s) you want to import.
 Test Full-Text OCR (Selected Filter, Current Page Only)	Click Test Full-Text OCR (Selected Filter, Current Page Only) to test the selected filter on the current page only. (See "Test Open Text Full-Text Outputs" below for more information.)
 Test Full-Text OCR (Selected Filter, All Pages)	Click Test Full-Text OCR (Selected Filter, All Pages) to test the selected filter on all pages. (See "Test Open Text Full-Text Outputs" below for more information.)
 Zoom In	Click Zoom In to increase the magnification of the selected image each time you click the command.
 Zoom Out	Click Zoom Out to decrease the magnification of the selected image each time you click the command.
 Zoom Reset	Click Zoom Reset to reset the selected image to the original view.

Test Open Text Full-Text Outputs

Once you have selected and configured an output type, you can test the configuration to verify that the loaded pages are read successfully and that the output file opens correctly.

To test an Open Text Full-Text OCR Output

1. On the workspace of the **Job Definitions** window, double-click the **Open Text Full-Text OCR** step. (See "OpenText Full-Text OCR Step Overview" on page 338 if you need help adding an **Open Text Full-Text OCR** step.)
2. On the **Properties** tab, if necessary, expand **Full-Text OCR Step**.
3. Select **Outputs**, and then click the ellipsis. The **Edit Open Text Full-Text OCR Settings** window appears.
4. On the **Output Configuration** pane, select the output type you want to test from the **Selected Outputs** list. See "Configure Open Text Full-Text Outputs" on page 339 if you need help configuring an output type.
5. Do one of the following to load your test document.

- On the toolbar, click **Start Scanning** to scan the test document. See "Scanner Settings" on page 171 for information on scanner settings.
 - Click **Import Images**, and navigate to the test document you want to test. Then click **Open**.
6. Thumbnails of the loaded document appear in the **Thumbnails** pane, and the selected thumbnail appears in the work area.
 7. Do one of the following and the **Specify Output Files** dialog box appears.
 - If you want to test the selected output type on the current page, click **Test Full-Text OCR (Selected Filter, Current Page Only)**.
 - If you want to test the selected output type on all pages, select **Test Full-Text OCR (Selected Filter, All Pages)**.
 8. Click the ellipsis and the **Save As** dialog box appears. Browse to the location where you want the output file saved. Type the file name in the **File Name** box, and then click **Save**.
 9. Select the **Open** check box if you want the output file to open after it is generated.
 10. Click **OK** and the Full-Text engine will process the test file you selected and save it in the location you specified.

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CHAPTER 12

Image Processing Step

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Image Processing Step Overview

The **Image Processing** step is an automated step that lets you configure image processing filters that run automatically. Numerous image processing filters are available, and include:

- Binary image processing filters such as dilation, erosion, halftone and hole removal, invert image, line and noise removal, and others.
- Color image processing filters to adjust, detect, convert, and remove color.
- Page deletion filters that let you specify criteria to determine whether pages are retained in a batch.
- Many other filters, such as cropping and redaction, that let you control the content of images.

The **Image Processing** job step also provides the flexibility to apply filters to an entire image or only to the specific zones that you define. (See "Define Image Processing Zones" on page 357 for instructions.)

When you configure image processing filters, you can view a side-by-side comparison of the original image alongside the filtered image. Thumbnail previews display the document's images and you can navigate through the document and perform basic operations, including cut and paste, copy and paste, and delete. On the **IP Filters** grid, you can assign the page ranges to which a filter will be applied.



N O T E

Incoming color images can have maximum dimensions of 10,000 x 10,000 pixels when they are processed through the **Image Processing** step. Bitonal (black and white) images can have slightly larger dimensions. Larger images can be ingested into PaperVision Capture provided that no OCR will be performed on the images; no image processing will be performed on the images; or, images will not be viewed as thumbnails.

This content describes how to configure properties that apply to the **Image Processing** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

To configure an Image Processing step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Image Processing** step to the workspace using one of the following methods.
 - Select the step that you want **Image Processing** to follow. On the **Job Step Toolbox** tab, double-click **Image Processing**.
 - On the **Job Step Toolbox** tab, drag **Image Processing** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Image Processing**.
5. Double-click the **Image Processing** step to display the **Properties** tab on the left pane.
6. For instructions to set **Image Processing** step properties, see the following:

- See "Configure Image Processing Filters" below for instructions to add an image processing filter using the **Filters** property.
- See "Image Processing Step Properties Overview" on page 423 for information about setting all other **Image Processing** step properties.

Configure Image Processing Filters

You can configure, preview, and test image processing filters before applying them to the job. Zooming, rotation, and scanning operations are available, as well as image import and removal functions. You can also draw and configure Image Processing (IP) zones if you want only specific regions to be processed. You configure image processing filters and zones on the **Edit IP Filters** window.

To open the Edit IP Filters window

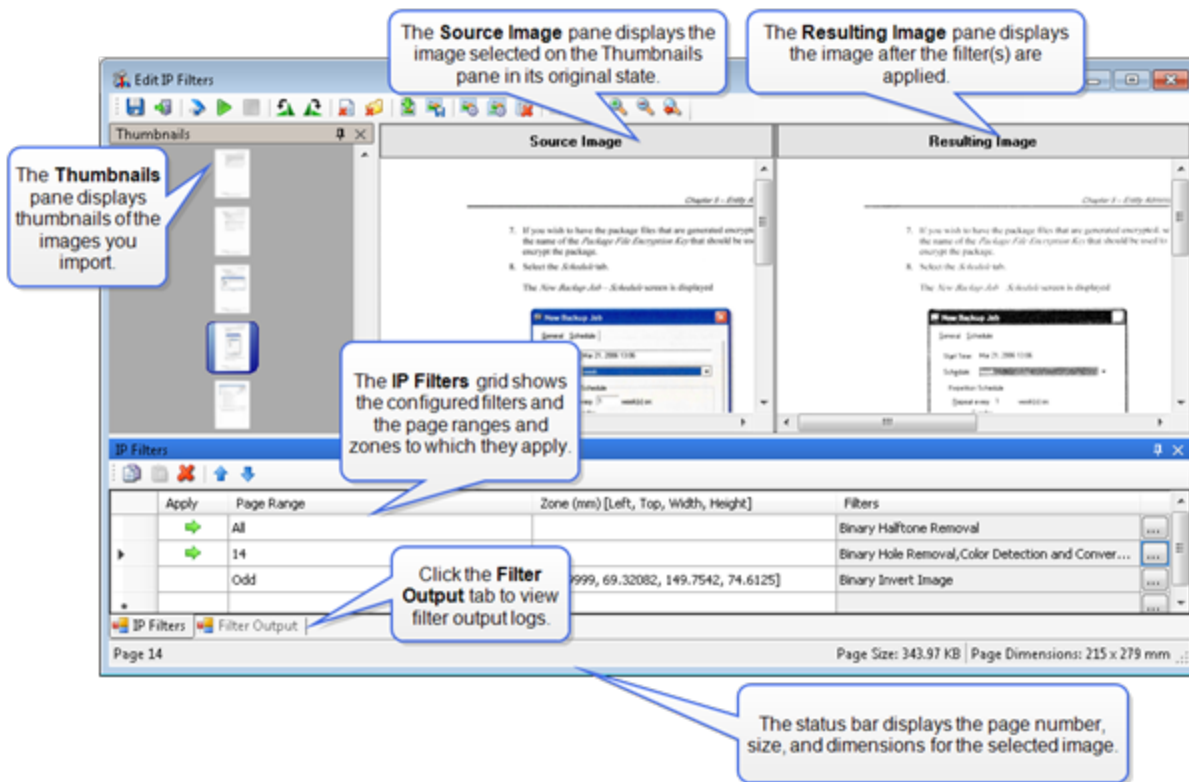
1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on the previous page if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window.
4. Do one of the following:
 - If you need to learn about using the **Edit IP Filters** window, see "Edit IP Filters Window Overview" below for a description of the components on this window and how to use them.
 - If you are ready to configure a filter, see "Image Processing Filters Overview" on page 362 to access a list of all the available filters and instructions to set them.

As you work with image processing filters, see the following related sections for additional information.

- See "Define Image Processing Zones" on page 357 for instructions to create a zone to which you can apply image processing filters.
- See "Assign Image Processing Filters to Pages and Zones" on page 358 for instructions to specify the page(s) and zone(s) to which you want to apply image processing filters.
- See "Test Image Processing Filters" on page 360 for instructions to test image processing filters.
- See "View Image Processing Filter Output Logs" on page 361 for information about image processing filter logs.

Edit IP Filters Window Overview

You use the **Edit IP Filters** window to configure image processing filters and zones. (If you need help accessing this window, see "To open the Edit IP Filters window" above for instructions.) A description of each component on the **Edit IP Filters** window follows.






















- The **Thumbnails** pane displays thumbnails of the images you import by doing one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.

The thumbnail images make it easier and faster to recognize and organize the images you are working with. You can right-click on the **Thumbnails** pane to access the **Cut**, **Copy**, **Paste**, **Delete**, and **Select All** commands. You can also drag-and-drop thumbnails to a different location. If there are more images loaded than can be displayed on the **Thumbnails** pane, use the scroll bar on the right side of the pane to view them. Images viewed as thumbnails can have maximum dimensions of 32,768 x 32,768 pixels.

- The **Source Image** pane displays the image selected on the **Thumbnails** pane in its original, unfiltered state.
- The **Resulting Image** pane displays the image after you test the filter(s) applied to the image. (See "Test Image Processing Filters" on page 360 for information about testing image processing filters.)
- The **IP Filters** grid displays the configured filters and the page ranges and zones to which they apply. (See "Assign Image Processing Filters to Pages and Zones" on page 358 for more information.)
- The **Filter Output** tab displays a log of filter output. (See "View Image Processing Filter Output Logs" on page 361 for more information.)

- The status bar on the lower part of the **Edit IP Filters** window displays the page number, the page size in kilobytes, and the page dimensions in millimeters. The page dimensions 215 x 279 mm are approximately equal to 8.5 x 11 inches.
- The commands on the toolbar of the **Edit IP Filters** window are described in the following table.

Toolbar Button and Command Name	Function
 Save IP Filters	Click Save IP Filters to save the image processing filter(s) configuration for the job step.
 Exit	Click Exit to close the Edit IP Filters window.
 Configure Scanner	Click Configure Scanner to open the Scanner Settings dialog box where you can specify scanner settings. See "Scanner Settings" on page 171 for more information.
 Start Scanning	Click Start Scanning to begin the scanning process.
 Stop Scanning	Click Stop Scanning to stop the scanning process.
 Rotate 90° Counter-Clockwise	Click Rotate 90° Counter-Clockwise to rotate the selected image 90 degrees counter-clockwise.
 Rotate 90° Clockwise	Click Rotate 90° Clockwise to rotate the selected image 90 degrees clockwise.
 Remove Selected Image(s)	Click Remove Selected Image(s) to remove the image(s) you selected.
 Remove All Image(s)	Click Remove All Image(s) to remove all loaded images. If you have defined zones prior to clearing all images, the zones are retained.
 Import Images	Click Import Images to access the Open dialog box where you can locate and select the file(s) you want to import.

Toolbar Button and Command Name	Function
 <p>Save Filtered Image</p>	<p>Click Save Filtered Image to save the image to which you have applied a filter.</p>
 <p>Test Filters (Current Page)</p>	<p>Click Test Filters (Current Page) to test the selected filter on the current page only. The page with the filter(s) applied appears on the Resulting Image pane. Test information is saved on the Filter Output tab on the IP Filters grid. (See "Test Image Processing Filters" on page 360 and "View Image Processing Filter Output Logs" on page 361 for more information.)</p>
 <p>Test Filters (All Pages)</p>	<p>Click Test Filters (All Pages) to test the selected filter on all pages. The pages with the filter(s) applied appear on the Resulting Image pane. Test information is saved on the Filter Output tab on the IP Filters grid. (See "Test Image Processing Filters" on page 360 and "View Image Processing Filter Output Logs" on page 361 for more information.)</p>
 <p>Clear IP Filter Output</p>	<p>Click Clear IP Filter Output to clear the information on the Filter Output tab on the IP Filters grid. (See "View Image Processing Filter Output Logs" on page 361 for more information.)</p>
 <p>Draw IP Zone</p>	<p>Click Draw IP Zone to draw an image processing zone. See "Define Image Processing Zones" on the facing page for more information.</p>
 <p>Remove IP Zone?</p>	<p>Click Remove IP Zone? to remove an existing image processing zone. See "Define Image Processing Zones" on the facing page for more information.</p>
 <p>Zoom In</p>	<p>Click Zoom In to increase the magnification of the selected image each time you click the command.</p>
 <p>Zoom Out</p>	<p>Click Zoom Out to decrease the magnification of the selected image each time you click the command.</p>
 <p>Zoom Reset</p>	<p>Click Zoom Reset to reset the selected image to the original view.</p>

Define Image Processing Zones

You can apply certain binary image processing filters to zones within bitonal (1 bit per pixel) images. For example, you may want to apply the **Binary Hole Removal** filter to only the left two inches of a bitonal image, or the **Binary Invert Image** filter to expose a specific area of a bitonal image. You can apply the following filters to zones that you define on the image.

- Binary Dilation
- Binary Erosion
- Binary Halftone Removal
- Binary Hole Removal
- Binary Invert Image
- Binary Line Removal
- Binary Noise Removal
- Binary Skeleton
- Binary Smoothing
- Scaling

To define an Image Processing (IP) zone

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. If you need to import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **Thumbnails** pane, select the image on which you want to define the IP zone. The image you selected appears on the **Source Image** pane.
6. On the toolbar, click **Draw IP Zone**.



NOTE

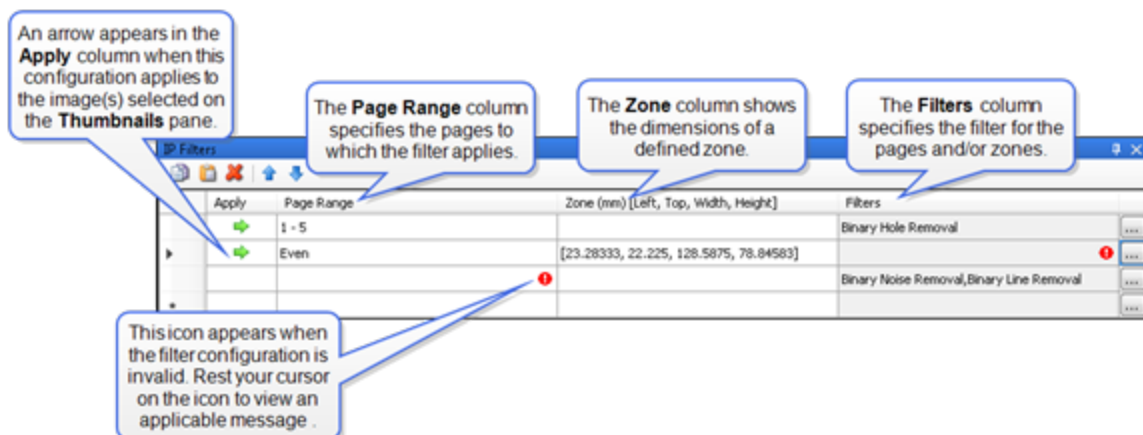
If an image processing filter that does not support zones is already specified for the image, the **Draw IP Zone** command is not available, and if you click the corresponding **Zone** cell, a message appears stating that "**One or more defined filter(s) does not support the zone.**" If this occurs, go to a new row on the **IP Filters** grid, and then click **Draw IP Zone**.

7. Position the cursor where you want to draw the IP zone, and then click and drag the cursor to draw a border around the area you want to define. The dimensions of the zone appear on the **IP Filters** grid in the **Zone** column. If desired, you can edit these dimension values.
8. (Optional) To move an IP zone, select it, and then rest the mouse on the center of the zone until the cursor turns into a four-sided arrow. Click the zone and drag it to the desired location.

9. (Optional) To delete an IP zone, select it, and then on the toolbar, click **Remove IP Zone**.
10. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply the IP zone, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).
11. To configure a filter for the page(s) and IP zone you defined, in the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
12. For information about the filters that support IP zones, see the following:
 - See "Binary Dilation" on page 365 for information about this filter.
 - See "Binary Erosion" on page 367 for information about this filter.
 - See "Binary Halftone Removal" on page 369 for information about this filter.
 - See "Binary Hole Removal" on page 371 for information about this filter.
 - See "Binary Invert Image" on page 374 for information about this filter.
 - See "Binary Line Removal" on page 375 for information about this filter.
 - See "Binary Noise Removal" on page 378 for information about this filter.
 - See "Binary Skeleton" on page 381 for information about this filter.
 - See "Binary Smoothing" on page 383 for information about this filter.
 - See "Scaling" on page 417 for information about this filter.


Assign Image Processing Filters to Pages and Zones






You use the **IP Filters grid** on the **Edit IP Filters** window to assign image processing filters to pages and zones. (If you need help accessing this window, see "To open the Edit IP Filters window" on page 353 for instructions.) A description of each component on the **IP Filters Grid** and instructions to assign image processing filters follow.



- The **Apply** column shows whether the configuration in that row applies to the image(s) selected on the **Thumbnails** pane. A green arrow appears when the row applies to the selected image(s).

For example, if the filter configured on that row applies to all even pages, a green arrow appears in the **Apply** column whenever an even page is selected on the **Thumbnails** pane. When an odd page is selected, the **Apply** column for that row would be blank to indicate that the filter does not apply to the odd pages.

- The **Page Range** column is where you set the pages to which you want to apply the image processing filter(s) specified on that row by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).
- The **Zone** column shows the dimensions of a defined zone. If desired, you can edit these dimension values. (See "Define Image Processing Zones" on page 357 for instructions to define a zone.)
- The **Filters** column is where you set image processing filters by clicking the ellipsis button. (See "Image Processing Filters Overview" on page 362 to access a list of all the available filters and instructions to set them.) Filters that are already specified are listed in this column.
- This icon  appears in a column to indicate that the filter configuration is invalid. Rest your cursor on the icon to view an applicable message, such as, **Invalid Page Range**.
- The commands on the toolbar of the **IP Filters** grid are described in the following table. You can also access these commands by right-clicking on the **IP Filters** grid.

Toolbar Button and Command Name	Function
 Copy Filter	Click Copy Filter to copy all of the information in the selected row.
 Paste Filter	Click Paste Filter to paste the copied information into the selected row.
 Remove Row	Click Remove Row to delete the selected row.
 Move Up	Click Move Up to move the selected row up.
 Move Down	Click Move Down to move the selected row down.



NOTE

You can specify the page range and/or zone to which you want to apply an image processing filter either before or after configuring the filter. (See "Image Processing Filters Overview" on page 362 to access a list of all the available filters and instructions to set them.)

To assign image processing filters to pages and zones

1. Open the **Edit IP Filters** window. (If you need help, see "To open the Edit IP Filters window" on page 353 for instructions.)
2. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).
3. If you want to define an image processing zone, see "Define Image Processing Zones" on page 357 for instructions.



NOTE

If an image processing filter that does not support zones is already specified for the image, you will not be able to create a zone. If this occurs, go to a new row on the **IP Filters** grid where you can specify a filter that supports zones.

4. If you need help configuring a filter, see "Image Processing Filters Overview" on page 362 to access a list of all the available filters and instructions to set them.
If filters have already been configured, they appear in the **Filters** cell.
5. If you want to test the image processing filters, see "Test Image Processing Filters" below for instructions.

Test Image Processing Filters

You can test image processing filters before saving them for inclusion in the job.

To test image processing filters

1. Open the **Edit IP Filters** window. (If you need help, see "To open the Edit IP Filters window" on page 353 for instructions.)
2. Ensure that image processing filters are properly configured. (If you need help configuring a filter, see "Image Processing Filters Overview" on page 362 to access a list of all the available filters and instructions to set them.)
3. To test the image processing filters, do one of the following:
 - To test the configured filter(s) on a single image, on the **Thumbnails** page, select the image you want to test, and then on the toolbar, click **Test Filters (Current Page)**.
The **Resulting Image** pane displays how the image looks after the configured filter(s) are applied.

- To test the configured filter(s) on all pages, on the toolbar, click **Test Filters (All Pages)**.
The **Resulting Image** pane briefly displays each image as it looks after the configured filter(s) are applied.

**N O T E**

Test information is saved on the **Filter Output** tab on the **IP Filters** grid. (See "View Image Processing Filter Output Logs" below for more information.)

4. If you are satisfied with the filter settings, on the toolbar click **Save IP Filters**.

View Image Processing Filter Output Logs

Each time you test image processing filters, a log is generated that includes the following information for each page processed:

- Page range to which the filter(s) were applied
- Applied filter(s) and a summary of their settings
- Whether images are deleted or retained

If no testing of the image processing filters has occurred, the log is blank. (See "Test Image Processing Filters" on the previous page for instruction to test image processing filters.)

To view image processing filter output logs

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window.
4. On the lower-left corner of the window, click the **Filter Output** tab. The content on the tab is organized by page and appears similar to the following:

```

===== Page 1 IP Processing Started =====
<<< Page Range: Odd >>>
<<< Filters Applied: Color Detection and Conversion >>>
(Color Detection and Conversion)
ColorRatio = 36
Color = True

Final Result:|
Image will be kept.

===== Page 1 IP Processing Complete =====

```

5. (Optional) To remove the contents on the **Filter Output** tab, on the toolbar, click **Clear IP Filter Output**.

Image Processing Filters Overview

Image Processing filters are configured in an **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.) You add image processing filters using the **Filters** property to access the **Edit IP Filters** window where you can configure image processing filters and zones. If you need to learn about using the **Edit IP Filters** window, see "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.

Image processing filters improve image quality by removing unnecessary borders, lines, and noise; enhancing text readability; and reducing file size. Additional image processing filters evaluate images, and then keep or discard them based on your defined criteria. Color detection filters identify your specified colors and convert the image to black and white or remove the page containing the color image. Binary filters can be applied only to bitonal (1 bit per pixel) images; color and grayscale are ignored. The following sections describe each image processing filter and the items you can configure for each one.

- See "Background Dropout" on the facing page for a description of this filter and instructions to set it.
- See "Binary Dilation" on page 365 for a description of this filter and instructions to set it.
- See "Binary Erosion" on page 367 for a description of this filter and instructions to set it.
- See "Binary Halftone Removal" on page 369 for a description of this filter and instructions to set it.
- See "Binary Hole Removal" on page 371 for a description of this filter and instructions to set it.
- See "Binary Invert Image" on page 374 for a description of this filter and instructions to set it.
- See "Binary Line Removal" on page 375 for a description of this filter and instructions to set it.
- See "Binary Noise Removal" on page 378 for a description of this filter and instructions to set it.
- See "Binary Skeleton" on page 381 for a description of this filter and instructions to set it.
- See "Binary Smoothing" on page 383 for a description of this filter and instructions to set it.
- See "Black Overscan Removal" on page 385 for a description of this filter and instructions to set it.
- See "Color Adjustments" on page 388 for a description of this filter and instructions to set it.
- See "Color Detection and Conversion" on page 391 for a description of this filter and instructions to set it.
- See "Color Dropout" on page 394 for a description of this filter and instructions to set it.
- See "Deskew" on page 399 for a description of this filter and instructions to set it.
- See "Image Fit" on page 401 for a description of this filter and instructions to set it.
- See "Page Deletion - Always" on page 403 for a description of this filter and instructions to set it.
- See "Page Deletion - Blank" on page 405 for a description of this filter and instructions to set it.
- See "Page Deletion - Color Content" on page 407 for a description of this filter and instructions to set it.

- See "Page Deletion - Dimensions" on page 409 for a description of this filter and instructions to set it.
- See "Page Deletion - File Size" on page 411 for a description of this filter and instructions to set it.
- See "Redaction" on page 412 for a description of this filter and instructions to set it.
- See "Rotation" on page 415 for a description of this filter and instructions to set it.
- See "Scaling" on page 417 for a description of this filter and instructions to set it.
- See "Threshold" on page 420 for a description of this filter and instructions to set it.

Background Dropout

The **Background Dropout** filter is for use on color images with contrasting text or a uniform background of the same color or similar colors. The background is a set of pixels of the same or similar color that covers the majority of the image, contrasting with other informative pixels. Background detection is based on the image histograms of red, green, and blue (RGB) channels. Only the margins of the image are used for histogram analysis, assuming that margins are free from any information and clearly represent the background of the image. The **Background Dropout** filter was applied to the following image.



Before Background Dropout



After Background Dropout

To set the Background Dropout filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:

- To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
- From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).




N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
- Double-click **Background Dropout** to move the filter to the **Selected Filters** list.
 - Click **Background Dropout**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

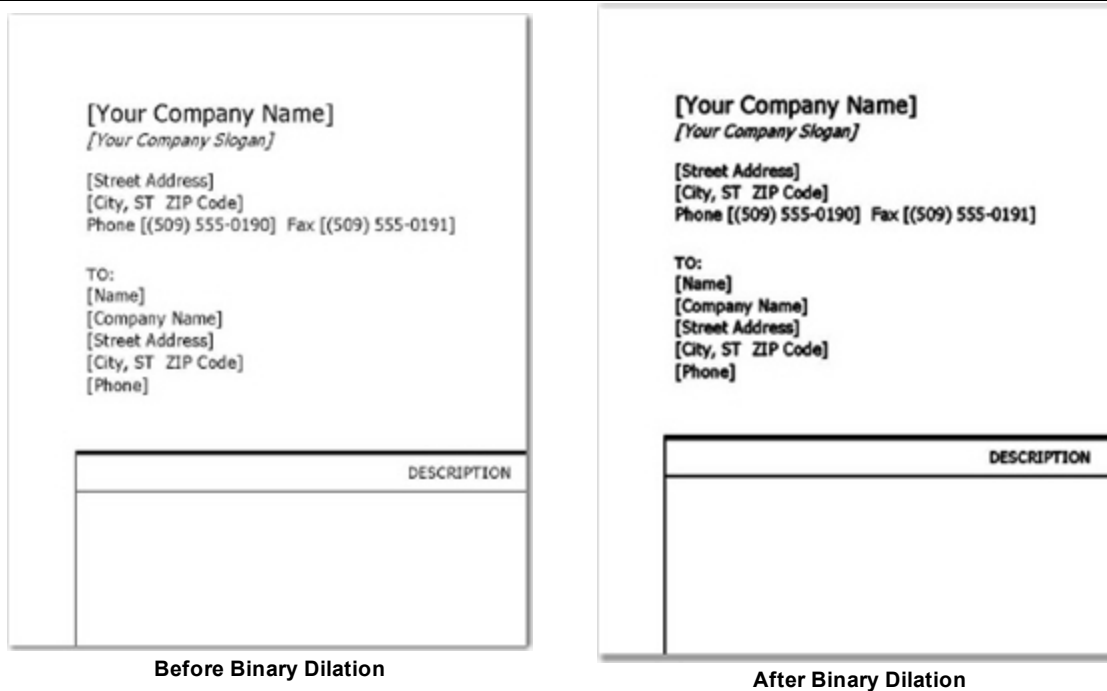
To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>

To	Do this
Access configuration settings	<p>Click the filter, and then click Configure.</p> <p>or</p> <p>Double-click the filter.</p> <hr/> <p> NOTE</p> <p>If there are no configuration options for the filter, the Configure button is unavailable.</p>

10. Double-click the **Background Dropout** filter to open the **Background Dropout** dialog box.
11. Click **Load Sample** to access the **Open** dialog box.
12. Locate and select the image you want to use, and then click **Open**.
The image you selected appears in the **Image** box. As you apply settings, the results appear in the **Image with Dropout** box.
13. Select one of the following options.
 - Select **Smooth background** to smooth the background color and make it appear more uniform.
 - Select **Replace with color** to apply the color you choose by clicking **Pick Color**.
14. To zoom in or out on the image, select a larger or smaller percentage from the **Scaling** list.
15. To apply a more noticeable background dropout, you can move the **Sensitivity** slider to the right to increase the value, or to the left to decrease the value. Alternatively, you can enter a value between -20 and 20 in the **Sensitivity** box.

Binary Dilation

The **Binary Dilation** filter expands the area of black objects in an image using your specified direction (horizontal, vertical, and/or diagonal) and the number of times (passes) to apply the dilation. Using this filter may improve image quality and the legibility of text, but can also increase file size. The **Binary Dilation** filter was applied to the following image.



To set the Binary Dilation filter



1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Dilation** to move the filter to the **Selected Filters** list.
 - Click **Binary Dilation**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; text-align: center;">  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; text-align: center;">  N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Binary Dilation** filter to open the **Binary Dilation** dialog box.
11. In the **Direction** area, select the direction(s) you want the dilation performed.
12. In the **Number of Passes** box, type or select the number of times to apply the filter to the page.

Binary Erosion

The **Binary Erosion** filter trims the area of black objects using your specified direction (horizontal, vertical, and/or diagonal) and the number of times (passes) to apply the erosion. Using this filter can reduce the file size, but causes a loss of detail from the image. The **Binary Erosion** filter was applied to the following image.



To set the Binary Erosion filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Erosion** to move the filter to the **Selected Filters** list.
 - Click **Binary Erosion**, and then click **Add** to move the filter to the **Selected Filters** list.

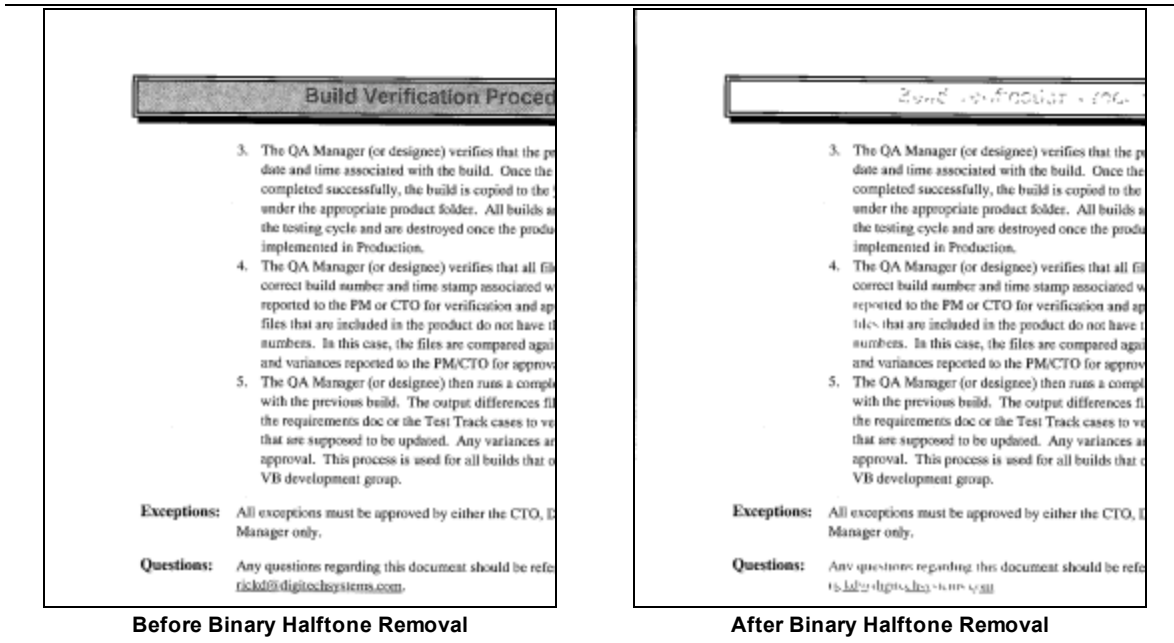
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down .  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter.  NOTE If there are no configuration options for the filter, the Configure button is unavailable.

10. Double-click the **Binary Erosion** filter to open the **Binary Erosion** dialog box.
11. In the **Direction** area, select the direction(s) you want the erosion performed.
12. In the **Number of Passes** box, type or select the number of times to apply the filter to the page.

Binary Halftone Removal

The **Binary Halftone Removal** filter removes the background, such as a halftone or dither pattern, from an image or a graphics object on the image. The **Binary Halftone Removal** filter was applied to the following image.



To set the Binary Halftone Removal filter



1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

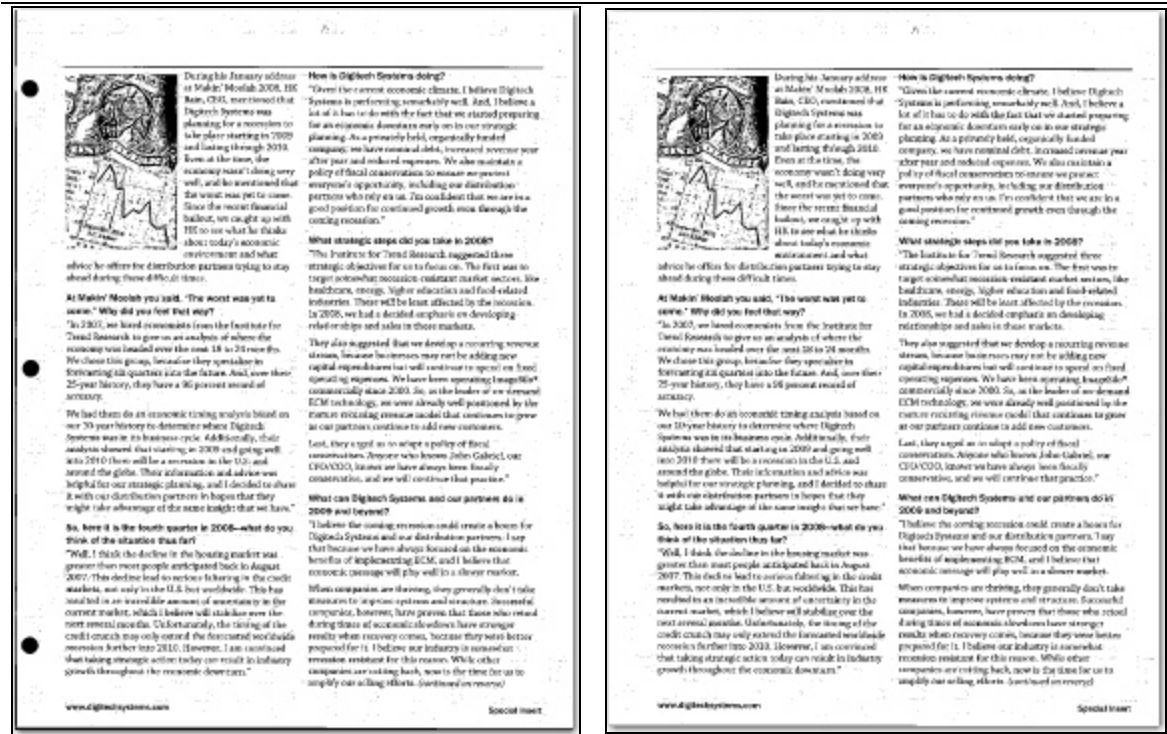
If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Halftone Removal** to move the filter to the **Selected Filters** list.
 - Click **Binary Halftone Removal**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="text-align: center;">  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="text-align: center;">  N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

Binary Hole Removal

The **Binary Hole Removal** filter identifies objects that look like punched binder holes around the edges of the image, and then deletes any instances it finds. Similar objects in other areas of the image will not be removed. The **Binary Hole Removal** filter was applied to the following image.



Before Binary Hole Removal

After Binary Hole Removal



To set the Binary Hole Removal filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).

**N O T E**

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

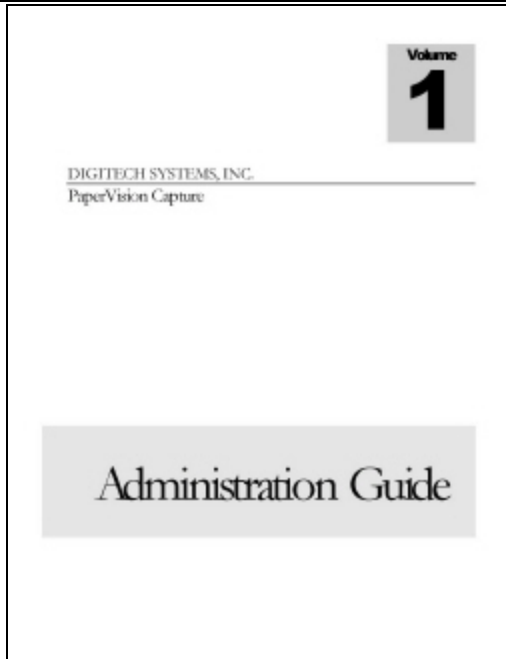
6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Hole Removal** to move the filter to the **Selected Filters** list.
 - Click **Binary Hole Removal**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down .  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter.  N O T E If there are no configuration options for the filter, the Configure button is unavailable.

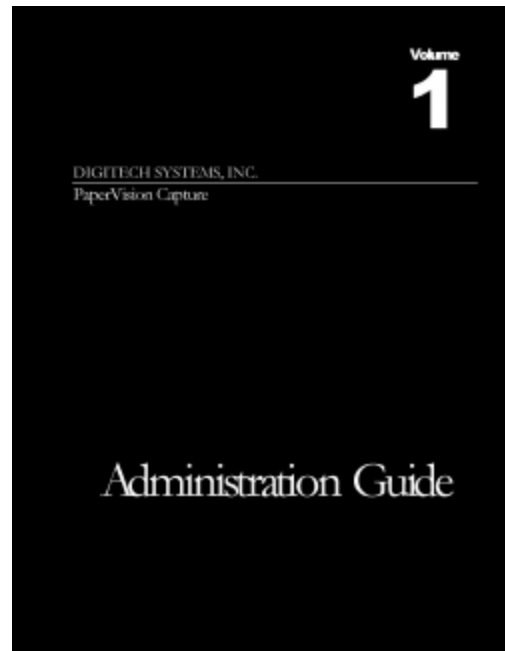
10. Double-click the **Binary Hole Removal** filter to open the **Binary Hole Removal** dialog box.
11. In the **Minimum** box, type the minimum diameter (in millimeters) that a hole must measure to be removed. Circles that are smaller in diameter than the value you enter are not removed. You can increase this number if the filter is removing small circles that are not actually binder holes.
12. In the **Maximum** box, type the maximum diameter (in millimeters) that a hole must measure to be removed. Circles that are larger in diameter than the value you enter are not removed. You can decrease this number if the filter is removing large circles that are not actually binder holes.

Binary Invert Image

The **Binary Invert Image** filter reverses the polarity of the image. Black pixels become white pixels, and white pixels become black pixels. The **Binary Invert Image** filter was applied to the following image.



Before Binary Invert Image



After Binary Invert Image



To set the Binary Invert Image filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).

**N O T E**

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Invert Image** to move the filter to the **Selected Filters** list.
 - Click **Binary Invert Image**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down .  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter.  N O T E If there are no configuration options for the filter, the Configure button is unavailable.

Binary Line Removal

The **Binary Line Removal** filter removes lines from or reconstructs lines on a form-based image. Removing lines can reduce the file size and improve OCR results. The **Binary Line Removal** filter was applied to the following image.

INVOICE			
Date: December 1, 2008			
INVOICE # [100]			
[Name]			
[Company Name]			
[Street Address]			
[City, St ZIP Code]			
[Phone]			
Customer ID [ABC12345]			
Salesperson	Job	Payment Terms	Due Date
Due on receipt			
Qty	Description	Unit Price	Line Total

Before Binary Line Removal

INVOICE			
Date: December 1, 2008			
INVOICE # [100]			
[Name]			
[Company Name]			
[Street Address]			
[City, St ZIP Code]			
[Phone]			
Customer ID [ABC12345]			
Salesperson	Job	Payment Terms	Due Date
Due on receipt			
Qty	Description	Unit Price	Line Total

After Binary Line Removal

To set the Binary Line Removal filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:

- Double-click **Binary Line Removal** to move the filter to the **Selected Filters** list.
 - Click **Binary Line Removal**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

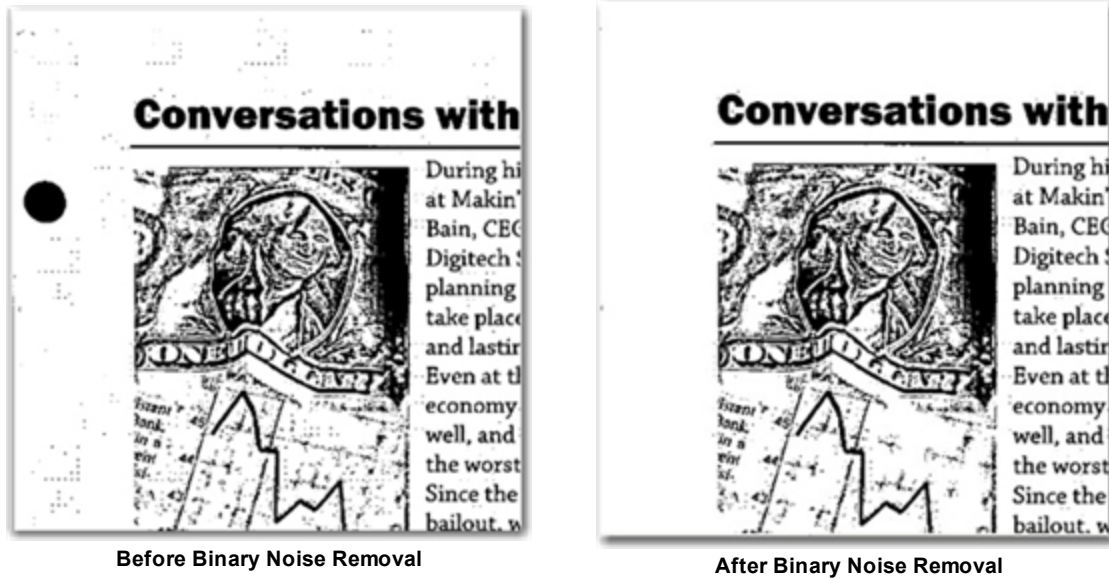
To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down .  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter.  NOTE If there are no configuration options for the filter, the Configure button is unavailable.

10. Double-click the **Binary Line Removal** filter to open the **Binary Line Removal** dialog box.
11. In the **Mode** area, you can select one of the following options.
- Select **Remove Lines** to take out all objects considered as lines.
 - Select **Reconstruct Lines** to remove lines, repair overlapped graphics and text, and redraw straight lines in place of removed lines.
 - Select **Reconstruct Forms** to remove lines, redraw straight lines, and reconnect lines that were previously connected. This type of line correction is commonly used for tables and forms.
12. If you want the filter to detect horizontal lines, in the **Horizontal (mm)** area, select **Enable**. You can set the following options.
- Select **Straight Line Algorithm** to enable faster processing of straight lines that are longer than 100 pixels (suitable for forms and light paper). This filter evaluates the height or width of the bounding rectangles around line-like objects to determine if the object is a line. If this setting is not used, the filter breaks the line-like object into small segments and uses the maximum gap, and curvature values to determine whether the segments comprise a line.

- In the **Min Length** box, type or select the minimum detectable length (in millimeters) of horizontal lines. Lines shorter than this length are ignored.
 - In the **Max Gap** box, type or select the maximum white space (in millimeters) allowed between two horizontal line-like objects for them to be considered a single line. (This setting is ignored when **Straight Line Algorithm** is selected.)
 - From the **Curvature** list, select the maximum allowable amount of deviation from a straight line for a horizontal line-like object to be considered a line. If the calculated curvature is greater than the value you select, then the object is not considered a line. The higher the value, the more curved an object the filter will remove. A lower value restricts the filter to removing lines with less curvature. Choose a value that removes unwanted lines while preserving other desirable features on your pages. You can choose from **Straight** (contains a curvature value of 5), **Low** (contains a value of 15), **Medium** (contains a value of 30), or **High** (contains a value of 40). (This setting is ignored when **Straight Line Algorithm** is selected.)
13. If you want the filter to detect vertical lines, in the **Vertical (mm)** area, select **Enable**. You can set the following options.
- Select **Straight Line Algorithm** to enable faster processing of straight lines that are longer than 100 pixels (suitable for forms and light paper). This filter evaluates the height or width of the bounding rectangles around line-like objects to determine if the object is a line. If this setting is not used, the filter breaks the line-like object into small segments and uses the maximum gap, and curvature values to determine whether the segments comprise a line.
 - In the **Min Length** box, type or select the minimum detectable length (in millimeters) of vertical lines. Lines shorter than this length are ignored.
 - In the **Max Gap** box, type or select the maximum white space (in millimeters) allowed between two vertical line-like objects for them to be considered a single line. (This setting is ignored when **Straight Line Algorithm** is selected.)
 - From the **Curvature** list, select the maximum allowable amount of deviation from a straight line for a vertical line-like object to be considered a line. If the calculated curvature is greater than the value you select, then the object is not considered a line. The higher the value, the more curved an object the filter will remove. A lower value restricts the filter to removing lines with less curvature. Choose a value that removes unwanted lines while preserving other desirable features on your pages. You can choose from **Straight** (contains a curvature value of 5), **Low** (contains a value of 15), **Medium** (contains a value of 30), or **High** (contains a value of 40). (This setting is ignored when **Straight Line Algorithm** is selected.)

Binary Noise Removal

Noise can originate from carbon or dirt particles found on scanners, fax machines, or copiers. Noise removal takes out extraneous specks from an image. If the image contains text, the **Binary Noise Removal** filter may remove periods and dots from sentences and letters. To avoid removing essential parts of text characters, make sure that the minimum separation value you assign is greater than the distance between dots and the lower parts of letters. If you want to apply cropping and noise removal to an image, perform the noise removal first for best results. The **Binary Noise Removal** filter was applied to the following image.



To set the Binary Noise Removal filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.

7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Noise Removal** to move the filter to the **Selected Filters** list.
 - Click **Binary Noise Removal**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <hr/> <div style="text-align: center;">  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div> <hr/>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <hr/> <div style="text-align: center;">  N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div> <hr/>

10. Double-click the **Binary Noise Removal** filter to open the **Binary Noise Removal** dialog box.
11. In the **Max Height** box, type the maximum height (in millimeters) of objects to be removed as noise.
12. In the **Max Width** box, type the maximum width (in millimeters) of objects to be removed as noise.

13. In the **Max Area %** box, type or select the maximum percentage of the area defined by the **Max Height** and **Max Width** values that an object can occupy to be removed as noise.

E X A M P L E

This setting is especially useful for detecting long narrow objects that may appear both vertically and horizontally on a page, such as lines, decorative banners, and highlight areas. For example, to remove colored banners that are either 50 (mm) x 10 (mm) or 10 (mm) x 50 (mm), assign the **Max Height** and **Max Width** values to 50 (mm). However, a 50 (mm) x 50 (mm) picture would also be detected as noise and removed. To avoid this problem, set the **Maximum Area %** value to **20** so that only the banner area is detected as noise, regardless of its orientation.

14. In the **Min Separation** box, type the minimum distance (in millimeters) that separates a noise object from other areas on the page.

E X A M P L E

A value of zero removes all noise objects that fit within the area specified by the values you typed in the **Max Height**, **Max Width**, and **Max Area %** boxes. Assigning a zero value may remove small text elements, such as broken characters, punctuation, and the dots above letters. Assigning a value greater than zero preserves elements that would otherwise be considered noise that occur in the vicinity of text characters. This may improve readability and OCR accuracy.

Binary Skeleton

Use the **Binary Skeleton** filter with caution, since it can significantly distort the image. This filter can reduce the file size, and is recommended to use only when performing certain types of OCR. The **Binary Skeleton** filter was applied to the following image.



Before Binary Skeleton



After Binary Skeleton

To set the Binary Skeleton filter



1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Skeleton** to move the filter to the **Selected Filters** list.
 - Click **Binary Skeleton**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">  N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

Binary Smoothing

The **Binary Smoothing** filter removes bumps and spurs that appear on text characters or graphics in an image. This filter looks for any pixel surrounded by five or six connected pixels of the opposite color, and then inverts that center pixel based on the filter's configuration. Smoothing improves legibility and can reduce the file size without compromising detail. The **Binary Smoothing** filter was applied to the following image.



Before Binary Smoothing



After Binary Smoothing

To set the Binary Smoothing filter



1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

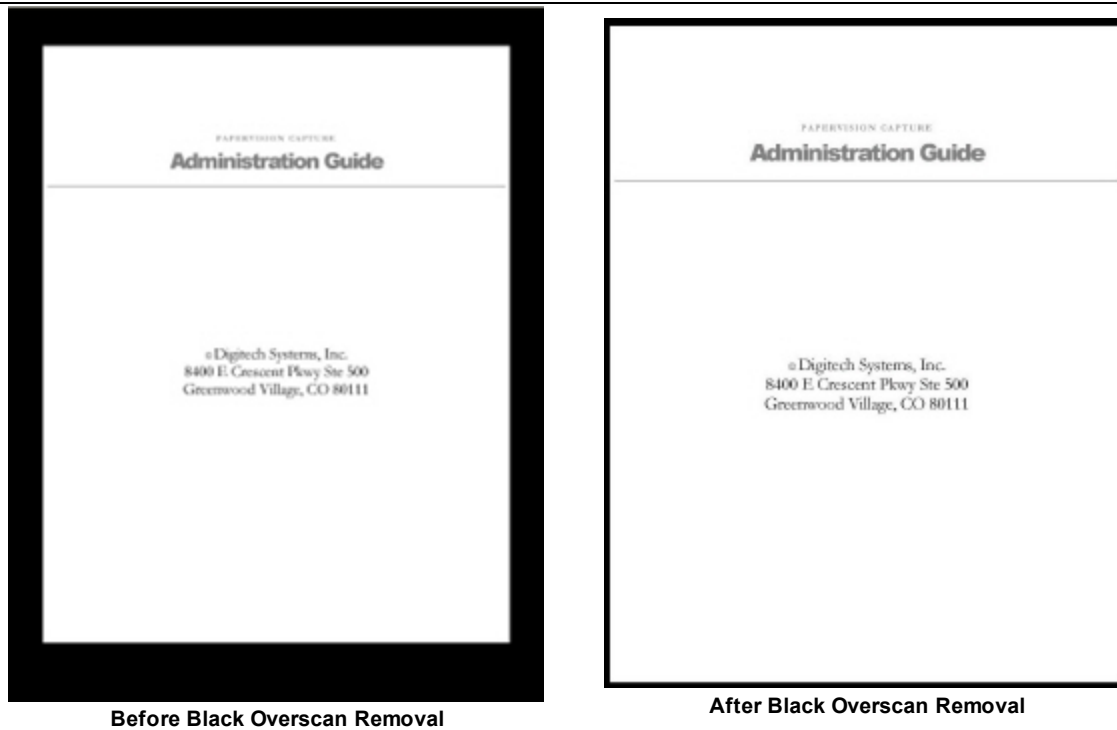
6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Binary Smoothing** to move the filter to the **Selected Filters** list.
 - Click **Binary Smoothing**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down .  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter.  NOTE If there are no configuration options for the filter, the Configure button is unavailable.

10. Double-click the **Binary Smoothing** filter to open the **Binary Smoothing** dialog box.
11. In the **Options** area, you can select the following items.
 - Select **Trim First** to remove black noise pixels before removing white ones. If this option is not selected, white noise pixels are removed before black ones.
 - Select **Corner Black** to remove black noise pixels from the corners of objects in the image.
 - Select **Corner White** to remove white noise pixels from the corners of objects in the image.

Black Overscan Removal

The **Black Overscan Removal** filter removes the black area around an image when a page is scanned using an overscan option. This filter reduces the physical size of the scanned image and the image file size by eliminating the black border generated by scanners with black backgrounds. To maximize results, apply the **Deskew** filter with a black fill color prior to applying the **Black Overscan Removal** filter. The **Black Overscan Removal** filter was applied to the following image.





To set the Black Overscan Removal filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).

**N O T E**

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Black Overscan Removal** to move the filter to the **Selected Filters** list.
 - Click **Black Overscan Removal**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

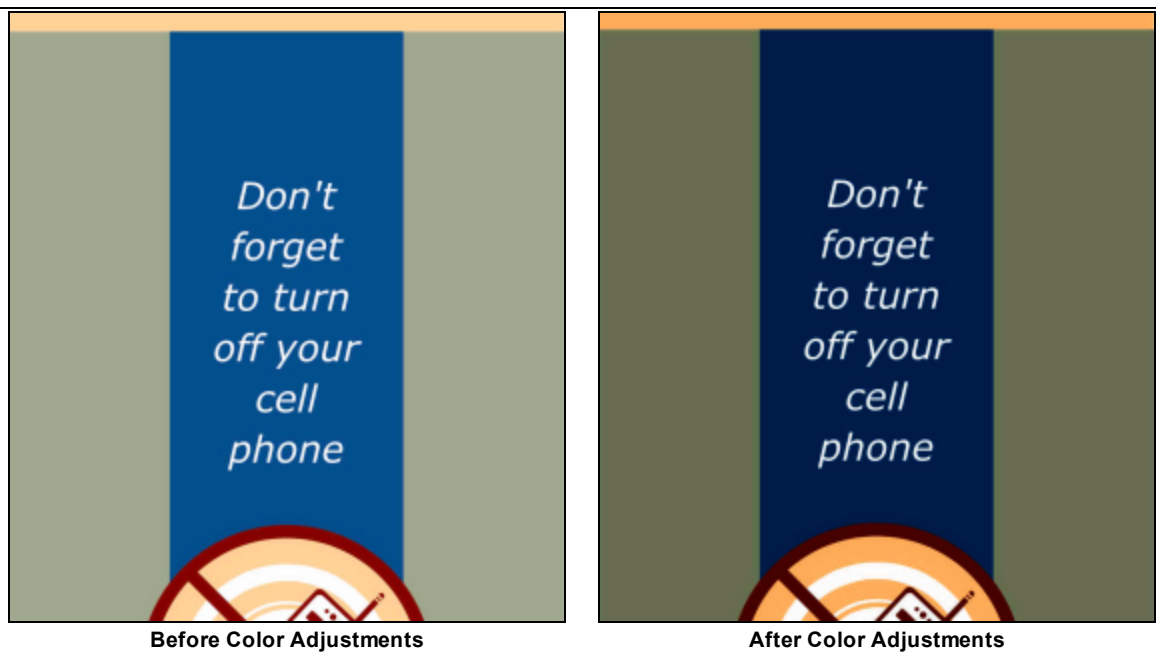
To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="text-align: center;">  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="text-align: center;">  N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Black Overscan Removal** filter to open the **Black Overscan Removal** dialog box.
11. In the **Operation Mode** area, select one of the following options.
 - Select **Remove** to remove the black border generated by scanners with black backgrounds. The physical size of the scanned image and the image file size are reduced.

- Select **Clear** to invert the overscan area of an image. The image dimensions remain unchanged.
12. In the **Processing Limits (mm)** area, specify the processing limits for each side of the target image to ensure that the removed border won't exceed defined limits from each side during processing.
 - In the **Top** box, type the size limit in millimeters for the top border.
 - In the **Bottom** box, type the size limit in millimeters for the bottom border.
 - In the **Left** box, type the size limit in millimeters for the left border.
 - In the **Right** box, type the size limit in millimeters for the right border.
 13. If you want to prevent overscan removal on color-inverted images, then select **Process Inverted Images**. If you want to remove black overscan areas from images that contain large black borders, and you are not processing color-inverted images, clear this option.

Color Adjustments

The **Color Adjustments** filter provides complex contrast, brightness, and tone adjustments to an image. The **Color Adjustments** filter was applied to the following image.



To set the Color Adjustments filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and

how to use them.)


4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).




N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Color Adjustments** to move the filter to the **Selected Filters** list.
 - Click **Color Adjustments**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="text-align: center;">  I M P O R T A N T </div> Filters are applied in the order that they appear in the Selected Filters list.

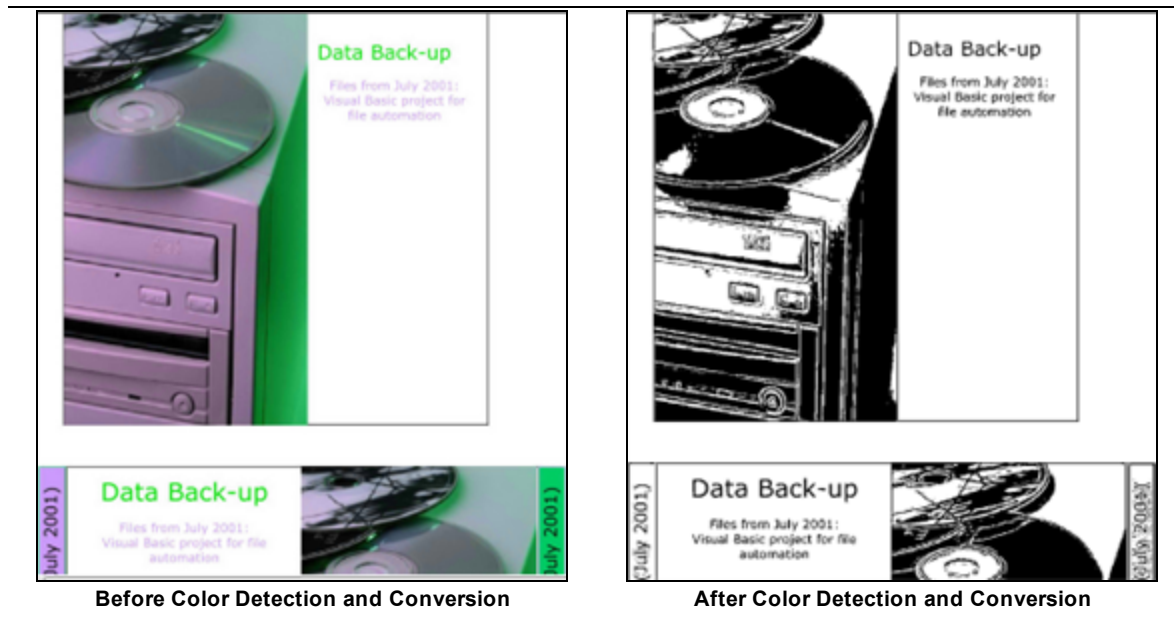
To	Do this
Access configuration settings	<p>Click the filter, and then click Configure.</p> <p>or</p> <p>Double-click the filter.</p> <hr/> <p> NOTE</p> <p>If there are no configuration options for the filter, the Configure button is unavailable.</p>

10. Double-click the **Color Adjustments** filter to open the **Color Adjustments** dialog box.
11. Click **Load Sample** to access the **Open** dialog box.
12. Locate and select the image you want to use, and then click **Open**.
The image you selected appears in the **Image** box. As you apply settings, the results appear in the **Image with Color Adjustments** box.
13. To zoom in or out on the image, select a larger or smaller percentage from the **Scaling** list.
14. In the **Mode** area, select one of the following options.
 - Select **Automatic** to apply an automatic adjustment algorithm (linear or non-linear) for processing the image.
 - Select **Manual** to apply a polynomial transformation algorithm. When you select **Manual**, in the **Options** area you can specify the following settings.
 1. From the **Preset** list, you can select one of the following preset variables.
 - **Same** - leaves the image the same.
 - **Invert** - inverts the image.
 - **Lighten** - lightens the image.
 - **Darken** - darkens the image.
 - **Contrast** - increases the contrast of the image.
 2. From **Channel** list, you can select one of the following channel variables.
 - **Rgb** - sets the transformation of an image for all three (red, green, and blue) channels.
 - **Red** - sets the transformation of an image for the red channel only.
 - **Green** - sets the transformation of an image for the green channel only.
 - **Blue** - sets the transformation of an image for the blue channel only.
15. In the **Algorithm** area, you can select one of the following options.
 - Select **Linear** to remove the black border generated by scanners with black backgrounds. The physical size of the scanned image and the image file size are reduced.
 - Select **Non-Linear** to invert the overscan area of an image. The image dimensions remain unchanged.

16. In the **Apply Mode** area, you can select one of the following options.
 - Select **Channel by channel** to apply the algorithm to the R, G, and B channels separately. Using this setting may damage the color balance.
 - Select **Luminosity/Lightness** to apply the algorithm to the pixel luminosity channel.
17. In the **Linear Mode** area, you can select one of the following options. These options apply only when you select **Linear** for the algorithm.
 - Select **Cutoff Fraction** to specify that variants of the linear algorithm are calculated using a cut-off fraction.
 - Select **Percentiles** to specify that variants of the linear algorithm are calculated using percentiles.

Color Detection and Conversion

The **Color Detection and Conversion** filter detects the colorfulness of an image, and then returns either a binary or a color image based on your assigned threshold settings. Select **Ignore Paper Color** to change the paper's background color to white. The filter then counts the number of white (or nearly-white) and black (or nearly-black) pixels and excludes them from the count of pixels that are "colorful." The colorfulness of the image is then computed according to your selected **Color Detect Type**. If the resulting colorfulness value is less than your assigned threshold, the resulting image displays as a binary (black and white) version of the original image. If the input image is more colorful than your specified threshold value, this filter does not output an image. The **Color Detection and Conversion** filter was applied to the following image.



To set the Color Detection and Conversion filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.


3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).




N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Color Detection and Conversion** to move the filter to the **Selected Filters** list.
 - Click **Color Detection and Conversion**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="text-align: center;">  <p>I M P O R T A N T</p> <p>Filters are applied in the order that they appear in the Selected Filters list.</p> </div>

To	Do this
Access configuration settings	<p>Click the filter, and then click Configure.</p> <p>or</p> <p>Double-click the filter.</p> <hr/> <p> NOTE</p> <p>If there are no configuration options for the filter, the Configure button is unavailable.</p>

10. Double-click the **Color Detection and Conversion** filter to open the **Color Detection and Conversion** dialog box.
11. To set the **Color Threshold Percentage**, move the slider to the right to increase the value, or to the left to decrease the value. The default value is **5**. A value of 5 (when used with the **Ratio** color detect type) causes the filter to detect binary if the image has less than 5% color pixels, and to detect color if the image has more than 5% color pixels.
12. In the **Color Detect Type** area, select one of the following options.
 - Select **Amount** for color detection to be based on the amount of color pixels in the image.
 - Select **Ratio** for color detection to be based on the ratio of color and black pixels in the image.
13. Select **Ignore Paper Color** to detect and remove a colored background before performing automatic color detection. Otherwise, clear this option.
14. The **Brightness** slider sets the brightness value at which pixels are converted to white rather than black. You can set this value from 0 to 100, where 100 specifies the brightest setting. Move the slider to the right to increase the value, or to the left to decrease the value. The default value is **65**.
15. The **Contrast** slider sets the contrast value. You can set this value from 0 to 100, where 100 specifies the highest setting. Move the slider to the right to increase the value, or to the left to decrease the value. The default value is **50**.
16. In the **Algorithm** area, you can select one of the following options.
 - Select **Simple** to use the simple algorithm that works uniformly on the image. This option works best for images that do not have any obvious gradients, or light and dark areas. It tends to preserve graphics very well.
 - Select **Advanced** to use the advanced algorithm that works better than the simple one for images that might need different adjustments made to various areas of the page. It tends to preserve text well.
17. If you selected **Advanced** in the previous step, in the **Mode** area, select one of the following options.
 - Select **Fast** to maximize the speed of image processing. Using this option could leave more stray marks on the image.
 - Select **Good** to maximize the quality of image processing. Using this option is typically slower than using the **Fast** mode, but usually produces the best quality image. Note that the

aggressive removal of stray marks to get a clean image can sometimes result in a small amount of image content also being removed.

Color Dropout

The **Color Dropout** filter changes the color you specify in an image to white. This filter also maintains a list of color mappings to make when it runs. The **Color Dropout** filter was applied to the following image.





To set the Color Dropout filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).

**N O T E**

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.



6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Color Dropout** to move the filter to the **Selected Filters** list.
 - Click **Color Dropout**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Color Dropout** filter to open the **Color Dropout** dialog box.
11. Click **Load Sample** to access the **Open** dialog box.
12. Locate and select the image you want to use, and then click **Open**.
The image you selected appears in the **Image** box. As you apply settings, the results appear in the **Image with Dropouts** box.
13. To zoom in or out on the image, select a larger or smaller percentage from the **Scaling** list.

14. To change the magnitude of the dropout, you can move the **Magnitude** slider to the right to increase the value, or to the left to decrease the value. Alternatively, you can enter a value between 1 and 255 in the **Magnitude** box.
15. Use one of the following options to select the color you want to remove from the image.
 - Click **Pick Color** to access the **Color** dialog box where you can select a color, or define a custom color by clicking **Define Custom Colors**.
 - On the image, click the color you want to remove.

The colors you select appear in the **Color Mapping** list similar to the following example.

Color	Magnitude
 [A=255, R=151, G=71, B=6]	60
 [A=255, R=244, G=224, B=211]	60

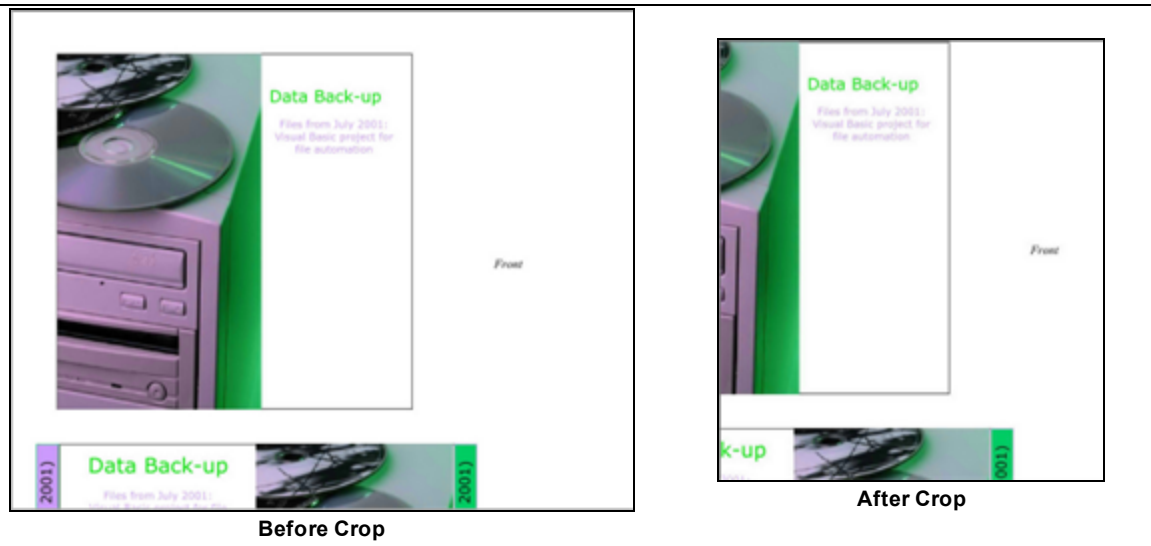
**N O T E**

The colors you select appear with the magnitude that was set when you selected the color. If you want to modify the magnitude for a selected color, you must delete the color from the list, and then change the magnitude setting, and then select the color again.

16. Use the following options to remove items from the **Color Mapping** list.
 - To remove your most recent color selection, click **Undo**.
 - Select the color(s) you want to remove, and then click **Remove**.
 - Click **Clear All** to remove all colors from the list.

Crop

The **Crop** filter removes borders around the edge of an image. The **Crop** filter was applied to the following image.



To set the Crop filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.

7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Crop** to move the filter to the **Selected Filters** list.
 - Click **Crop**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <hr/>  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <hr/>  NOTE If there are no configuration options for the filter, the Configure button is unavailable.

10. Double-click the **Crop** filter to open the **Crop** dialog box.
11. In the **Image Margins (mm)** area, specify the processing limits for each side of the target image to ensure that the removed border won't exceed defined limits from each side during processing.
 - In the **Top** box, type the size (in millimeters) for the top border after cropping.
 - In the **Bottom** box, type the size (in millimeters) for the bottom border after cropping.
 - In the **Left** box, type the size (in millimeters) for the left border after cropping.
 - In the **Right** box, type the size (in millimeters) for the right border after cropping.

 **NOTE**

Positive margin values represent the white space between the edge of the image and the black pixel closest to that edge. Negative margin values crop the specified amount from the black pixel closest to the edge towards the center of the image.

- If you want to specify that the top and bottom margins match and the left and right margins match, select **Force Symmetry**. When this option is selected, the value for the **Top** margin is used for the top and bottom margins, and the value for the **Left** margin is used for the left and right margins. The values for the **Bottom** and **Right** margins are ignored.

Deskew

The **Deskew** filter straightens a slanted image. Skewing can occur when the original document was fed into the scanner, fax machine, or photocopier. This filter examines the image and determines the skew angle, which is measured between the edge of the image and the horizontal or vertical axis. The image data is then rotated to correct the skew angle. The filter rotates an image from -44.9 degrees to $+44.9$ degrees, in 0.1 degree increments. The **Deskew** filter was applied to the following image.



Before Deskew



After Deskew (and with Binary Border Removal)

To set the Deskew filter

- On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
- On the **Properties** tab, if necessary, expand **Image Processing**.
- Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
- To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
- On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:

- From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
- In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Deskew** to move the filter to the **Selected Filters** list.
 - Click **Deskew**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

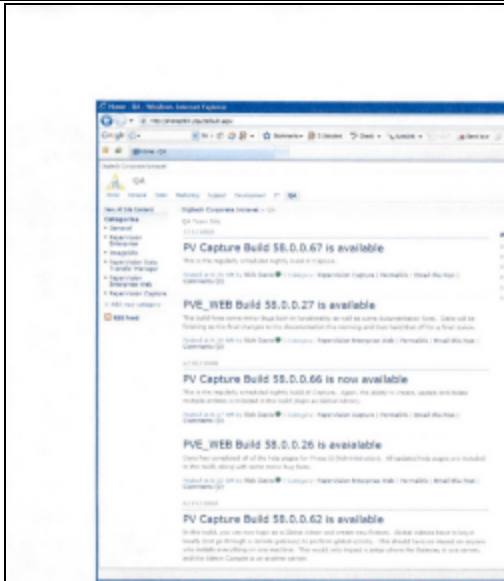
To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Deskew** filter to open the **Deskew** dialog box.
11. In the **Mode** area, select one of the following options.

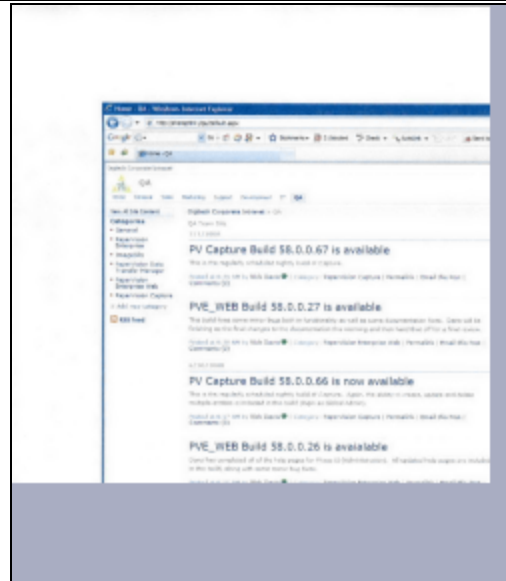
- Select **Text** if pages primarily contain text with some tables and lines.
 - Select **Graphic** if pages contain large blocks of black areas.
12. To set the color for the area at the edge of the image to be deskewed, in the **Fill Color** area, click **Select Color** to access the **Color** dialog box where you can select a color, or define a custom color by clicking **Define Custom Colors**. By default, this value is set to white.
 13. In the **Operating Mode** area, select one of the following options.
 - Select **Detect Angle and Deskew** for the filter to automatically detect the skew angle and deskew the images.
 - Select **Detect Angle** for the filter to only detect the skew angle.
 - Select **Rotate by a Fixed Angle** for images to be rotated by the fixed angle you specify. In the **Fixed Angle** box, type or select the number of degrees for the fixed angle you want to use.
 14. In the **Direction** area, set the direction of the skew angle measurement. You can select one of the following options.
 - Select **Horizontal** if the text on the pages is horizontal.
 - Select **Vertical** if the text on the pages is vertical.
 - Select **Both** if the text may be a mix of both horizontal and vertical text.
 15. In the **Quality** area, select one of the following options.
 - Select **Fast** to maximize the speed of the deskew processing.
 - Select **Good** to maximize the quality of the deskew processing.

Image Fit

The **Image Fit** filter is intended to crop images before they are processed through the Nuance Full-Text OCR step. The minimum and maximum width and height dimensions that you can specify are 16 x 16 to 8400 x 8400 pixels. If the image size is less than 16 x 16 pixels, white space is added to the image from the bottom and right corners until the minimum size (16 x 16 pixels) is reached. If the image size is greater than 8400 x 8400 pixels, the image is cropped from the bottom and right corners until the maximum size is reached. The **Image Fit** filter was applied to the following image.



Before Image Fit



After Image Fit

To set the Image Fit filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.

7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Image Fit** to move the filter to the **Selected Filters** list.
 - Click **Image Fit**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; text-align: center;">  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; text-align: center;">  NOTE If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Image Fit** filter to open the **Image Fit** dialog box.
11. In the **Min Width** box, type the minimum width (in pixels) for the image size.
12. In the **Max Width** box, type the maximum width (in pixels) for the image size.
13. In the **Min Height** box, type the minimum height (in pixels) for the image size.
14. In the **Max Height** box, type the maximum height (in pixels) for the image size.

Page Deletion - Always

The **Page Deletion - Always** filter removes the entire page from the batch.

To set the Page Deletion - Always filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.


3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).




N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Page Deletion - Always** to move the filter to the **Selected Filters** list.
 - Click **Page Deletion - Always**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="text-align: center;">  <p>I M P O R T A N T</p> <p>Filters are applied in the order that they appear in the Selected Filters list.</p> </div>

To	Do this
Access configuration settings	<p>Click the filter, and then click Configure.</p> <p>or</p> <p>Double-click the filter.</p> <hr/> <p> NOTE</p> <p>If there are no configuration options for the filter, the Configure button is unavailable.</p>

Page Deletion - Blank

The **Page Deletion - Blank** filter lets you configure how blank pages are detected for deletion.

To set the Page Deletion - Blank filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:

- Double-click **Page Deletion - Blank** to move the filter to the **Selected Filters** list.
 - Click **Page Deletion - Blank**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <hr/>  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <hr/>  NOTE If there are no configuration options for the filter, the Configure button is unavailable.

10. Double-click the **Page Deletion - Blank** filter to open the **Page Deletion - Blank** dialog box.
11. On the **General** tab, select one of the following options.
- Select **Preset** to determine page deletion based on one of the following options from the **Preset** list.
 - **Dirty White** - the default setting, considers pages blank when they contain some noise.
 - **Pristine White** - considers pages blank when they contain no noise.
 - **Very Dirty White** - considers pages blank when they contain a lot of noise.
 - **One Line OK** - considers pages blank when they contain one specified line of text.
 - **Two Lines OK** - considers pages blank when they contain two specified lines of text.
 - Select **Black Area Ratio** to assign the ratio that determine when a page is blank. Move the slider to assign the ratio. The ratio is calculated by dividing black pixels by the number of all region pixels.
12. In the **Margins** area, specify the margins (in millimeters using whole or decimal numbers) to exclude when determining whether a page is blank.

13. To specify advanced settings, click the **Advanced** tab, and ensure that **Extended Settings** is selected. You can specify the following options.
 - Select **Auto Despeckle** to automatically exclude noise before detecting blank pages.
 - In the **Noise Size** box, you can type or select the length (in pixels) of the dark areas of each line that will be considered noise for despeckling purposes.
 - Select **Black Run Reject** to reject areas of black speckles that are larger than the value specified in the **Max Black Run** box.
 - In the **Max Black Run** box, you can type or select the maximum length (in pixels) for an area of black speckles.
 - In the **Max Clumps** box, you can type or select the maximum number of clumps detected for a page to be considered blank. A “clump” is a sequence of non-empty lines. If the number of clumps detected is at least the value you specify, the page is considered not blank. You can use the **Noise Size** and the **Min Clump Length** boxes to customize the detection of clumps.
 - In the **Min Clump Length** box, you can type or select the minimum length (in pixels) of clumps. A “clump” is a sequence of non-empty lines. The value you set for the **Min Clump Length** specifies how many sequential lines must be non-empty to be considered a clump. If the number of non-empty lines detected is less than the value you specify, the non-empty lines are considered noise.
 - In the **Line Noise Level** box, you can type or select the number of black pixels, except for excluded blobs, for a line to be considered non-empty. A line that is considered non-empty is counted in the total number of lines that may constitute a “clump.”
 - In the **Max Transitions** box, you can type or select the maximum threshold of transitions for a page to be considered blank. A transition is a change from black to white pixels or from white to black pixels on one line. If the average number of transitions in a line for the whole image is larger than the value you specify, then the image is considered not blank.

Page Deletion - Color Content

The **Page Deletion - Color Content** filter allows you to assign color threshold settings that specify whether to delete color pages or non-colorful pages.

To set the Page Deletion - Color Content filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.



5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Page Deletion - Color Content** to move the filter to the **Selected Filters** list.
 - Click **Page Deletion - Color Content**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <hr/>  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <hr/>  N O T E If there are no configuration options for the filter, the Configure button is unavailable.

10. Double-click the **Page Deletion - Color Content** filter to open the **Page Deletion - Color Content** dialog box.
11. In the **Color Content** area, specify the color range for pages to be kept. In the **From** box, type or select the lowest value for the range. In the **To** box, type or select the highest value for the range. Pages detected outside the range you specified are deleted.
12. In the **Detection Threshold** area, use the **Threshold** slider to set the amount of color a sample must contain to be identified as "colorful." The average threshold of a sample is compared to the threshold value you set.

If you set the value to 0, then all samples are colorful because the average threshold of each sample is probably greater than 0. If you set the value to 256, then no samples are colorful. To detect only bright colors, try setting the value to 200. To detect very pale colors, try setting the value to 50.

13. In the **Detection Threshold** area, use the **Sample Size** slider to set the sample size. To perform color content detection, the image is divided into areas. This option specifies the size of these areas.

If the resolution is especially low (100 dpi or lower), a value of 1 or 2 might produce better results. If the resolution is high (600 dpi or higher), a value of 5 might be more satisfactory.

Page Deletion - Dimensions

The **Page Deletion - Dimensions** filter lets you specify the dimensions for pages that will remain in the batch. Images with dimensions that fall outside your specified ranges are deleted from the batch.

To set the Page Deletion - Dimensions filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Page Deletion - Dimensions** to move the filter to the **Selected Filters** list.
 - Click **Page Deletion - Dimensions**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; text-align: center;"> I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; text-align: center;"> N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Page Deletion - Dimensions** filter to open the **Page Deletion - Dimensions** dialog box.
11. In the **Width Range (pixels)** area, specify the width range for pages to be kept. In the **From** box, type or select (in pixels) the lowest value for the range. In the **To** box, type or select the highest value (in pixels) for the range.

12. In the **Height Range (pixels)** area, specify the height range for pages to be kept. In the **From** box, type or select (in pixels) the lowest value for the range. In the **To** box, type or select the highest value (in pixels) for the range.

Page Deletion - File Size

The **Page Deletion - File Size** filter lets you specify the file size for pages that will remain in the batch. Pages that fall outside your specified file-size range are deleted from the batch.

To set the Page Deletion - File Size filter



1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Page Deletion - File Size** to move the filter to the **Selected Filters** list.
 - Click **Page Deletion - File Size**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <hr/>  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list. <hr/>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <hr/>  NOTE If there are no configuration options for the filter, the Configure button is unavailable. <hr/>

10. Double-click the **Page Deletion - File Size** filter to open the **Page Deletion - File Size** dialog box.
11. In the **Size Range (bytes, KB or MB)** area, specify the file size range for pages to be kept. In the **From** box, type the lowest value for the size range, followed by the unit of measure (**bytes**, **KB**, or **MB**). In the **To** box, the highest value for the size range, followed by the unit of measure (**bytes**, **KB**, or **MB**).

 **NOTE**

If you do not enter a specific unit of measure for the file size (bytes, KB, MB) after the numeric value, the unit defaults to bytes. Therefore, for kilobytes and megabytes, you must enter KB and MB after the numeric values.

Redaction

The **Redaction** filter allows you to cover confidential or sensitive data on images. To ensure redaction areas consistently cover the same place on every image, test images with sizes similar to those that will be used in production. For your reference, the size (in pixels) of each imported image appears in the title bar. The **Redaction** filter was applied to the following image.

REQUEST FOR EXPENSE REIMBURSEMENT PAYMENT		REQUEST FOR EXPENSE REIMBURSEMENT PAYMENT	
DEPARTMENT NAME Marketing	AGENCY/DIVISION/SECTION/ETC. Sales	DEPARTMENT NAME Marketing	AGENCY/DIVISION/SECTION/ETC. Sales
EMPLOYEE NAME Holly Hatfield	SOCIAL SECURITY NUMBER 003-09-2463	EMPLOYEE NAME [REDACTED]	SOCIAL SECURITY NUMBER [REDACTED]
WORK ADDRESS 222 Ahensden Way, Bldg. 3	WORK PHONE 222-363-1234	WORK ADDRESS [REDACTED]	WORK PHONE [REDACTED]
SCHOOL/INSTITUTION UCLA	DATE(S) OF ATTENDANCE 01/01-04/01	SCHOOL/INSTITUTION UCLA	DATE(S) OF ATTENDANCE 01/01-04/01
EXPENSES		EXPENSES	
Cost of Tuition/Registration Fees \$ 2,500	TOTAL AMOUNT REQUESTED \$ 2,500	Cost of Tuition/Registration Fees \$ 2,500	TOTAL AMOUNT REQUESTED \$ 2,500
Lab Fees \$ _____		Lab Fees \$ _____	
Other Fees \$ 300		Other Fees \$ 300	
Amount of Approved Subsidy \$ _____		Amount of Approved Subsidy \$ _____	
Financial Aid Received \$ 0		Financial Aid Received \$ 0	

Before Redaction **After Redaction**

To set the Redaction filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).





NOTE

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:

- Double-click **Redaction** to move the filter to the **Selected Filters** list.
 - Click **Redaction**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <hr/>  I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list.
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <hr/>  N O T E If there are no configuration options for the filter, the Configure button is unavailable.

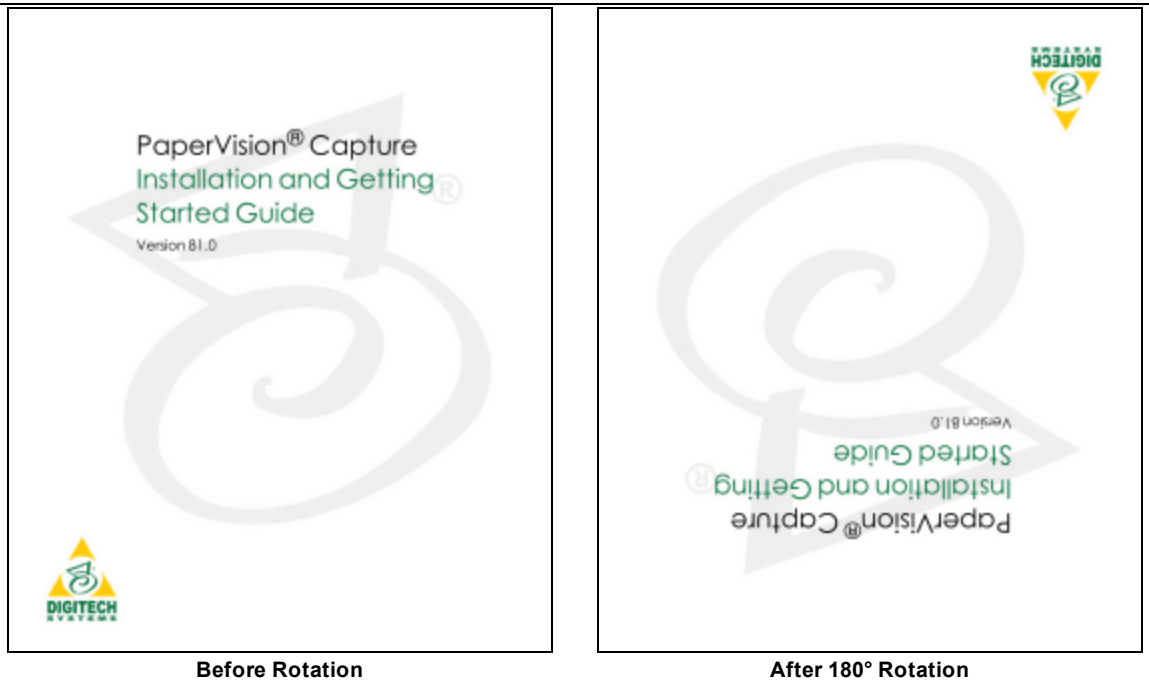
10. Double-click the **Redaction** filter to open the **Redaction** dialog box.
11. On the toolbar, click **Import Image** to access the **Open** dialog box.
12. Locate and select the image you want to use, and then click **Open**.
The image you selected appears on the left pane of the **Redaction** dialog box.
13. To adjust the view of the image, you can do one of the following.
 - On the toolbar, click **Best Fit** to fit the entire image on the pane.
 - On the toolbar, click **Actual Size** to view the image in its actual size.
14. To create a redaction area, place the cursor on the image, and then click and-drag the cursor over the area you want to redact. The properties for the redaction area you created appear on the right pane.
15. On the right pane, you can modify the following redaction properties by selecting them, and making changes in the column to the right of the property.
 - Under **Appearance**, click **Color**, and then click the down arrow to select the background color of the redaction.

- Under **Position**, the **X** property shows the X coordinate of the redaction area's upper-left corner relative to the container's left edge. The **Y** property , shows the Y coordinate of the redaction area's upper-left corner relative to the container's top edge.
- Under **Size**, the **Height** and **Width** values (in pixels) of the redaction area are shown.

16. If you want to delete a redaction area, select it, and then click **Delete** on the toolbar.

Rotation

The **Rotation** filter automatically rotates scanned images by your specified direction, fixed amount of degrees, or detected text orientation. The **Rotation** filter was applied to the following image.



To set the Rotation filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:

- From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
- In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Rotation** to move the filter to the **Selected Filters** list.
 - Click **Rotation**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> I M P O R T A N T Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> N O T E If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Rotation** filter to open the **Rotation** dialog box.
11. In the **Rotation** area, you can select one of the following options.

- Select **None** to apply no rotation to the image.
- Select **Clockwise** to rotate the image 90 degrees clockwise.
- Select **Counter-Clockwise** to rotate the image 90 degrees counterclockwise.
- Select **180 Degrees** to rotate the image 180 degrees.
- Select **Auto Detect** to automatically detect the correct image orientation and rotate the image accordingly. When you select this option, you can specify the following settings.
 - Select **Orientation** to specify the auto detection mode of the rotation filter, and then select one of the following options.
 - Select **Auto** to have the filter automatically detect whether images are landscape or portrait.
 - Select **Portrait** to use portrait orientation only.
 - Select **Landscape** to use landscape orientation only.
 - Select **Text** to detect the orientation of images based on their text, and then select one of the following options.
 - Select **Nuance** to use the Nuance Full-Text OCR engine.
 - Select **Open Text** to use the Open Text Full-Text OCR engine.

**N O T E**

If you select **Auto Detect** and then **Text**, a Capture Nuance Full-Text OCR or Capture Open Text Full-Text OCR license is used upon time of capture. Additionally, the **Mirror** option is unavailable because both full-text engines automatically detect mirrored text.

12. If you want to flip the page across the vertical axis so that it appears to be the mirror image of the original, select the **Mirror** check box.

Scaling

The **Scaling** filter resizes images while preserving the original aspect ratio. The **Scaling** filter was applied to the following image.



Before Scaling



After Scaling

To set the Scaling filter



1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).



N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Scaling** to move the filter to the **Selected Filters** list.
 - Click **Scaling**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">  IMPORTANT Filters are applied in the order that they appear in the Selected Filters list. </div>
Access configuration settings	Click the filter, and then click Configure . or Double-click the filter. <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">  NOTE If there are no configuration options for the filter, the Configure button is unavailable. </div>

10. Double-click the **Scaling** filter to open the **Scaling** dialog box.
11. From the **Mode** list, select one of the following options.
 - Select **Scale to size** to scale the image to the size you specify while preserving its original aspect ratio. The image is scaled to either the height or the width you specify. If you specify both, the width is ignored and the image is scaled to the specified height. If neither property is set, the image size is not changed. This mode does not change the resolution of the image. When you select this option, in the **Page Size** area, you can set the following values.
 1. From the **Units** list, select one of the following units of measure for the page size.
 - **Pixels**
 - **Inches**
 - **Millimeters**
 - **Centimeters**
 - **Points**
 2. In the **Width** box, type the width for the page.
 3. In the **Height** box, type the height for the page.
 - Select **Scale to resolution** to change the resolution of the image by adding or removing pixels. This preserves the measured dimensions of the image (in inches or millimeters, for example). When you select this option, in the **Resolution** box, type or select the resolution value for the page. (If you do not specify a value, the resolution is not changed.)

- Select **Scale with coefficient** to scale the image by the factor you specify. Pixels are added to or removed from the image, and the resolution information is adjusted according to the scale factor. When you select this option, in the **Scale Factor** box, type or select the scale factor you want to use. (If you do not specify a scale factor, the image size is not changed.)
 - Select **Resolution alignment** to adjust the horizontal and vertical resolutions of an image so that they are the same. If the X and Y resolutions are not equal, the lower resolution is scaled up to match the higher one.
 - Select **Change resolution** to change the resolution of the image without changing the image data. The final image has the same number of pixels as the original image, but the filter modifies the pixel density (number of pixels per inch) so that the image appears smaller or larger than the original based on the resolution you specify. When you select this option, in the **Resolution** box, type or select the resolution value for the page.
12. If you want to enable smoothing during the scaling process, select the **Smoothing** check box. Smoothing is the removal of bumps and spurs that appear on text characters or graphics objects in an image.

Threshold

The **Threshold** filter converts a 24-bit color image to a binary or grayscale image. The **Threshold** filter was applied to the following image.



To set the Threshold filter

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.


3. Click **Filters**, and then click the ellipsis button to open the **Edit IP Filters** window. (See "Edit IP Filters Window Overview" on page 353 for a description of the components on this window and how to use them.)
4. To import images, do one of the following:
 - To import images from a directory, on the toolbar, click **Import Images** to access the **Open** dialog box. Locate and select the image(s) you want to use, and then click **Open**.
 - To scan images, on the toolbar, click **Start Scanning**.
5. On the **IP Filters** grid, click the **Page Range** column, and then specify the page(s) to which you want to apply image processing filters, by doing one of the following:
 - From the list in the **Page Range** column, select **All**, **Even**, **Odd**, or **Last**.
 - In the **Page Range** column, you can type a single page number (for example, **8**), multiple page numbers separated by commas (for example, **12, 17, 25**), or a page range (for example, **10-15**).




N O T E

If you prefer, you can specify the value(s) in the **Page Range** column after you configure image processing zones and filters.

6. If you want to define image processing zones, see "Define Image Processing Zones" on page 357 for instructions.
7. In the **Filters** column, click the ellipsis button to open the **Image Processing Filters** dialog box.
8. In the **Available Filters** list, do one of the following:
 - Double-click **Threshold** to move the filter to the **Selected Filters** list.
 - Click **Threshold**, and then click **Add** to move the filter to the **Selected Filters** list.
9. For filters in the **Selected Filters** list, you can do the following:

To	Do this
Remove filters	Click the filter, and then click Remove . or To remove all filters from the list, click Remove All .
Reorder the filters	Select the filter you want to move, and then click Move Up or Move Down . <div style="text-align: center;">  <p>I M P O R T A N T</p> </div> Filters are applied in the order that they appear in the Selected Filters list.



To	Do this
Access configuration settings	<p>Click the filter, and then click Configure.</p> <p>or</p> <p>Double-click the filter.</p> <hr/> <p> NOTE</p> <p>If there are no configuration options for the filter, the Configure button is unavailable.</p>

10. Double-click the **Threshold** filter to open the **Threshold** dialog box.
11. In the **Output** area, select one of the following options.
 - Select **Binary** to convert the image from color into a black and white image.
 - Select **Grayscale** to convert the image from color into a gray image. When you select this option, there are no other settings to specify. Click **OK**.
12. The **Brightness** slider sets the brightness value at which pixels are converted to white rather than black. You can set this value from 0 to 100, where 100 specifies the brightest setting. Move the slider to the right to increase the value, or to the left to decrease the value. The default value is **65**.
13. The **Contrast** slider sets the contrast value. You can set this value from 0 to 100, where 100 specifies the highest setting. Move the slider to the right to increase the value, or to the left to decrease the value. The default value is **50**.
14. In the **Algorithm** area, select one of the following options.
 - Select **Simple** to use the simple algorithm that works uniformly on the image. This option works best for images that do not have any obvious gradients, or light and dark areas. It tends to preserve graphics very well.
 - Select **Advanced** to use the advanced algorithm that works better than the simple one for images that might need different adjustments made to various areas of the page. It tends to preserve text well.
15. If you selected **Advanced** in the previous step, in the **Mode** area, select one of the following options.
 - Select **Fast** to maximize the speed of image processing. Using this option could leave more stray marks on the image.
 - Select **Good** to maximize the quality of image processing. Using this option is typically slower than using the **Fast** mode, but usually produces the best quality image. Note that the aggressive removal of stray marks to get a clean image can sometimes result in a small amount of image content also being removed.
16. If you want to apply dithering to the image, select **Dither**.

Image Processing Step Properties Overview

This content describes how to configure properties that apply to the **Image Processing** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



To configure Image Processing step properties

1. On the workspace of the **Job Definitions** window, double-click the Indexing step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. Double-click the **Image Processing** step to display the **Properties** tab on the left pane.
3. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



TIP

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

4. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
5. For instructions to set **Image Processing** step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **Appearance** category.
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set the properties under the **General** category.

For instruction to set the properties under the **Image Processing** category, see the following:

 - See "Black and White Image File Type" below for instructions to set this property.
 - See "Color Image File Type" on the next page for instructions to set this property.
 - See "Configure Image Processing Filters" on page 353 for instructions to set the **Filters** property.
 - See "Prefer Bitonal" on page 425 for instructions to set this property.
 - See "Save Image" on page 425 for instructions to set this property.

Black and White Image File Type

You can specify the file type for storing black and white images.

**N O T E**

If you change this property after images are scanned or imported into the batch, the file type will change for only those images subsequently added to the batch. For example, if you change the **Black and White Image File Type** property setting from **TIF** to **PNG** after scanning or importing 10 out of 20 images in the batch, then images 1 through 10 will be TIF file types, and images 11 through 20 will be PNG file types.

To set the Black and White Image File Type property

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Black and White Image File Type**, and then click the down arrow to select one of the following options:
 - **TIF** - Selecting this option will store black and white images in the TIF file format. TIF files are compressed using Group 4 compression which treats an image as a series of horizontal black strips on a white page. This is the default setting.
 - **PNG** - Selecting this option will store black and white images in the PNG file format. PNG files are compressed, so the file size is smaller. However the applied compression is exactly reversible, so the image is recovered exactly.

Color Image File Type

You can specify the file type for storing grayscale and color images.

**N O T E**

If you change this property after images are scanned or imported into the batch, the file type will change for only those images subsequently added to the batch. For example, if you change the **Color Image File Type** property setting from **BMP** to **JPG** after scanning or importing 10 out of 20 images in the batch, then images 1 through 10 will be BMP file types, and images 11 through 20 will be JPG file types.

To set the Color Image File Type property

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Color Image File Type**, and then click the down arrow to select one of the following options:
 - **BMP** - Selecting this option will store grayscale and color images in the BMP file format. BMP files are not compressed and can be large. These files contain pixels and can degrade when you increase resolution.
 - **JPG** - Selecting this option will store grayscale and color images in the JPG file format. JPG images are compressed, so they contain less data and smaller file sizes than other image types. This is the default setting.

- **PNG** - Selecting this option will store grayscale and color images in the PNG file format. PNG files are compressed, so the file size is smaller. However the applied compression is exactly reversible, so the image is recovered exactly.

Prefer Bitonal

The **Prefer Bitonal** property lets you specify whether to use bitonal (black and white) images for image processing.

To set the Prefer Bitonal property

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Prefer Bitonal**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option will cause bitonal images to be used for image processing. When using only dual stream scanners, select **True**.
 - **False** - Selecting this option specifies that bitonal images will not be used for image processing.

Save Image

You can specify whether to save the processed image.

To set the Save Image property

1. On the workspace of the **Job Definitions** window, double-click the **Image Processing** step. (See "To configure an Image Processing step" on page 352 if you need help adding an **Image Processing** step.)
2. On the **Properties** tab, if necessary, expand **Image Processing**.
3. Click **Save Image**, and then click the down arrow to select one of the following options:
 - **True** - Selecting this option causes the processed image (after the filters are applied) to be saved. As a result, two copies of the image are included in the batch: the original image and the processed one.
 - **False** - Selecting this option causes only the original image (before filters are applied) to be saved. The processed images are not added to the batch. For example, select **False** when you use an **Image Processing** step to delete all blank pages.

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CHAPTER 13

Custom Code Configuration

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Custom Code Step Overview

With PaperVision Capture's custom code engine, you can write Visual Basic.NET or C# code that can be run at any time during batch processing. Additionally, Digitech Systems provides a .NET Application Programming Interface (API) that you can use for read/write access to batch metadata, documents, images, OCR data, and index values.

Steps within jobs contain custom code capabilities. By setting the properties under the **Custom Code Events [Step Level]** category on the **Properties** tab, you can specify events that, when they occur, cause the specified custom code to run. These events differ by job step. For example, in the **Indexing** step, you can specify that custom code runs when indexes are saved.

A **Custom Code** step is also available, which is not event-based. Instead, it will run any code you specify. PaperVision Capture runs **Custom Code** steps in the background as automatic processes, so you do not see them running within the user interface. You can also use **Custom Code** steps for validating or manipulating data and interfacing with an external application, such as an external database or line-of-business application.



This content describes how to configure properties that apply to the **Custom Code** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.



CAUTION



Changes made to a batch via custom code that runs in a manual job step may not be reflected in the Operator Console unless your custom code specifies the appropriate user-interface refresh level. See **public enum UIRefreshLevel** under "Enumerations" on page 493 for more information.

To configure a Custom Code step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Custom Code** step to the workspace using one of the following methods.
 - Select the step that you want **Custom Code** to follow. On the **Job Step Toolbox** tab, double-click **Custom Code**.
 - On the **Job Step Toolbox** tab, drag **Custom Code** on to the workspace.
 - On the workspace, right-click, point to **Insert Job Step**, and then select **Custom Code**.
5. Double-click the **Custom Code** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.

**T I P**

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

7. (Optional) To sort the properties do one of the following:
 - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
 - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Custom Code** step properties, see the following:
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
 - See "Custom Code Generators" below for instructions to set the **Step Executing** property under the **Custom Code Events [Step Level]** category.
 - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
 - See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

Custom Code Generators

When you configure the **Custom Code** step, you can select either the C# or Visual Basic programming language and the custom code generator that runs automatically during batch processing. Custom Code generators include:

- All PaperVision Capture exports - You can configure exports using dialog boxes that show only the applicable properties for your selection. Default settings are provided for each generator. (See "Exports Overview" on page 431 for information about exports and to access instructions to set each export type.)
- The **Match and Merge auto** code generator produces code based on the configuration you set in the **Match and Merge Wizard**. (See "Match and Merge Wizard" on page 471 for instructions.)
- Customizable scripts that contain generic code that you can edit and compile directly in the **Script Editor** window. (See "Script Editor" on page 475 for instructions to use the **Script Editor**.) The **Basic** custom code generator provides a generic code template, and the **Export Template** custom code generator provides a generic template for custom exports that you can run automatically during batch processing.

To open the custom code generator

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on the previous page if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.



T I P

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click the ellipsis button, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box where each custom code generator and corresponding description are listed.
 4. Do one of the following:
 - To see only the generators you configure using the provided dialog boxes, rather than editing code in the **Script Editor**, clear the **Advanced** check box. The listed custom code generators are export types. (Go to "Exports Overview" on the facing page for information about exports and to access instructions to set each export type.)
 - To use the **Script Editor**, ensure that the **Advanced** check box is selected, and then from the Language list select either **C#** or **Visual Basic**.
-



I M P O R T A N T

You can use the Visual Basic programming language only with the **Basic**, **Export Template**, and **Match and Merge - Auto** custom code generators.

5. Go to the applicable section in the following list of references.
 - The **Basic** custom code generator lets you write your own code directly in the **Script Editor**. (See "Script Editor" on page 475 for instructions to use the **Script Editor**.)
 - The **Export Template** custom code generator opens a pre-defined code script for custom exports that you can edit in the **Script Editor**. (See "Script Editor" on page 475 for instructions to use the **Script Editor**, and "Exports Overview" on the facing page for information about exports.)
 - The **Match and Merge auto** code generator produces code based on the configuration you set in the **Match and Merge Wizard**. (See "Match and Merge Wizard" on page 471 for instructions.)
 - For all other custom code generators, go to "Exports Overview" on the facing page for information about exports and to access instructions to set each export type.

Exports Overview

PaperVision Capture provides a user interface for export definitions within the **Custom Code** step. Exports can subsequently be imported into ImageSilo or PaperVision Enterprise (ImageSilo/PVE XML), PaperFlow (PaperFlow.xml), and other systems.



NOTE

If you have modified an export script in PaperVision Capture R72 or earlier, the **Exports** library is located in **Digitech Systems\PaperVision Capture\Library\Exports** where PaperVision Capture was installed. If you are initially installing PaperVision Capture R73 or later, the **Exports** library is not created during the install because exports are now configured directly in the user interface.

As exports are run, they are appended to the first available destination folder based on the sequence number and maximum export size (as defined by the **MAX_EXPORT_SIZE** script constant). When the maximum export size is reached, exports are appended to the next available folder. If two or more automated processes attempt to execute the same export (in the same destination folder), the first process places an exclusive lock on the folder. As a result, all subsequent processes will append exports to the next available folder. You can overwrite this method by specifying an automation server (in the export's configuration dialog box on the **Options** tab) that will process exports.

The PaperFlow and ImageSilo/PVE XML exports include a separate summary file (BATCH_TRACE.XML) that contains details about the batch such as: data group ID, batch name, batch ID, export time stamp, export path, and other tracking data. The information in this file can be used by administrators to trace a batch back to its original batch and job in PaperVision Capture.

PaperVision Capture exports contain specific definitions that you can configure. When you configure a PaperVision Capture export from the **Select Custom Code Generator** dialog box, properties specific to that export are shown, and default values that you can modify are included. For instructions to configure each export, see the following sections.

- See "ASCII with Images Export" below for instructions to configure this export.
- See "Image Only Export" on page 436 for instructions to configure this export.
- See "LaserFiche Export" on page 441 for instructions to configure this export.
- See "Hyland OnBase Export" on page 445 for instructions to configure this export.
- See "OTG Record Out Export" on page 448 for instructions to configure this export.
- See "PaperFlow Export" on page 452 for instructions to configure this export.
- See "ImageSilo/PVE XML Export" on page 459 for instructions to configure this export.
- See "SharePoint Export" on page 466 for instructions to configure this export.

ASCII with Images Export

The **ASCII with Images** export creates an ASCII text file containing images that can be imported into other systems. The format of the file is completely customizable

To configure the ASCII with Images export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.



T I P

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
4. Double-click **ASCII with Images** to open the **ASCII With Images Configuration** dialog box.



N O T E

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.



N O T E

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Field Delimiter** box, specify the delimiter you want to use to separate index values, page number and counts, and image sizes. The specified value appears in the resulting export script as the **FIELD_DELIMITER** constant value.
- In the **Image Delimiter** box, specify the delimiter you want to use to separate images when exporting using multiple-line indexing and converting to single-page images. The specified value appears in the resulting export script as the **IMAGE_DELIMITER** constant value.
- In the **Field Qualifier** box, specify the characters that surround the field values. By default, quotation marks will appear. The specified value appears in the resulting export script as the **FIELD_QUALIFER** constant value.
- In the **Image Qualifier** box, specify the characters that surround the image values. By default, quotation marks will appear. The specified value appears in the resulting export script as the **IMAGE_QUALIFER** constant value.

- In the **Reported Root Path** box, specify the location where the path referenced in the export file originates, not the root path. The specified value appears in the resulting export script as the **REPORTED_ROOT_PATH** constant value.

**N O T E**

If the **Reported Root Path** box is blank, the resulting export script displays a blank value for the **REPORTED_ROOT_PATH** constant.

- In the **Max Export Size** box, specify the maximum export size in megabytes. The default value is 600. The specified value appears in the resulting export script as the **MAX_EXPORT_SIZE** constant value.
6. Click the **Indexes** tab, and then select the indexes you want to include in the export.
 - To select all indexes, click **Select All**.
 - To deselect all indexes, click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The selected index values appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. In the resulting script, you can enter the name of the index value(s) between quotation marks, and separate each index value with a comma. If you leave this array blank, no indices are included.

7. Click the **OCR** tab, and then specify the following properties:
 - In the **OCR Engine** list, select the OCR engine (Nuance or Open Text) that processes OCR data for the export. The specified value appears in the resulting export script as the **OCR_ENGINE** constant value.
 - In the **OCR Converter** list, select the OCR converter code whose output format is used to export full-text data. When **<None>**, (the default value) is specified, both images and associated full-text data are exported. The specified value appears in the resulting export script as the **OCR_CONVERTER_CODE** constant value.
 - In the **OCR Step Name** list, select the job step whose full-text data are used for the export. When **<None>**, (the default value) is specified, full-text data from the current job step are used for the export. The specified value appears in the resulting export script as the **OCR_JOB_STEP_NAME** constant value.
8. Click the **Options** tab, and then specify the following properties:
 - The **Place Images in Single Directory** check box determines where images are placed. When this check box is selected, images are placed directly in the specified root path folder (**ROOT_PATH** constant value). When this check box is cleared, images are placed in the subdirectories at the specified root path. The maximum number of images is 1000 per directory. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **PLACE_IMAGES_IN_SINGLE_DIR** constant value.
 - The **Include Page Number Count** check box determines whether the page number or page count of the document is added as an additional field in the export. When this check box is selected, the value will match the total number of pages in the document. When this check box is cleared, when exporting in a multiple-line format and creating single-page images, this

value will match the page number of the document. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **INCLUDE_PAGE_NUMBER_COUNT** constant value.

- The **Include Image Size** check box determines whether the image file size is added as an additional field in the export. When this check box is selected, this value will match the image size referenced on that line of the export file when exporting using a multiple-line format and creating single-page images. When this check box is cleared, this value will match the size of the first page in the document. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **INCLUDE_IMAGE_SIZE** constant value.
- The **Create Multi-Page Image** check box determines whether exported images are single-page or multiple-page. This check box is available only when a **Conversion Type** is specified. When this check box is selected, exported images will be multiple-page. When this check box is cleared, exported images will be single-page. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CREATE_MULTI_PAGE_IMAGE** constant value.
- The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.
- The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size do data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.

**T I P**

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.
- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.
- The **Conversion Type** list specifies the type of image file created during the export. The default value, **CVT_NO_CONVERSION**, does not convert images during the export. When exporting to a format that supports both single- and multiple-page images, you must select the **Create Multi-Page Image** check box (set the **CREATE_MULTI_PAGE_IMAGE** constant to **True**) if you want to create multiple-page images. Otherwise, single-page images will result. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CONVERSION_TYPE** constant value.

E X A M P L E

If you set the **Conversion Type** list to **CVT_TIFF_G4_MEDJPG**, a tiff image is created during the export. If the source image is binary, it will create a tiff using Group 4 compression; if the source image is color (jpg or bmp), it will create a tiff using Medium JPEG compression. (See "Enumerations" on page 493 for more information about conversion types.)

- The **Text File Order** list determines how the export file is formatted. You can select from the following options:
 - **Indices followed by list images** - This option creates a single row for each document with indexes listed first, followed by image files.
 - **List images followed by indices** - This option creates a single row for each document with images listed first, followed by the index values.
 - **Multi line indices followed by single image** - This option creates one row of index values for every image created during the export. If multiple image files are created for a single document, multiple rows of identical index values will be created, each referencing a different page of the document. This will be formatted with index values followed by images.

- **Multi line images followed by indices** - One row of index values for every image created during the export. If multiple image files are created for a single document, multiple rows of identical index values will be created, each referencing a different page of the document. This will be formatted with images followed by index values.

The specified value appears in the resulting export script as the **TEXT_FILE_ORDER** constant value.

- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.



NOTE

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

9. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.



NOTE

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

Image Only Export

The **Image Only** export creates image files that are named after a specific index field. Any subdirectories containing those image files are named after other index fields (optional). Single-page image file formats are named with an **-X** at the end of the file name where **X** denotes the page number.

To configure the Image Only export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.

**T I P**

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
4. Double-click **Image Only** to open the **Image Only Configuration** dialog box.

**N O T E**

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.

**N O T E**

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Image Delimiter** box, specify the character you want to use to separate the image file name if multiple index values are combined to create the image file name. The specified value appears in the resulting export script as the **IMAGE_DELIMITER** constant value.
- The **Write Duplicates to Exception Folder** check box determines whether duplicate files (created in the same directory during the export) are placed in the directory specified in the **Exception Folder** box (**EXCEPTION_FOLDER** constant value). When this check box is selected, duplicate files are placed in the specified exception folder. When this check box is cleared, duplicate files are not placed in the specified exception folder. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **WRITE_DUPLICATES_TO_EXCEPTION_FOLDER** constant value.

**N O T E**

Files in the **EXCEPTION_FOLDER** directory display with **_#** appended to the file name, where **#** is a unique incrementing number starting with **1**. This appending process prevents the exception files from being overwritten in the directory.

- In the **Exception Folder** box, you can specify the folder where duplicate files (created in the same directory during the export) are placed. This box is available only when the **Write Duplicates to Exception Folder** check box is selected. Duplicate files will be placed in the specified folder at the **ROOT_PATH** instead of overwriting the existing file of that name. The specified value appears in the resulting export script as the **EXCEPTION_FOLDER** constant value.
 - In the **Default Value** box, you can specify the value that appears for blank fields that may result when invalid characters are stripped from index fields as the export script runs. The default value is **UNKNOWN**. The specified value appears in the resulting export script as the **DEFAULT_VALUE** constant value.
 - In the **Max Export Size** box, specify the maximum export size in megabytes. The default value is 600. The specified value appears in the resulting export script as the **MAX_EXPORT_SIZE** constant value.
6. Click the **Indexes** tab, in the top index area, select the indexes you want to use as image file names, and then, in the bottom index area, select the indexes you want to use as directory names.
- To select all indexes, click **Select All**.
 - To deselect all indexes, click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The indexes selected to use as image file names appear in the resulting export script as the **IMAGE_INDICES** constant value. If you selected multiple indexes, the value specified in the **Image Delimiter** box (**IMAGE_DELIMITER** constant value) is used to separate the indexes in the name of the file. If no indexes are selected, a standard 8-digit incrementing file name is used.



I M P O R T A N T

Because image file names and directories are created based on selected indexes, index names should not contain characters that create invalid file or directory names.

The indexes selected to use as directory names appear in the resulting export script as the **FOLDER_INDICES** constant value. Images created during the export are placed in named folders based on the selected indexes. The first selected index will match the first folder, the second selected index will match the name of the subfolder, and so on. If no indexes are selected, the images are placed directly in the **ROOT_PATH**.

7. Click the **OCR** tab, and then specify the following properties:
- In the **OCR Engine** list, select the OCR engine (Nuance or Open Text) that processes OCR data for the export. The specified value appears in the resulting export script as the **OCR_ENGINE** constant value.
 - In the **OCR Converter** list, select the OCR converter code whose output format is used to export full-text data. When **<None>**, (the default value) is specified, both images and associated full-text data are exported. The specified value appears in the resulting export script as the **OCR_CONVERTER_CODE** constant value.

- In the **OCR Step Name** list, select the job step whose full-text data are used for the export. When **<None>**, (the default value) is specified, full-text data from the current job step are used for the export. The specified value appears in the resulting export script as the **OCR_JOB_STEP_NAME** constant value.
8. Click the **Options** tab, and then specify the following properties:
- The **Create Multi-Page Image** check box determines whether exported images are single-page or multiple-page. This check box is available only when a **Conversion Type** is specified. When this check box is selected, exported images will be multiple-page. When this check box is cleared, exported images will be single-page. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CREATE_MULTI_PAGE_IMAGE** constant value.
 - The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.
 - The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size do data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.

**T I P**

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.
- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.
- The **Conversion Type** list specifies the type of image file created during the export. The default value, **CVT_NO_CONVERSION**, does not convert images during the export. When exporting to a format that supports both single- and multiple-page images, you must select the **Create Multi-Page Image** check box (set the **CREATE_MULTI_PAGE_IMAGE** constant to **True**) if you want to create multiple-page images. Otherwise, single-page images will result. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CONVERSION_TYPE** constant value.

E X A M P L E

If you set the **Conversion Type** list to **CVT_TIFF_G4_MEDJPG**, a tiff image is created during the export. If the source image is binary, it will create a tiff using Group 4 compression; if the source image is color (jpg or bmp), it will create a tiff using Medium JPEG compression. (See "Enumerations" on page 493 for more information about conversion types.)

- The **File Extension** list determines whether the file extension or page number will be assigned to the file type created during the export. You can select from the following options:
 - **Regular** - This option uses the original file extension (for example, `.tiff`, `.jpg`).
 - **Page number starting zero** - This option uses the page number for the file extension, starting with **0** (for example, `.0`, `.1`, and so on).
 - **Page number starting one** - This option uses the page number for the file extension, starting with **1** (for example, `.1`, `.2`, and so on).
 - **Page number starting zero with padding** - This option uses the page number for the file extension, starting with **000** (for example, `.000`, `.001`, and so on).

- **Page number starting one with padding** - This option uses the page number for the file extension, starting with **001** (for example, **.001**, **.002**, and so on).

The specified value appears in the resulting export script as the **FILE_EXTENSION** constant value.

- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.



NOTE

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

9. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.



NOTE

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

LaserFiche Export

The **LaserFiche** export creates an ASCII text file and single-page tiff images that can be imported into the LaserFiche system using the LaserFiche List Import Feature.

To configure the LaserFiche export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.

**T I P**

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
4. Double-click **LaserFiche** to open the **LaserFiche Configuration** dialog box.

**N O T E**

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.

**N O T E**

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Reported Root Path** box, specify the location where the path referenced in the export file originates, not the root path. The specified value appears in the resulting export script as the **REPORTED_ROOT_PATH** constant value.

**N O T E**

If the **Reported Root Path** box is blank, the resulting export script displays a blank value for the **REPORTED_ROOT_PATH** constant.

- The **Folder ID Field** list determines the index value that populates the FOLDER ID field in the export. The specified value appears in the resulting export script as the **FOLDER_ID_FIELD_NAME** constant value.
- The **Folder Title Field** list determines the index value that populates the FOLDER TITLE field in the export. The specified value appears in the resulting export script as the **FOLDER_TITLE_FIELD_NAME** constant value.
- The **Document ID Field** list determines the index value that populates the DOCUMENT ID field in the export. The specified value appears in the resulting export script as the **DOCUMENT_ID_FIELD_NAME** constant value.

- The **Document Title Field** list determines the index value that populates the DOCUMENT TITLE field in the export. The specified value appears in the resulting export script as the **DOCUMENT_TITLE_FIELD_NAME** constant value.
 - In the **Max Export Size** box, specify the maximum export size in megabytes. The default value is 600. The specified value appears in the resulting export script as the **MAX_EXPORT_SIZE** constant value.
6. Click the **Indexes** tab, and then select the indexes you want to include in the export.
- To select all indexes, click **Select All**.
 - To deselect all indexes, click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The selected index values appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. In the resulting script, you can enter the name of the index value(s) between quotation marks, and separate each index value with a comma. If you leave this array blank, no indices are included.

7. Click the **Options** tab, and then specify the following properties:
- In the **Template Name** box, specify the value that will populate the TEMPLATE NAME field in the export. The specified value appears in the resulting export script as the **TEMPLATE_NAME** constant value.
 - The **Exclude Folder Document Count** check box determines whether a document count is appended to the FOLDER line of the export. When this check box is selected, an incrementing number is appended to the FOLDER line of the export. It will increment from 1 to 2, and so on, for each new document. When this check box is cleared (the default value), no numbers are appended to the FOLDER line of the export. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **EXCLUDE_FOLDER_DOCUMENT_COUNT** constant value.
 - The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.
 - The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size so data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.

**T I P**

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.
- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.
- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this

field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.

**N O T E**

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

8. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.

**N O T E**

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

Hyland OnBase Export

The **Hyland OnBase** export creates an ASCII text file and single-page tiff images that can be imported into the Hyland OnBase system. Prior to importing any PaperVision Capture exports, ensure that the following settings are configured in the Hyland OnBase system.

1. The Document Import Processor separator must be set to **New Line**.
2. The field delimiter must be set to **None**.
3. The field type must be set to **Tagged Fields**.

**N O T E**

If the PaperVision Capture job contains dates, the Hyland OnBase date format settings must match the date field format for that job.

To configure the Hyland OnBase export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.

**T I P**

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
4. Double-click **Hyland OnBase** to open the **Hyland OnBase Configuration** dialog box.



NOTE

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.



NOTE

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Reported Root Path** box, specify the location where the path referenced in the export file originates, not the root path. The specified value appears in the resulting export script as the **REPORTED_ROOT_PATH** constant value.



NOTE

If the **Reported Root Path** box is blank, the resulting export script displays a blank value for the **REPORTED_ROOT_PATH** constant.

- In the **Full Path Tag** box, specify the tag that will precede the reported root path in the export file. The specified value appears in the resulting export script as the **FULL_PATH_TAG** constant value.
 - In the **Document Type** list, select the index to map to the document type. The specified value appears in the resulting export script as the **DOCUMENT_TYPE** constant value.
 - In the **Max Export Size** box, specify the maximum export size in megabytes. The default value is 600. The specified value appears in the resulting export script as the **MAX_EXPORT_SIZE** constant value.
6. Click the **Indexes** tab, and then select the indexes you want to include in the export.
 - To select all indexes, click **Select All**.
 - To deselect all indexes, click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The selected index values appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. In the resulting script, you can enter the name of the index value(s) between

quotation marks, and separate each index value with a comma. If you leave this array blank, no indices are included.

7. Click the **Options** tab, and then specify the following properties:

- The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.
- The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size do data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.



T I P

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.
- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their

maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.

- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.

**NOTE**

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

8. After you have configured the appropriate properties, click **OK** to save your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.

**NOTE**

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

OTG Record Out Export

The **OTG Record Out** export creates a valid OTG Record-Out file and its associated images. This can be imported into the OTG Application Extender system using the OTG RDS.

**IMPORTANT**

Ensure that date formats for the PaperVision Capture job correspond with the date formats configured in OTG and that all appropriate index values have been defined.

To configure the OTG Record Out export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.

**T I P**

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
 4. Double-click **OTG Record Out** to open the **OTG Record Out Configuration** dialog box.
-

**N O T E**

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.
-

**N O T E**

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Reported Root Path** box, specify the location where the path referenced in the export file originates, not the root path. The specified value appears in the resulting export script as the **REPORTED_ROOT_PATH** constant value.
-

**N O T E**

If the **Reported Root Path** box is blank, the resulting export script displays a blank value for the **REPORTED_ROOT_PATH** constant.

- In the **Delimiter** box, specify the delimiter you want to use to separate index values in the export file. The specified value appears in the resulting export script as the **DELIMITER** constant value.
 - In the **Max Export Size** box, specify the maximum export size in megabytes. The default value is 600. The specified value appears in the resulting export script as the **MAX_EXPORT_SIZE** constant value.
6. Click the **Indexes** tab, and then select the indexes you want to include in the export.

- To select all indexes, click **Select All**.
- To deselect all indexes, click **Deselect All**.
- To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The selected index values appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. In the resulting script, you can enter the name of the index value(s) between quotation marks, and separate each index value with a comma. If you leave this array blank, no indices are included.

7. Click the **Options** tab, and then specify the following properties:
 - The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.
 - The **Create Record File Only** check box determines whether a **RECORD.TXT** file is created. When this check box is selected, a **RECORD.TXT** file is created, and no images are created during the export. When this check box is cleared (the default value), a **RECORD.TXT** file is not created and image files are. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CREATE_RECORD_FILE_ONLY** constant value.
 - The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size do data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.

**T I P**

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.
- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.
- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.

**N O T E**

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

8. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.

**N O T E**

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

PaperFlow Export

You can use the PaperFlow export to import batches into PaperFlow, OCRFlow, or QCFlow. The export file also contains the source Batch ID so that you can trace the export back to the batch from which it originated.

**N O T E**

The PaperFlow export only supports the ASCII or EFIGS (English, French, Italian, German, and Spanish) character set.

To configure the PaperFlow export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.

**T I P**

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
4. Double-click **PaperFlow** to open the **PaperFlow Configuration** dialog box.

**N O T E**

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.

**NOTE**

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Department ID** box, specify the department ID for the client for which the export is generated. The default value is set to **0001**. The specified value appears in the resulting export script as the **DEPT_ID** constant value.
- In the **Department Name** box, specify the department name for the client for which the export is generated. The specified value appears in the resulting export script as the **DEPT_NAME** constant value.
- In the **Project Name** box, specify the name of the project. The default value is **Project One**. The specified value appears in the resulting export script as the **PROJECT_NAME** constant value.

**NOTE**

Because of the way data group IDs are generated, if projects do not have unique departments names, and department IDs, it is possible for image files to be overwritten or removed. For example, if two projects (Accounts Payable and Accounts Receivable), have the same department ID and department name, when the second project is imported, it will overwrite the image files of the first project.

Department ID	Department Name	Project Name	CD Number
0001	Accounting	Accounts Payable	1
0001	Accounting	Accounts Receivable	1

The solution is to make sure each project name has unique department IDs, and department names.

Department ID	Department Name	Project Name	CD Number
0001	Accounting - AP	Accounts Payable	1
0002	Accounting - AR	Accounts Receivable	1

- In the **Initial CD Number** box, specify the initial CD number to use when exporting to a CD. The default value is **1**. The specified value appears in the resulting export script as the **INITIAL_CD_NUMBER** constant value. If you change this value after you have already performed a PaperFlow export, the new value will not be reflected in exported data groups unless you remove the `//` comment codes. The **Reset CD Number?** code should appear as follows in the export script:

```

if (!PVUtilities.TrySetCustomCounter(DEPT_ID + "_" + PROJECT_NAME,
INITIAL_CD_NUMBER, out error))
throw (new Exception("Unable to reset custom counter: " +
error.Message));

```

After you remove the comment codes, you must run the export to reset the counter. The next data group that is created will reflect your new **INITIAL_CD_NUMBER** value. Finally, to ensure that new data groups increment properly from the new **INITIAL_CD_NUMBER**, you must insert the // comment codes once again:

```

//if (!PVUtilities.TrySetCustomCounter(DEPT_ID + "_" + PROJECT_
NAME, INITIAL_CD_NUMBER, out error))
//throw (new Exception("Unable to reset custom counter: " +
error.Message));

```



I M P O R T A N T

You must export to a directory that does not contain existing data groups. Otherwise, the system will attempt to append to data groups whose maximum size has not been reached, and the new **INITIAL_CD_NUMBER** value may be ignored or other unexpected results may occur.

- In the **Max Data Group Size** box, specify the maximum export size in megabytes. The default value is **600**—the standard CD size. The specified value appears in the resulting export script as the **MAX_DATAGROUP_SIZE** constant value.
6. Click the **Indexes** tab, and then select the indexes you want include in the export.
 - To select all indexes, click **Select All**.
 - To deselect all indexes, click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The selected index values appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. In the resulting script, you can enter the name of the index value(s) between quotation marks, and separate each index value with a comma. If you leave this array blank, no indices are included.

7. Click the **OCR** tab, and then in the **OCR Step Name** list, select the job step whose full-text data are used for the export.

When **<None>**, (the default value) is specified, full-text data from the current job step are used for the export. The specified value appears in the resulting export script as the **OCR_JOB_STEP_NAME** constant value.

8. Click the **Options** tab, and then specify the following properties:
 - The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.

- The **Use Data Group Number in Export Folder** check box determines how the parent export directory is organized. When this check box is selected, the parent export directory is organized by data group name. When this check box is cleared (the default value), the parent export directory is organized by export number. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_DATAGROUP_NUMBER_IN_EXPORT_FOLDER** constant value.
- The **Include Data Group in Folder** check box determines whether a **DATAGRP** folder is created under the directory in which the export data is copied. For example, `root\export#\DATAGRP\export data`. When this check box is selected, the **DATAGRP** folder is created. When this check box is cleared, (the default value), the **DATAGRP** folder is not created. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **INCLUDE_DATAGROUP_IN_FOLDER** constant value.
- The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size so data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.



T I P

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained

after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.

- The **Support Multiple Projects** check box determines how department IDs are exported. When this check box is selected, multiple department IDs will be exported to the same folder, creating a single MDB file. When this check box is cleared (the default value), one department ID will be exported to a single folder. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **SUPPORT_MULTIPLE_PROJECTS** constant value.
- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.
- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.



N O T E

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

- The **Exclusive Export** check box determines whether separate folders are created for multiple exports that are processed simultaneously. When this check box is selected, only one export will be processed at a time in the **ROOT_PATH** location. If two or more exports access the same **ROOT_PATH** location, an error message will appear in the Windows Event Viewer, indicating the export folder is already in use. When this check box is cleared the export location is not treated as exclusive. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **EXCLUSIVE_EXPORT** constant value.

**I M P O R T A N T**

If you select the **Exclusive Export** check box, in PaperVision Capture R72 and earlier, and you regenerate an export script in R73 or later, you must specify the automation server when you configure the export. If you don't need to regenerate the script, it is not required to specify the automation server.

- The **Enable Data Group Auto-Mapping** check box determines whether data groups exported from PaperVision Capture are automatically mapped to the specific entity in PaperVision Enterprise or ImageSilo. When this check box is selected, a data group mapping file is created that contains the entity ID, and the mapping key encrypted data group name. Specify the following options:
 - **Entity ID** - Type the applicable PaperVision Enterprise or ImageSilo entity ID to which you want to map the data group.
 - **Mapping Key** - Type an encryption key name that will be used to encrypt the data group when exporting, and used to decrypt the data group when importing into PaperVision Enterprise or ImageSilo. This key ensures that only data groups that have been mapped by trusted sources are automatically imported into PaperVision Enterprise or ImageSilo. This value must also be added to PaperVision Enterprise or ImageSilo prior to importing the data group. Please refer to the *PaperVision Enterprise Administration Guide* for more information on entering the mapping key value into PaperVision Enterprise or ImageSilo.
9. If you need to securely transfer data to an FTP site, click the **FTP** tab, and then select the **Enable FTP** check box so you can specify the following properties:
- In the **Host** box, specify the FTP host site name used for the export. The default value is **secureupload.imagesilo.com**. The specified value appears in the resulting export script as the **FTP_HOST** constant value.
 - In the **Port** box, specify the command port number that will be used to connect to the remote FTP server. The default value is **21**, as FTP communications are typically initiated on this port. The specified value appears in the resulting export script as the **FTP_PORT** constant value.
 - The **Connection** list determines the type of connection that will be created. During an active connection, the remote FTP server specifies the data port number that will be used. During a passive connection, PaperVision Capture specifies the data port number that will be used. The specified value appears in the resulting export script as the **FTP_CONNECTION** constant value.
 - The **SSL Mode** list determines the type of FTP communications using SSL (also known as FTPS). The remote FTP server must also support this feature to use it. You can select one of the following values:
 - **Automatic** indicates the server will use SSL encryption, but will attempt to automatically determine whether to use Implicit or Explicit SSL.
 - **Implicit** indicates the SSL negotiation will start immediately after the FTP connection is established.

- **Explicit** indicates the connection will be established in plain text and then explicitly starts the SSL negotiation.
- **None** (no SSL encryption) indicates a standard FTP, non-encrypted session connection will be used.
- The specified value appears in the resulting export script as the **FTP_ENCRYPTION** constant value.
- In the **Username** box, specify the user name that will be used to authenticate to the remote FTP server. The specified value appears in the resulting export script as the **FTP_USERNAME** constant value.
- In the **Password** box, specify the password that will be used to authenticate to the remote FTP server. If you want to show the password in the **Script Editor**, insert the tilde character (~) before the password, for example, **~password**. The specified value appears in the resulting export script as the **FTP_PASSWORD** constant value.
- In the **Path** box, specify the folder name on the FTP site that stores the exported data. By default, this field is blank, and will write data to the user's home directory as specified by the FTP server. For example, other possible paths include the following:
 1. / (root)
 2. FolderA (subdirectory under home directory)
 3. /FolderA (subfolder under root path)The specified value appears in the resulting export script as the **FTP_USERNAME** constant value.
- The **Compare Last Modified Date** check box determines whether the last modified date is compared to the current one. For an operation type related to data groups or package files, the last modified date of the file being processed is automatically recorded. When this check box is selected (the default value), when the same job is processed (and potentially the same file), the last modified date of the previous run is compared to the current, last modified date. If the file has not changed, it will not be processed again. For data group processing, this allows users to perform incremental data group processing. After the data group has been changed, any data group files (that is, images) that have a modified date/time greater than or equal to the previous run's database (that is, DATAGRP.MDB or DATAGRP.XML) last modified date/time will be processed. When this check box is cleared, the last modified date is not compared, and the file will be processed even if it has not changed. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **FTP_COMPARE_LAST_MODIFIED_DATE** constant value.
- The **Delete Source after Transfer** check box determines whether the source data is deleted after the transfer is successful. When this check box is selected, source data is deleted after a successful transfer. When this check box is cleared (the default value), source data is retained. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **FTP_DELETE_SOURCE_AFTER_EXPORT** constant value.
- The **Create Compressed Package File** check box determines whether a compressed package file is created. When sending data groups or files to a remote site, you can increase transfer speed by sending a single, large file rather than hundreds or thousands of small files. When this check box is selected, a compressed package file is created that increases transfer speeds and security (if encryption is enabled). When this check box is cleared (the

default value), a compressed package file is not created. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **FTP_ENABLE_PACKAGE** constant value.

- The **Entity ID** box is read-only, and shows the ID of the remote entity whose encryption key will be used to decrypt the package file. When the export is configured to create compressed package files, the **Entity ID** and encryption values (**Key Name** and **Pass Phrase**) are placed into the package file to allow the remote PaperFlow system to decrypt the data. The specified value appears in the resulting export script as the **FTP_ENTITY_ID** constant value.
 - The **Key Name** box is read-only, and shows the name of the encryption key used to decrypt the package file. When the export is configured to create compressed package files, the **Entity ID** and encryption values (**Key Name** and **Pass Phrase**) are placed into the package file to allow the remote PaperFlow system to decrypt the data. The specified value appears in the resulting export script as the **FTP_KEY_NAME** constant value.
 - The **Pass Phrase** box is read-only, and contains a user-defined pass phrase that is passed through as SHA-2 algorithm (Secure Hashing Algorithm) to generate a 256-bit hash. When the export is configured to create compressed package files, the **Entity ID** and encryption values (**Key Name** and **Pass Phrase**) are placed into the package file to allow the remote PaperFlow system to decrypt the data. The specified value appears in the resulting export script as the **FTP_PASS_PHRASE** constant value.
10. After you have configured the FTP settings, click **Test Connection** to ensure that the connection is valid.
 11. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.



N O T E

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

ImageSilo/PVE XML Export

The **ImageSilo/PVE XML** export creates an export that can be used to import batches into ImageSilo or PaperVision Enterprise. The export file also contains the source Batch ID so that you can trace the export back to the batch from which it originated.

To configure the ImageSilo/PVE XML export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.



T I P

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
4. Double-click **ImageSilo/PVE XML** to open the **ImageSilo/PVE XML Configuration** dialog box.



N O T E

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Root Path** box, specify the location where the exports will be created after the automation service processes the step. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.



N O T E

If the **Root Path** box is blank, the export is written to the directory where PaperVision Capture is installed.

- In the **Company Name** box, specify the name of the company or department. A value in this box is required. The specified value appears in the resulting export script as the **COMPANY_NAME** constant value.
- In the **Company ID** box, specify the ID of the company or department. The default value is set to the identifier, **yymmddhhnssms**. The specified value appears in the resulting export script as the **COMPANY_ID** constant value.
- In the **Initial DG Number** box, specify the initial data group number used by ImageSilo or PaperVision Enterprise. The default value is **1**. The specified value appears in the resulting export script as the **INITIAL_DATA_GROUP_NUMBER** constant value.
- In the **Project Name** box, specify the name of the project. The default value is **Project Name**. The specified value appears in the resulting export script as the **PROJECT_NAME** constant value.
- In the **PV Folder Root Path** box, specify the root path containing all folders (used in the Folder view in ImageSilo or PaperVision Enterprise). The specified value appears in the resulting export script as the **PV_FOLDER_ROOT_PATH** constant value where you can

type the root path between the quotes (for example,
 C:\\Exports\\PVEXml\\FolderRootPath\\).

- In the **Doc Max per DG** box, specify the maximum number of documents per data group. The default value is **1000**, which is the recommended value for XML files. The specified value appears in the resulting export script as the **DOCUMENT_MAX_PER_DATAGROUP** constant value.
 - In the **Max Export Size** box, specify the maximum export size in megabytes. The default value is **600**. The specified value appears in the resulting export script as the **MAX_EXPORT_SIZE** constant value.
6. Click the **Indexes** tab, in the upper index area, select the indexes you want include in the export, and then, in the lower index area, select the indexes you want to use as folder names.
- To select all indexes, click **Select All**.
 - To deselect all indexes, click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.

The indexes you selected to include in the export appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. To include all indices, leave the array blank.

The indexes you selected to use as folder names appear in the resulting export script as the **PV_FOLDER_INDICES** constant value. These indexes represent each folder used in the Folder view in ImageSilo or PaperVision Enterprise. If you leave the array blank, no index values will be included.

7. Click the **OCR** tab, and then specify the following properties:
- In the **OCR Engine** list, select the OCR engine (Nuance or Open Text) that processes OCR data for the export. The specified value appears in the resulting export script as the **OCR_ENGINE** constant value.
 - In the **OCR Converter** list, select the OCR converter code whose output format is used to export full-text data. When **<None>**, (the default value) is specified, both images and associated full-text data are exported. The specified value appears in the resulting export script as the **OCR_CONVERTER_CODE** constant value.
 - In the **OCR Step Name** list, select the job step whose full-text data are used for the export. When **<None>**, (the default value) is specified, full-text data from the current job step are used for the export. The specified value appears in the resulting export script as the **OCR_JOB_STEP_NAME** constant value.
8. Click the **Options** tab, and then specify the following properties:
- The **Create Multi-Page Image** check box determines whether exported images are single-page or multiple-page. This check box is available only when a **Conversion Type** is specified. When this check box is selected, exported images will be multiple-page. When this check box is cleared, exported images will be single-page. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CREATE_MULTI_PAGE_IMAGE** constant value.
 - The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported

images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.

- The **Use Export Complete File** check box determines whether an **export.complete** file is generated. When this check box is selected (the default value), an **export.complete** file is generated after an export has reached its maximum file size do data will no longer be appended to the export. When this check box is cleared, an **export.complete** file is not generated, so data may be appended to export folders that have not reached their maximum size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **USE_EXPORT_COMPLETE_FILE** constant value.

E X A M P L E

The **Use Export Complete File** check box is cleared so that the **USE_EXPORT_COMPLETE_FILE** constant value is set to **False**, the maximum export size (**MAX_EXPORT_SIZE** constant) is defined as 600 MB, and the following four folders are available under the specified root path (**ROOT_PATH** constant):

Folder_1: 600 MB

Folder_2: 400 MB

Folder_3: 600 MB

Folder_4: 100 MB

Since the maximum export size has been reached in Folder_1, Folder_2 will be used as the export folder, and the **export.complete** file will not be generated.



T I P

By default, the `lockedPath` (working directory) for any export is returned by calling `GetNextLockedPath()`. If an export should contain this constant value, the following line in the **Script Editor**, which is available to use in all exports, can be changed to:

```
lockedPath = GetNextLockedpath(root, MAX_EXPORT_SIZE, true).
```

- The **Create Submit File** check box determines whether a **DATAGRP.SUBMIT** file is automatically generated. When this check box is selected (the default value), a **DATAGRP.SUBMIT** file is automatically generated. If you are importing the data group via a monitored import path or the Data Transfer Manager, this file is required before the import can run in ImageSilo or PaperVision Enterprise. When this check box is cleared, the **DATAGRP.SUBMIT** file is not automatically generated. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CREATE_SUBMIT_FILE** constant value.
- The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.

- The **Disable Appending** check box determines whether exported images are appended to export folders that have not reached their maximum file size. When this check box is selected, exported images will not be appended to export folders that have not reached their maximum file size. When this check box is cleared (the default value), exported images will be appended to folders that have not reached their maximum file size. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DISABLE_APPENDING** constant value.
- The **Conversion Type** list specifies the type of image file created during the export. The default value, **CVT_NO_CONVERSION**, does not convert images during the export. When exporting to a format that supports both single- and multiple-page images, you must select the **Create Multi-Page Image** check box (set the **CREATE_MULTI_PAGE_IMAGE** constant to **True**) if you want to create multiple-page images. Otherwise, single-page images will result. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CONVERSION_TYPE** constant value.

EXAMPLE

If you set the **Conversion Type** list to **CVT_TIFF_G4_MEDJPG**, a tiff image is created during the export. If the source image is binary, it will create a tiff using Group 4 compression; if the source image is color (jpg or bmp), it will create a tiff using Medium JPEG compression. (See "Enumerations" on page 493 for more information about conversion types.)

- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.



NOTE

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

- The **Exclusive Export** check box determines whether separate folders are created for multiple exports that are processed simultaneously. When this check box is selected, only one export will be processed at a time in the **ROOT_PATH** location. If two or more exports

access the same **ROOT_PATH** location, an error message will appear in the Windows Event Viewer, indicating the export folder is already in use. When this check box is cleared the export location is not treated as exclusive. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **EXCLUSIVE_EXPORT** constant value.



I M P O R T A N T

If you select the **Exclusive Export** check box, in PaperVision Capture R72 and earlier, and you regenerate an export script in R73 or later, you must specify the automation server when you configure the export. If you don't need to regenerate the script, it is not required to specify the automation server.

- The **Enable Data Group Auto-Mapping** check box determines whether data groups exported from PaperVision Capture are automatically mapped to the specific entity in PaperVision Enterprise or ImageSilo. When this check box is selected, a data group mapping file is created that contains the entity ID, and the mapping key encrypted data group name. Specify the following options:
 - **Entity ID** - Type the applicable PaperVision Enterprise or ImageSilo entity ID to which you want to map the data group.
 - **Mapping Key** - Type an encryption key name that will be used to encrypt the data group when exporting, and used to decrypt the data group when importing into PaperVision Enterprise or ImageSilo. This key ensures that only data groups that have been mapped by trusted sources are automatically imported into PaperVision Enterprise or ImageSilo. This value must also be added to PaperVision Enterprise or ImageSilo prior to importing the data group. Please refer to the *PaperVision Enterprise Administration Guide* for more information on entering the mapping key value into PaperVision Enterprise or ImageSilo.
9. If you need to securely transfer data to an FTP site, click the **FTP** tab, and then select the **Enable FTP** check box so you can specify the following properties:
- In the **Host** box, specify the FTP host site name used for the export. The default value is **secureupload.imagesilo.com**. The specified value appears in the resulting export script as the **FTP_HOST** constant value.
 - In the **Port** box, specify the command port number that will be used to connect to the remote FTP server. The default value is **21**, as FTP communications are typically initiated on this port. The specified value appears in the resulting export script as the **FTP_PORT** constant value.
 - The **Connection** list determines the type of connection that will be created. During an active connection, the remote FTP server specifies the data port number that will be used. During a passive connection, PaperVision Capture specifies the data port number that will be used. The specified value appears in the resulting export script as the **FTP_CONNECTION** constant value.
 - The **SSL Mode** list determines the type of FTP communications using SSL (also known as FTPS). The remote FTP server must also support this feature to use it. You can select one of the following values:
 - **Automatic** indicates the server will use SSL encryption, but will attempt to automatically determine whether to use Implicit or Explicit SSL.

- **Implicit** indicates the SSL negotiation will start immediately after the FTP connection is established.
 - **Explicit** indicates the connection will be established in plain text and then explicitly starts the SSL negotiation.
 - **None** (no SSL encryption) indicates a standard FTP, non-encrypted session connection will be used.
 - The specified value appears in the resulting export script as the **FTP_ENCRYPTION** constant value.
- In the **Username** box, specify the user name that will be used to authenticate to the remote FTP server. The specified value appears in the resulting export script as the **FTP_USERNAME** constant value.
 - In the **Password** box, specify the password that will be used to authenticate to the remote FTP server. If you want to show the password in the **Script Editor**, insert the tilde character (~) before the password, for example, **~password**. The specified value appears in the resulting export script as the **FTP_PASSWORD** constant value.
 - In the **Path** box, specify the folder name on the FTP site that stores the exported data. By default, this field is blank, and will write data to the user's home directory as specified by the FTP server. For example, other possible paths include the following:
 1. / (root)
 2. FolderA (subdirectory under home directory)
 3. /FolderA (subfolder under root path)

The specified value appears in the resulting export script as the **FTP_USERNAME** constant value.
 - The **Compare Last Modified Date** check box determines whether the last modified date is compared to the current one. For an operation type related to data groups or package files, the last modified date of the file being processed is automatically recorded. When this check box is selected (the default value), when the same job is processed (and potentially the same file), the last modified date of the previous run is compared to the current, last modified date. If the file has not changed, it will not be processed again. For data group processing, this allows users to perform incremental data group processing. After the data group has been changed, any data group files (that is, images) that have a modified date/time greater than or equal to the previous run's database (that is, DATAGRP.MDB or DATAGRP.XML) last modified date/time will be processed. When this check box is cleared, the last modified date is not compared, and the file will be processed even if it has not changed. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **FTP_COMPARE_LAST_MODIFIED_DATE** constant value.
 - The **Delete Source after Transfer** check box determines whether the source data is deleted after the transfer is successful. When this check box is selected, source data is deleted after a successful transfer. When this check box is cleared (the default value), source data is retained. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **FTP_DELETE_SOURCE_AFTER_EXPORT** constant value.
 - The **Create Compressed Package File** check box determines whether a compressed package file is created. When sending data groups or files to a remote site, you can increase

transfer speed by sending a single, large file rather than hundreds or thousands of small files. When this check box is selected, a compressed package file is created that increases transfer speeds and security (if encryption is enabled). When this check box is cleared (the default value), a compressed package file is not created. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **FTP_ENABLE_PACKAGE** constant value.

- The **Entity ID** box is read-only, and shows the ID of the remote entity whose encryption key will be used to decrypt the package file. When the export is configured to create compressed package files, the **Entity ID** and encryption values (**Key Name** and **Pass Phrase**) are placed into the package file to allow the remote PaperFlow system to decrypt the data. The specified value appears in the resulting export script as the **FTP_ENTITY_ID** constant value.
 - The **Key Name** box is read-only, and shows the name of the encryption key used to decrypt the package file. When the export is configured to create compressed package files, the **Entity ID** and encryption values (**Key Name** and **Pass Phrase**) are placed into the package file to allow the remote PaperFlow system to decrypt the data. The specified value appears in the resulting export script as the **FTP_KEY_NAME** constant value.
 - The **Pass Phrase** box is read-only, and contains a user-defined pass phrase that is passed through as SHA-2 algorithm (Secure Hashing Algorithm) to generate a 256-bit hash. When the export is configured to create compressed package files, the **Entity ID** and encryption values (**Key Name** and **Pass Phrase**) are placed into the package file to allow the remote PaperFlow system to decrypt the data. The specified value appears in the resulting export script as the **FTP_PASS_PHRASE** constant value.
10. After you have configured the FTP settings, click **Test Connection** to ensure that the connection is valid.
 11. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.

**NOTE**

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

SharePoint Export

The **SharePoint** export creates a file that can be used to import PaperVision Capture data into a Microsoft® SharePoint® site.

**NOTE**

Only Microsoft SharePoint 2007, 2010, 2013, and Office 365 (SharePoint Online) are supported for this export.

To configure the SharePoint export

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.

**T I P**

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click **Step Executing**, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
 4. Double-click **SharePoint** to open the **SharePoint Configuration** dialog box.
-

**N O T E**

For your reference, default values exist for many configuration items. If you don't want to use a default value, you can type or select the value you want to use.

5. On the **General** tab, specify the following properties:
 - In the **Base URL** box, specify the Microsoft SharePoint host site name and port used for the export. The specified value appears in the resulting export script as the **SHAREPOINT_BASE_URL** constant value.
 - In the **Username** box, specify the Microsoft SharePoint user name. The specified value appears in the resulting export script as the **SHAREPOINT_USERNAME** constant value.
 - In the **Password** box, specify the Microsoft SharePoint user's password. By default, the SharePoint password is encrypted in the **Script Editor**. If you want to show the password in the **Script Editor**, insert the tilde character (~) before the password, for example, **~password**. The specified value appears in the resulting export script as the **SHAREPOINT_PASSWORD** constant value.
 - In the **Domain** box, specify the Microsoft SharePoint domain name. The specified value appears in the resulting export script as the **SHAREPOINT_DOMAIN** constant value.
 - The **Use authenticated user** check box determines whether the database connection will use Windows Authentication credentials. Entering a user name and password for the database will supersede the Windows Authentication credentials.
 - The **SharePoint Online** check box determines whether your hosted SharePoint solution is enabled. When this check box is selected, the hosted SharePoint solution is enabled. When this check box is cleared, the hosted SharePoint solution is not enabled.
 - In the **Library** list, select the SharePoint library. The specified value appears in the resulting export script as the **SHAREPOINT_LIBRARY** constant value.
 - In the **Content Type** list, select the SharePoint content type. If content types have been created in the SharePoint library, they will appear in this list. When exporting documents to a SharePoint site, you can optionally link documents to content types. Content types contain limited subsets of index fields in a SharePoint library.

E X A M P L E

A Financial Documents SharePoint library can contain three content types including Purchase Orders, Invoices, and Expense Reports. Each content type can be associated with a specific subset of index fields. Document content types (the default selection) include all index fields in the library. Content types are independent of file types, so one content type can be applied to multiple file types, such as Microsoft Word documents, Excel spreadsheets, and PowerPoint presentations.

The specified value appears in the resulting export script as the **CONTENT_TYPE** constant value. You can find additional information on SharePoint 2007 content types at:

<https://technet.microsoft.com/en-us/library/cc262735.aspx>

- In the **Root Path** box, specify the location on the SharePoint server where the folders will be created after the automation service processes the step. If you do not specify a value, no folders will be created on the SharePoint server. The specified value appears in the resulting export script as the **ROOT_PATH** constant value.
 - In the **Local Temp Folder** box, specify the local folder path where the SharePoint export is temporarily stored on your local machine prior to being moved to the SharePoint site. A default value appears, but you can overwrite it by typing a new path, or clicking the ellipsis button to browse to and then select a new path. The specified value appears in the resulting export script as the **LOCAL_TEMP_FOLDER** constant value.
6. Click the **Indexes** tab.
 7. In the **Capture Field** column, select the index you want to map to a SharePoint column, and then do one of the following:
 - In the corresponding **SharePoint Column** list, select the column name you want to map to the index.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.
 - To automatically map the index to a similarly-named SharePoint column, click **Auto Map**.
 - To create a new SharePoint column to map to the index, in the corresponding **SharePoint Column** field, select **<Create New>**.

**N O T E**

Some PaperVision Capture index types might not be supported in Microsoft SharePoint. Therefore, some indexes cannot be mapped to SharePoint columns in the export.

The index values you mapped to SharePoint columns appear in the resulting export script as the **INDICES_TO_INCLUDE** constant value. The columns must already be defined in your SharePoint library. To provide a mapping between fields, the following format is required:

```
<Capture Field>:<SharePoint Column>
```

**N O T E**

The **INDICES_TO_INCLUDE** constant is optional, so when data is not included, Microsoft SharePoint's metadata is not populated.

8. In the lower index area, select the indexes to map to SharePoint folders.
 - To select all indexes, click **Select All**.
 - To deselect all indexes click **Deselect All**.
 - To reorder the indexes, select the index you want to move, and then click **Move Up** or **Move Down**.
9. Click the **OCR** tab, and then specify the following properties:
 - In the **OCR Engine** list, select the OCR engine (Nuance or Open Text) that processes OCR data for the export. The specified value appears in the resulting export script as the **OCR_ENGINE** constant value.
 - In the **OCR Converter** list, select the OCR converter code whose output format is used to export full-text data. When **<None>**, (the default value) is specified, both images and associated full-text data are exported. The specified value appears in the resulting export script as the **OCR_CONVERTER_CODE** constant value.
 - In the **OCR Step Name** list, select the job step whose full-text data are used for the export. When **<None>**, (the default value) is specified, full-text data from the current job step are used for the export. The specified value appears in the resulting export script as the **OCR_JOB_STEP_NAME** constant value.
10. Click the **Options** tab, and then specify the following properties:
 - The **Image Source Prefer Bitonal** check box applies to dual-stream scanners and determines whether to export bitonal or color images. When this check box is selected (the default value), exported images will be bitonal. When this check box is cleared, exported images will be color. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **IMG_SRC_PREFER_BITONAL_IMAGES** constant value.
 - The **Delete Document after Export** check box determines whether documents are deleted after they are exported. When this check box is selected, documents are deleted after they are exported. When this check box is cleared (the default value), documents are retained after they are exported. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **DELETE_DOCUMENT_AFTER_EXPORT** constant value.
 - The **Conversion Type** list specifies the type of image file created during the export.
 - The default value, **CVT_NO_CONVERSION**, does not convert images during the export. When exporting to a format that supports both single- and multiple-page images, you must select the **Create Multi-Page Image** check box (set the **CREATE_MULTI_PAGE_IMAGE** constant to **True**) if you want to create multiple-page images. Otherwise, single-page images will result. The specified value (**True** for selected, otherwise **False**) appears in the resulting export script as the **CONVERSION_TYPE** constant value.

E X A M P L E

If you set the **Conversion Type** list to **CVT_TIFF_G4_MEDJPG**, a tiff image is created during the export. If the source image is binary, it will create a tiff using Group 4 compression; if the source image is color (jpg or bmp), it will create a tiff using Medium JPEG compression. (See "Enumerations" on page 493 for more information about conversion types.)

- The **Image Source** list determines the job step from which images are used for the export. The default selection, **<None>**, uses the most recent image prior to exporting. To use images from another job step, select the name of the step from the **Image Source** list. The specified value appears in the resulting export script as the **IMG_SRC_JOB_STEP_NAME** constant value.
- In the **Automation Server** box, you can specify the automation server(s) (in the **MACHINENAME_INSTANCE** format) that will process exports. If you specify the automation server(s), they will process exports one at a time in the **ROOT_PATH** location. When one or more automation servers are specified, separate folders may be created for multiple exports that are processed simultaneously. If you are using multiple automation servers, separate each server name with a comma. You can enter wildcard characters in this field and values that you enter are not case-sensitive. If you leave the **Automation Server** box blank, all servers will be used to process the exports. The specified value appears in the resulting export script as the **AUTOMATION_SERVER** constant value.

**N O T E**

If you are using multiple automation services, your exported data may output to multiple folders, regardless of what is specified in the **Automation Server** box (**AUTOMATION_SERVER** constant value).

11. After you have configured the appropriate properties, click **OK** to save the your settings. On the **Properties** tab, the **Step Executing** property now appears as **Enabled**.

**N O T E**

The most recent template and programming language that you selected is retained for the next time you create a custom code generator.

Modify Exports in the Script Editor

After an export has been configured using the **Custom Code Generator**, you can use the **Script Editor** to modify the export script.

- See "Exports Overview" on page 431 for general information about exports and access to instructions for configuring each export type.
- See "Script Editor" on page 475 for instructions to use the features in the script editor.

To modify an export script in the Script Editor

1. On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To open the Job Definitions window to edit an existing job" on page 80 if you need help opening the **Job Definitions** window.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.
3. Click **Step Executing**, and then click the ellipsis button to open the **Select Edit Mode** dialog box.
4. Select **Script Editor** and then click **OK**.
5. In the **Script Editor**, you can edit constant values that were previously set for the export in the **Custom Code Generator**. (If you need help identifying a constant, see the section for the export type you are editing. The constants that correspond to data are listed in the configuration procedure.)

E X A M P L E

During the original configuration of the export, on the **OCR** tab **PDF** was selected from the **OCR Converter** list. To change the OCR Converter so that searchable images are exported (for Nuance Full-Text OCR), change the **OCR_CONVERTER_CODE** constant in the **Script Editor**. To modify the constant, the following line in the XML script would read:

```
private const string OCR_CONVERTER_CODE = "PDFImageOnText";
```

For a list of converter codes, open the **PVCaptureBatchAPI.chm** help file located in the **Docs** directory where PaperVision Capture is installed, and then see the "PVBatch.TryGetOCRFiles Method" topic.

In another scenario, you can use full-text OCR data from another job step by modifying the **OCR_JOB_STEP_NAME** constant. This is completed by entering the name of the step between the quotes, for example, "Nuance Full-Text OCR" or "Open Text Full-Text OCR".

Match and Merge Wizard

The **Match and Merge Wizard** walks you through configuring connection properties, index mapping, and optional match and merge settings that are used by the **Match and Merge** custom code generator.



I M P O R T A N T

Ensure that the lookup table and columns for the database are configured and indexes are defined before running the **Match and Merge Wizard**.

To configure the Match and Merge custom code generator

1. On the workspace of the **Job Definitions** window do one of the following:
 - Double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
 - Double-click the job step for which you want to configure the match and merge process.

2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.



T I P

To remove existing custom code, right-click **Step Executing**, and then click **Reset**.

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click the ellipsis button, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

3. Do one of the following:
 - For a **Custom Code** step or other automated job step, do the following:
 1. Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
 2. Ensure that the **Advanced** check box is selected, and then in the **Language** list, select either **C#** or **Visual Basic**.
 3. Double-click **Match and Merge - Auto** to open the **Match and Merge Wizard**.
 - For a manual job step, do the following:
 1. Click **Match and Merge**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
 2. Ensure that the **Advanced** check box is selected, and then in the **Language** list, select either **C#** or **Visual Basic**.
 3. Double-click **Match and Merge - Manual** to open the **Match and Merge Wizard**.
4. In the **Match and Merge Wizard**, pick the datasource type from the list, and then click **Next**.
5. In the **Connection Properties** area, set the following items:
 - In the **Server** box, type the database server where the match and merge process will be performed.
 - (For ODBC datasources only) In the **Driver** box, type the ODBC driver name.
 - In the **Database** box, type the database name where the match and merge process will be performed.
 - In the **User Name** box, type the user name for the database server connection.
 - In the **Password** box, type the password for the database server connection.



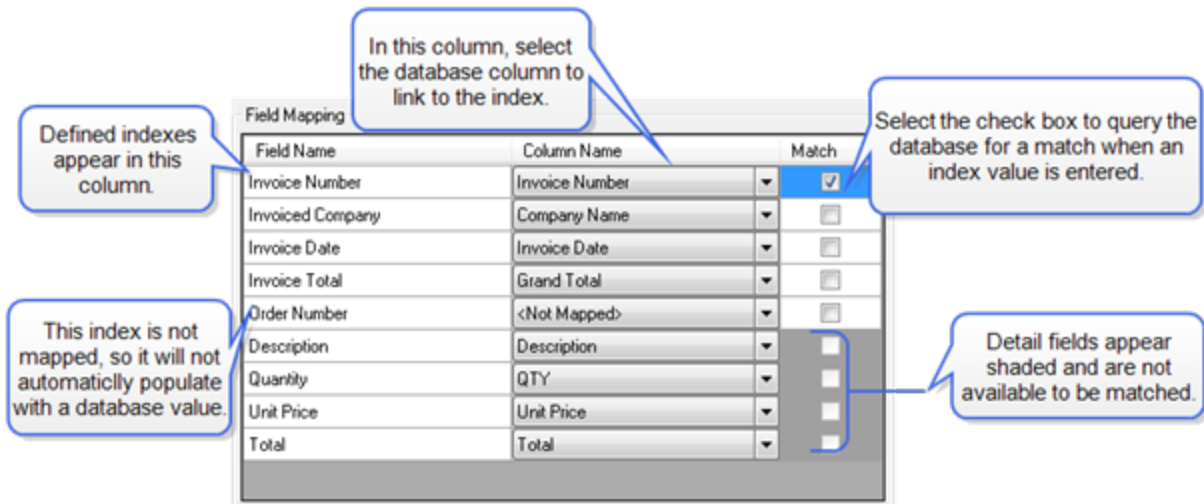
N O T E

If you leave the **User Name** and **Password** boxes blank, the database connection will use the Windows Authentication credentials. Entering a user name and password for the database will supersede the Windows Authentication credentials.

6. If you want to use a custom connection string, select **Custom Connection String**, and then type the connection information in the box below the option.
7. To test the connection to the database, click **Connect**.

After you connect to the database, values appear in the **Lookup Table** list.

- From the **Lookup Table** list, select the database table used for lookups, and then click **Next** to access the **Field Mapping** area.



- To link a defined index that appears in the **Field Name** column to a database column, under **Column Name** select the corresponding database column.



NOTE

If you do not want to create a link for a defined index, then leave the **Column Name** value set to **<Not Mapped>**. When an operator runs the **Merge Index Values** command, only the mapped indexes will be populated in the **Index Manager**.

- If you want a database query to occur for the index value, select the corresponding **Match** check box. (You cannot select this option for detail fields which appear shaded as shown in the preceding screen shot.)

For manual job steps

If you have selected the **Match** check box for an index, the database query occurs when the operator runs the **Merge Index Values** command. When a match is found, values for the mapped indexes will populate in the **Index Manager**. If more than one match is found, a list displays all of the matches, and then the operator can select which one they want to use.

EXAMPLE

Based on the configuration in the preceding screen shot, when an operator enters a value for the **Invoice Number** index, and then runs the **Merge Index Values** command, the system will query the database for a matching value. If a match is found, all of the mapped indexes (**Invoiced Company**, **Invoice Date**, **Invoice Total**, **Description**, **Quantity**, **Unit Price**, and **Total**) will be populated in the index manager. The **Order Number** index will not be populated because it is not mapped to a database column.

**T I P**

If operators do not know the exact index value during hand-key indexing, they can insert wildcard characters to perform a partial search against a database. For example, they can insert the percent sign (%) to specify any number of unknown characters to search for in a SQL, Sybase, or Oracle database; they can insert the asterisk (*) to specify any number of unknown characters to search for within a Microsoft Access database.

For automated job steps

If you have selected the **Match** check box for an index, the database query occurs automatically. When a match is found, values for the mapped indexes will populate. If more than one match is found, the indexes associated with the first matching value are used.

11. Click **Next** to access the **Match and Merge Options** area, and then set the following items:
 - In the **Number of Blank Fields Required** box, type or select the number of fields (indexes) that must be blank before a database query to find a match occurs. For example, if this value is set to **2**, and only one index is left blank before the match and merges process is run, then PaperVision Capture will not attempt to match because at least two indexes were not blank. Valid values range from zero to the number of database columns that are defined. For example, if you have five database columns defined, you can enter a value from zero to five.
 - The **Overwrite Existing Index Information** check box, when selected, will cause the match and merge values to overwrite the existing index entries that are already populated in the batch.
 - The **Match Count Column** check box applies only to integer data type columns in the database. Select this check box if the match count should increment in the database by one each time a match is found. If you select this check box, then select the corresponding database column from the list.
 - The **Delete Matching Records** check box, when selected, causes the matching record to be removed from the database after it is found during the match and merge process.
-

**N O T E**

You can select only the **Match Count Column** check box or the **Delete Matching Records** check box, but not both.

- The **Enable Detail Sets** check box determines how detail sets are populated.

For manual job steps

If you select the **Enable Detail Sets** check box, detail set values are populated when the operator enters a value for the index. If you do not select this check box, a list displays all of the matches that meet the index field criteria, and then the operator can select which one they want to use. The detail fields are populated based on the selected record.

For automated job steps

If you select the **Enable Detail Sets** check box, all detail fields are automatically populated (for example, if five rows of data meet your criteria, five detail sets are populated). If you do not select this check box, the detail fields populate with data from the first row of results.

- Click **Next**, and then click **Finish**.

On the **Properties** tab, either **Step Executing** or **Match and Merge** now appear as **Enabled**.



N O T E

If you need to make changes to the match and merge configuration, click the ellipsis button next to **Enabled**, select the editing method (either **Wizard** or **Script Editor**), and then click **OK**.

Match and Merge with Text Files

If you are using custom code to match and merge index fields with a text file, you can control how data is handled in the lookup table. For example, if the text file contains dates, currency, or decimal data, you can manipulate how data is formatted by creating a schema information file (Schema.ini) and placing it in the same directory where the text file resides. If you do not define how date columns are handled, date values will be imported in the DateTime format. You can find information on how to create Schema.ini files on the Microsoft Software Developer's Network at the following link:

[http://msdn.microsoft.com/en-us/library/ms709353\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/ms709353(VS.85).aspx)

Script Editor

The **Script Editor** launches with pre-written, generic code that you can edit and compile directly in the window. The **Script Editor** window contains the "CallHandler" pre-written method. Although you can add new methods or properties to the "Code" class or call out to other classes (even those defined in your own, separately-compiled assemblies), you should not remove the "CallHandler" method since it is the entry point for executing your custom code. If you call out to other namespaces, remember to add a reference to the necessary assemblies. (See "To specify references in the Script Editor" on page 477 for instructions to add a reference to an external assembly file.)

To open the Script Editor

- On the workspace of the **Job Definitions** window, double-click the **Custom Code** step. (See "To configure a Custom Code step" on page 428 if you need help adding a **Custom Code** step.)
- On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.
- Click **Step Executing**, and then click the ellipsis button to open the **Select Custom Code Generator** dialog box.
- Ensure that the **Advanced** check box in the upper-right corner is selected.
- From the **Language** list, select the **C#** or **Visual Basic** programming language.
- From the list of generators, select one of the following:
 - **Basic** - Select this option to write your own custom code directly in the **Script Editor**.
 - **Export Template** - Select this option to open a pre-defined custom code script for custom exports that you can edit in the **Script Editor**.

To import a custom code XML file into the Script Editor

- Open the **Script Editor** window. (See "To open the Script Editor" above if you need instructions.)
- On the toolbar, click **Import**.

3. In the **Open** dialog box, locate, and then select the XML file you want to import.
4. Click **Open**.

To export custom code from the Script Editor into an XML file

1. Open the **Script Editor** window. (See "To open the Script Editor" on the previous page if you need instructions.)
2. On the toolbar, click **Export**.



NOTE

You cannot export code that does not compile successfully in the **Script Editor**.

3. In the **Save as** dialog box, specify the location and name for the XML file you want to export.
4. Click **Save**.

To edit custom code in the Script Editor

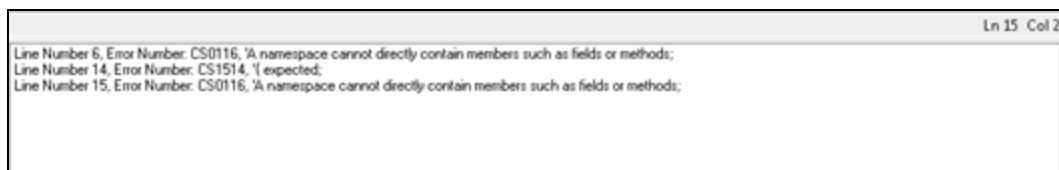
1. Open the **Script Editor** window. (See "To open the Script Editor" on the previous page if you need instructions.)
2. Select the custom code you want to edit.
3. On the toolbar, do one of the following:
 - Click **Cut** to remove the selected code and place it on the clipboard.
 - Click **Copy** to copy the selected code to the clipboard.
4. To move the code that you cut or copied in the previous step, place your cursor at the new location for the code, and then on the toolbar click **Paste**.

To compile custom code in the Script Editor

1. Open the **Script Editor** window. (See "To open the Script Editor" on the previous page if you need instructions.)
2. After writing your custom code in the **Script Editor**, on the toolbar, click **Compile**.

If the code compiles correctly a "**Code compiled successfully!**" message appears.

If the code does not compile correctly a pane appears at the bottom of the window similar to the following.



TIP

Double-click an error to go to directly to the line of code where the error occurs in the **Script Editor**.

3. If necessary, fix any errors that exist, and then compile the code again.
4. After the “**Code compiled successfully!**” message appears, click **OK**.

To specify references in the Script Editor



N O T E

References are used to link external assemblies, including standard .NET or custom assemblies that you generate.

1. Open the **Script Editor** window. (See "To open the Script Editor" on page 475 if you need instructions.)
2. On the toolbar, click **References** to open the **References** dialog box where a default listing of assembly files appears.
3. Do one of the following:
 - To add more assembly files, click **Add**, and then in the **Add Reference** dialog box, do one of the following:
 - Select the file(s) that you want to add, and then click **OK**.
 - Click **Browse**, and then locate and select the assembly file(s) you want to add, and then click **Open**.
 - To remove assembly files, select the file(s) you want to remove, and then click **Remove**.
4. When you are finished adding and removing references, click **OK**.

To search custom code in the Script Editor

1. Open the **Script Editor** window. (See "To open the Script Editor" on page 475 if you need instructions.)
2. On the toolbar, in the **Find** box, type the information for which you want to search.
3. Press Enter to initiate the search.

If a match is found, it is selected in the code.

If a match is not found, a “**Text not found!**” message appears,
4. To find the next instance of a match, to the right of the **Find** box, you can click one of the following:
 - Click **Find Next** to search forward from the current location in the code.
 - Click **Find Previous** to search backwards from the current location in the code.

Digitech Systems' API

You can access Digitech Systems' API from the **Script Editor**. (See "Script Editor" on page 475 for instructions to use the **Script Editor**.) The API provides classes for reading and writing documents and indexes within the current batch. For more information about the Digitech Systems API, open the **PVCaptureBatchAPI.chm** help file located in the **Docs** directory where PaperVision Capture is installed. This help file provides Microsoft Developer's Network (MSDN)-style documentation on our DSI.Capture.API Namespace, including code samples.

Custom code samples (as text or XML files) are in the **Library\Samples** directory where PaperVision Capture is installed. You can cut and paste the code directly into the **Script Editor** for a **Custom Code** step. The following code samples are included:

- **AddPrefixValueToBatchDocumentIndexes** iterates through all documents comprising a batch and appends prefixes to index values.



NOTE

This script is intended to be run in an automated **Custom Code** step.

- **AutoCreateBatches_Part1** and **AutoCreateBatches_Part2** use the **PaperVision Capture Automation Server** to create and populate batches on the fly through two custom code steps (for example, polling a directory for .tiff files, and then automatically creating batches).



NOTE

Creating and populating batches via automated Custom Code causes the Automation Server to consume a PaperVision Capture Scan license. You cannot perform this operation with a Capture Demo Click license.

- **AutoDocBreak_Barcode** demonstrates a custom code event that runs when an auto document break occurs after a specified barcode is detected.
- **AutoDocBreak_BlankPage** demonstrates a custom code event that runs when an auto document break occurs on a blank page using the specified minimum file size.
- **AutoDocBreak_MaxPagesPerDoc** demonstrates a custom code event that runs when an auto document break occurs after a document has reached a specified number of pages.
- **CalltoCustomAssembly** demonstrates one way to call out to code in your own assembly.
- **CopyIndexValues** duplicates an index value from a source document to one or more subsequent documents.
- **DisplayBatchPageCount** displays the total number of pages in the batch (designed to be run in the Operator Console from a manual custom code execute event).
- **ExportFullTextData** copies full-text OCR data for each document stored in the batch to a specified directory.
- **ImportASCIIwithImages** imports images and index information from a number of other document imaging systems.



NOTE

You must configure constants at the beginning of the script for the operator to successfully run the script.

- **InspectBeforeAddPage** examines the physical dimensions of a scanned image and inserts a document break if the page is detected as an envelope.
- **MatchAndMergeOnIndexValidate** executes custom code that will look up and populate index values when the operator enters a index value and then tabs to the next field.

- **MultiPageTIFFConversion** divides a multiple-page .tiff files into separate images (one image per page).
- **OCRFullTextPageStatistics** records Open Text Full-Text OCR statistics per selected output type. Statistics are recorded when the **Open Text Full-Text OCR** step processes a page and converts the page to the selected output format(s).
- **OCRIndexZoneStatistics** records Open Text Zonal OCR statistics when an Open Text OCR zone populates an index value.
- **OCRMarkSenseZoneStatistics** records Open Text Zonal OCR statistics when an Open Text OCR zone inserts an auto document break page between documents.
- **OpenBatchCustomCode** executes custom code when the operator opens a batch in the Operator Console.
- **QCDocumentPageCounts** automatically applies a QC tag to every document in the batch that contains fewer than four and greater than six pages. This script is designed to be run from within a manual job step from the Custom Code Execute event.
- **QCTaggingIndexDocAndPageCustomCode** automatically tags a document containing more than “x” number of pages; pages less than “x” kilobytes; and, index fields containing specific text. For example, to change the maximum number of pages per document to 6, change the following lines to:

```
if (pages.Length > 6)
    if(!this.Batch.TryAddDocumentTag(docId, "Document Size", "Document
        contains more than 6 pages", out error))
```

- **RecordDailyDocumentAndPageCountStatistics** when used in an automated Custom Code step following a Capture step, totals the number of documents and pages for batches that flow through a job on a daily basis. Results are available as custom statistics that are viewable and filterable from the **Batch Statistics** screen.
 - **Reformat Indexes** attempts to parse all non-text barcode and OCR values that are ingested into index fields without being formatted. The script calls the "TrySetValueFormatted" method after attempting to parse the value, and then tags the index if the value cannot be formatted.
 - **SendEmail** runs custom code that sends an email, for example, you could modify this code to send an email when an unclassified document is found in a batch.
 - **SetScanDate** automatically sets a scan date index value (document creation date) into the batch for every document. The document's creation date is the date/time the document entered the batch. The date/time value is stored in Universal Time Coordinated (UTC), also known as Greenwich Mean Time (GMT). For example, Denver, Colorado's UTC time at 2:00 PM on April 9, 2009 will display as "04/09/2009 20:00:00." To change the date/time value to your local time zone instead of UTC, change the code in line 46 to:
- ```
if (!this.Batch.TrySetIndexValue(id, "ScanDate",
 documentCreatedDate.ToLocalTime(), true, out error))
```
- **SubmitBatchCustomCode** executes custom code when the operator submits a batch in the Operator Console.
  - **ValidateIndex** provides an example of how to validate an index field value.

## Batch Property

Within your custom code, you can access the Digitech Systems API via the Batch property. The Batch property is of the type **DSI.Capture.API.Batch** and represents the primary entry point for the Digitech Systems' API.

For example, to insert a new document into a batch within your CallHandler method (C# in this case), you can type:

```
this.Batch.TryInsertDocument(/*see API documentation for
parameters*/)
```

Another approach is to call out to your own assembly and pass the instance of the Batch object to your code (again, the instance is available as the "Batch" property inside the pre-written "Code" class.) This approach would allow you to use Visual Studio for coding. Then, at run time, you would need to ensure that your assembly is located in the same directory as the PaperVision Capture executable files.

## Custom Code Event Arguments

Each custom code event exposes an argument parameter that is specific to the given event type. Within your code, you can access these arguments to read event-specific data and to configure settings. For example, your code can change a property that determines the action that is triggered in the PaperVision Capture Operator Console after the event. The event-specific arguments are listed below.



### NOTE

The following classes are derived from the .NET System.Data.DataSet class and support all DataSet properties and functions. Additionally, DataSets are mapped to index values in the Operator Console's Index Manager.

---

- See "Add Page Event - CCustomCodeNewImageEventArgs" on the facing page for information about using this argument.
- See "Barcode Detected Event - BarcodeReadEventArgs" on the facing page for information about using this argument.
- See "Custom Code Execution Event - ManualCustomCodeEventArgs" on the facing page for information about using this argument.
- See "Index Populated Event - IndexPopulateEventArgs" on page 482 for information about using this argument.
- See "Index Validate Event - IndexValidateEventArgs" on page 482 for information about using this argument.
- See "OCR Statistics Event - OCRFullTextPageProcessedEventArgs" on page 482 for information about using this argument.
- See "OCR Statistics Event - OCRIndexZoneProcessedEventArgs" on page 484 for information about using this argument.
- See "OCR Statistics Event - OCRMarkSenseZoneProcessedEventArgs" on page 485 for information about using this argument.



- See "Saving Indexes Event - IndexSaveEventArgs" on page 487 for information about using this argument.

## Add Page Event - CCustomCodeNewImageEventArgs

The Add Page event uses the CCustomCodeNewImageEventArgs class to pass every scanned image to the custom code. Use of this argument is illustrated in the InspectBeforeAddPage sample script:

```
CCustomCodeNewImageEventArgs args = base.Parameter as
CCustomCodeNewImageEventArgs;
```

The following properties are located within the custom code:

1. Image.Attributes (hashtable containing the following image attributes):
  - a. PageSide: string (indicates the side of the page as "Front" or "Back")
  - b. DriverName: string (indicates the name of the scanner driver)
2. PageTags: TagInfo[]

This property can be used to specify one or more page tags to be added after the page has been appended to the batch. Tags added to a break page (based on job configuration settings to delete break pages) will be ignored.

## Barcode Detected Event - BarcodeReadEventArgs

The Barcode Detected event uses the BarcodeReadEventArgs class to pass every barcode's data (from each barcode zone) to the custom code. This event is triggered each time a barcode is successfully detected during scanning (multiple barcodes can be detected per page).

The following properties are located within the custom code:

1. BarcodeItem Properties
 

These properties contain all barcode data, including barcode value, location, size, orientation, and barcode type.
2. PageTags: TagInfo[]
 

This property can be used to specify one or more page tags to be added after the page has been appended to the batch. Tags added to a break page (based on job configuration settings to delete break pages) will be ignored.

## Custom Code Execution Event - ManualCustomCodeEventArgs

The Custom Code Execution event uses the ManualCustomCodeEventArgs class to pass the operator's index values to the manual custom code event. This event is triggered when the operator triggers the Execute Custom Code operation in the Operator Console.

```
ManualCustomCodeEventArgs args = base.Parameter as
ManualCustomCodeEventArgs;
```

## Index Populated Event - IndexPopulateEventArgs

The Index Populated event uses the `IndexPopulateEventArgs` class to pass the operator's index values to the custom code. This event is triggered when an index value is populated.

```
IndexPopulateEventArgs args = base.Parameter as
IndexPopulateEventArgs
```

## Index Validate Event - IndexValidateEventArgs

The Index Validate event uses the `IndexValidateEventArgs` class to pass the operator's index values to the custom code. This event is triggered once the operator proceeds or tabs to the next index field in the Index Manager.

```
IndexValidateEventArgs args = base.Parameter as
IndexValidateEventArgs;
```

## OCR Statistics Event - OCRFullTextPageProcessedEventArgs

The OCR Statistics custom code event uses the `OCRFullTextPageProcessedEventArgs` class to pass Open Text full-text data from each page (per selected output format) to the custom code. For each output type, this event is triggered once a page has been converted to PDF, PaperVision Enterprise, PaperFlow, or Text full-text output.

The following properties are located within the custom code:

1. DocumentId: string
2. PageId: Guid
3. PageIndex: int32
4. OCRWords: int32

The `OCRWords` property contains the following variables:

```
internal OCRCharacter[] characters = new OCRCharacter[] { };
internal Int32 line = 0;
internal System.Drawing.Point location = new System.Drawing.Point
();
internal System.Drawing.Size size = new System.Drawing.Size();
```

The `OCRCharacter` variable contains the following properties:

```
public System.Drawing.Point Location
{
 get
 {
 return location;
 }
}
```

```
}
public System.Drawing.Size Size
{
 get
 {
 return size;
 }
}
public Byte Confidence
{
 get
 {
 return confidence;
 }
}
public Char Code
{
 get
 {
 return code;
 }
}
public bool Rejected
{
 get
 {
 return rejected;
 }
}
public Char [] Alternatives
{
 get
 {
 return alternatives;
 }
}
```

5. RecognitionTime: int32 (milliseconds)
6. AdditionalValues: Hashtable
7. ConverterName: string

### OCR Statistics Event - OCRIndexZoneProcessedEventArgs

The OCR Statistics custom code event uses the OCRIndexZoneProcessedEventArgs class to pass index values populated by Open Text OCR zones to the custom code. This event is triggered once the contents of an Open Text OCR zone populate an index value.

The following properties are located within the custom code:

1. DocumentId: string
2. PageId: Guid
3. PageIndex: int32
4. OCRWords: int32

The OCRWords property contains the following variables:

```
internal OCRCharacter[] characters = new OCRCharacter[] { };
internal Int32 line = 0;
internal System.Drawing.Point location = new System.Drawing.Point
();
internal System.Drawing.Size size = new System.Drawing.Size();
```

The OCRCharacter variable contains the following properties:

```
public System.Drawing.Point Location
{
 get
 {
 return location;
 }
}
public System.Drawing.Size Size
{
 get
 {
 return size;
 }
}
```

```

public Byte Confidence
{
 get
 {
 return confidence;
 }
}
public Char Code
{
 get
 {
 return code;
 }
}
public bool Rejected
{
 get
 {
 return rejected;
 }
}
public Char [] Alternatives
{
 get
 {
 return alternatives;
 }
}

```

5. RecognitionTime: int32 (milliseconds)

6. AdditionalValues: Hashtable

7. FieldName: string

## OCR Statistics Event - OCRMarkSenseZoneProcessedEventArgs

The OCR Statistics custom code event uses the OCRMarkSenseZoneProcessedEventArgs class to pass auto document break zone statistics to the custom code. This event is triggered when an Open

Text OCR zone inserts an auto document break page between documents.

The following properties are located within the custom code:

1. DocumentId: string
2. PageId: Guid
3. PageIndex: int32
4. OCRWords: int32

The `OCRWords` property contains the following variables:

```
internal OCRCharacter[] characters = new OCRCharacter[] { };
internal Int32 line = 0;
internal System.Drawing.Point location = new System.Drawing.Point
();
internal System.Drawing.Size size = new System.Drawing.Size();
```

The `OCRCharacter` variable contains the following properties:

```
public System.Drawing.Point Location
{
 get
 {
 return location;
 }
}
public System.Drawing.Size Size
{
 get
 {
 return size;
 }
}
public Byte Confidence
{
 get
 {
 return confidence;
 }
}
```

```

public Char Code
{
 get
 {
 return code;
 }
}
public bool Rejected
{
 get
 {
 return rejected;
 }
}
public Char [] Alternatives
{
 get
 {
 return alternatives;
 }
}

```

5. RecognitionTime: int32 (milliseconds)
6. AdditionalValues: Hashtable

## Saving Indexes Event - IndexSaveEventArgs

The Saving Indexes event uses the `IndexSaveEventArgs` class to pass the operator's index values to the custom code. The Saving Indexes event is triggered as index values are saved to the batch. This class contains the `BatchNavigation` enumeration property that determines which document (in the Operator Console) opens immediately after indexes are saved.

```
IndexSaveEventArgs args = base.Parameter as IndexSaveEventArgs;
```



### **N O T E**

By default, the Saving Indexes event proceeds to the next document.

---

Within your custom code, you can use the following constants to set the `BatchNavigation` enumeration property:

1. None: Remains on current document
2. NextDoc: Proceeds to next document
3. PreviousDoc: Returns to previous document
4. LastDoc: Proceeds to last document in batch
5. FirstDoc: Returns to first document in batch

For example, you can configure the BatchNavigation enumeration property to remain on the current document after index values are saved:

```
args.BatchNavigation = BatchNavigation.None;
```

## Additional API Functions

In addition to the API Functions documented in the **PVCaptureBatchAPI.chm** help file, you can use the API functions described in the following table within your custom code.

| Custom Code<br>Export Functions                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>protected string[] GetPageFiles(string documentID)</pre> <p>Returns path values for all images contained in a document (from all pages)</p>                                                                                  |
| <pre>protected Stream GetFileStream(PVFile file)</pre> <p>Returns the stream for a specified PVFile</p>                                                                                                                           |
| <pre>protected Stream[] GetDocumentStreams(string documentID)</pre> <p>Returns an array of streams for all files contained in a document (from all pages)</p>                                                                     |
| <pre>protected Stream[] GetDocumentStreams(string documentID, string<br/>jobStepName, bool bitonal)</pre> <p>Returns streams for all files contained in a document (from all pages) based on job step name and bitonal option</p> |
| <pre>protected void CopyStreamToDisk(Stream stream, string path)</pre> <p>Copies content of a stream to disk</p>                                                                                                                  |
| <pre>public string[] CopyFilesToDisk(string documentID, string rootPath)</pre> <p>Copies all files from a document (from all pages) to a folder and returns an array for all image path values</p>                                |
| <pre>protected void SetPersistValue(string key, string value, string<br/>rootPath)</pre> <p>Copies all files from a document (from all pages) to a folder based on job step name and bitonal option</p>                           |



## Custom Code Export Functions

```
protected string Get PersistValue(string key, string rootPath)
```

Reads persisted value for a key

```
protected string GetNextLockedPath(string root, Int32 maxExportSize,
bool exclusive)
```

Returns the next available path (path is locked before it is returned)



### NOTE

If you set the EXCLUSIVE\_EXPORT script constant to **True**, the function will throw an exception if the last available folder is in use. If you set the EXCLUSIVE\_EXPORT script constant to **True**, it is strongly recommended to specify an automation server that will process exports. You can assign the automation server on the **Options** tab of the configuration dialog box for the export. See "Exports Overview" on page 431 to access instructions to configure each export.

---

```
String GetNextLockedPath(string root, Int32 maxExportSize,
ExcludePathDelegate excludeFunction, bool exclusive)
```

Returns the next available path (path is locked before it is returned)



### NOTE

If you set the EXCLUSIVE\_EXPORT script constant to **True**, the function will throw an exception if the last available folder is currently in use. The delegate is used to determine which folders should be skipped. In addition, if you set the EXCLUSIVE\_EXPORT script constant to **True**, it is strongly recommended to specify an automation server that will process exports. You can assign the automation server on the **Options** tab of the configuration dialog box for the export. See "Exports Overview" on page 431 to access instructions to configure each export.

---

```
protected string GetNextLockedPath(string root, Int32 maxExportSize)
```


Returns the next available path (path is locked before it is returned)




### NOTE

If using this custom code function in conjunction with the EXCLUSIVE\_EXPORT script constant (set to **True**), it is strongly recommended to specify an automation server during export configuration. You can assign the automation server on the **Options** tab of the configuration dialog box for the export. See "Exports Overview" on page 431 to access instructions to configure each export.

---

| <b>Custom Code<br/>Export Functions</b>                                                                                                                                                                                   |                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <code>protected void UnlockPath(string path)</code>                                                                                                                                                                       | Deletes lock for a specified path                                                   |
| <code>void ClearRootPath(string path)</code>                                                                                                                                                                              | Deletes all folders containing empty subfolders for all folders listed under 'path' |
| <code>protected void SetExportComplete(string path)</code>                                                                                                                                                                | Flags folder as complete by dropping export.complete file                           |
| <code>protected bool IsExportComplete(string path)</code>                                                                                                                                                                 | Checks whether export folder is flagged as complete                                 |
| <code>protected bool IsExported(string documentID)</code>                                                                                                                                                                 | Checks whether document was previously exported                                     |
| <code>protected bool SetExported(string documentID)</code>                                                                                                                                                                | Sets the document's exported status                                                 |
| <code>protected void DeleteDocument(string documentID)</code>                                                                                                                                                             | Deletes document after it has been exported                                         |
| <code>protected void SetStatus(string status, Int32 percentage)</code>                                                                                                                                                    | Returns percentage of custom code that has been executed                            |
| <code>Protected int GetNonExportedDocumentCount();</code>                                                                                                                                                                 | Returns the number of non-exported documents                                        |
| <code>protected string[] GetPageText (string filePath)</code>                                                                                                                                                             | Returns text for each page                                                          |
| <code>protected string[] GetOCRFiles (string documentID, string stepName, string converterCode)</code>                                                                                                                    | Returns Full-Text OCR files belonging to a specific converter                       |
| <code>string[] GetOCRFiles (string documentID, string stepName, string converterCode, string path)</code>                                                                                                                 | Writes Full-Text OCR files belonging to a specific converter to directory 'path'    |
| <hr/>  <b> I M P O R T A N T </b><br><hr/> The caller is responsible for post-processing clean-up if the files are not required. <hr/> |                                                                                     |

| Custom Code<br>Export Functions                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>string ConvertImages(string[] sourceFiles, string destinationFile, ConvertFileType convertFileType)</pre>            | <p>Converts one or more images to a single destination image file and returns the actual path under which the file was saved</p>                                                                                                                                                                                                                                                                                                                                                 |
| <pre>Int32 GetPageCount(string sourceFile)</pre>                                                                          | <p>Returns the number of pages found in a multiple-page image</p>                                                                                                                                                                                                                                                                                                                                                                                                                |
| <pre>string GetPageImage(string sourceFile, Int32 pageIndex, string destinationFile, OutputFileType outputFileType)</pre> | <p>Retrieves a specific image referenced by a specific page index in a multiple-page image</p>                                                                                                                                                                                                                                                                                                                                                                                   |
| <pre>protected string[] GetPageFiles(string documentID)</pre>                                                             | <p>Returns a path value for all images belonging to a document (from all pages)</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| <pre>bool IsMultipageFormat(ConvertFileType convertFileType)</pre>                                                        | <p>Determines if the passed file type supports multiple-page format</p>                                                                                                                                                                                                                                                                                                                                                                                                          |
| <pre>Int32 GetBlankIndexCount()</pre>                                                                                     | <p>Returns the number of blank indices</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <pre>string[] GetAvailableFields()</pre>                                                                                  | <p>Returns the set of fields that can be written to</p>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <pre>string GetIndexValue(string fieldname)</pre>                                                                         | <p>Returns the field value for the specified field name</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <pre>void SetIndexValue(string fieldname, string fieldValue)</pre>                                                        | <p>Assigns a field value for a specified field name</p> <hr/> <div style="display: flex; align-items: center;">  <p><b>N O T E</b></p> </div> <p>This function cannot be used with a detail set field; otherwise, an exception will result. Also, when called from within an Index Validate event, this function can only be used for the target index.</p> <hr/> |
| <pre>string[] GetDetailSetFields()</pre>                                                                                  | <p>Returns the field names of the detail set in Match and Merge</p>                                                                                                                                                                                                                                                                                                                                                                                                              |
| <pre>void AssignDetailSet(DataRow row)</pre>                                                                              | <p>Assigns a detail set field in automated match and merge using a single passed DataRow</p>                                                                                                                                                                                                                                                                                                                                                                                     |

| <b>Custom Code<br/>Export Functions</b>                             |                                                                                                                                                                                            |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>void AssignDetailSet(DataSet dataset)</code>                  | Assigns detail set values from a DataSet (returned from the database) - used in match and merge                                                                                            |
| <code>void AssignDetailSet(DataRow row, DataSet indices)</code>     | Assigns a detail set from a passed DataRow value (manual match and merge) - detail set is not written to the batch; instead, it is written to the indices DataSet which passed from the UI |
| <code>void AssignDetailSet(DataSet dataset, DataSet indices)</code> | Assigns detail set values to passed indices (manual match and merge)                                                                                                                       |
| <code>void UpdateCurrentIndex(DataRow row)</code>                   | Updates the current index value from the passed DataRow - row is retrieved from a dataset populated by the SQL database (match and merge)                                                  |
| <code>Bool IsFieldDetailSet(string fieldName)</code>                | Checks whether the specified field is a detail set field                                                                                                                                   |
| <code>PVIndexMetadata GetIndexMetadata(string fieldName)</code>     | Returns metadata for an index                                                                                                                                                              |
| <code>bool IsFieldEmpty(string fieldName)</code>                    | Checks whether a field is empty                                                                                                                                                            |
| <code>string GetMappedColumn(string fieldName)</code>               | Returns the mapped column to a specific field name (match and merge)                                                                                                                       |
| <code>DataTable GetMapping()</code>                                 | Returns a mapping table between indices and table columns (match and merge)                                                                                                                |
| <code>string GetWhereClause()</code>                                | Generates a WHERE clause to be used in the SQL query (match and merge)                                                                                                                     |
| <code>string GetWhereClause(DataRow row)</code>                     | Generates a WHERE clause to be used in the SQL query that uses the values in DataRow to add conditions (match and merge)                                                                   |
| <code>string[] GetDocumentIDs()</code>                              | Returns list of document id values                                                                                                                                                         |
| <code>PVPage[] GetPages(string documentID)</code>                   | Returns a list of pages for a specific document                                                                                                                                            |

| Custom Code Export Functions                                                   |                                                                                              |
|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <code>string GetPath(PVFile file)</code>                                       | Returns a path for a specified file                                                          |
| <code>PVIndex[] GetIndices(string documentID)</code>                           | Returns a list of indices for a specific document                                            |
| <code>PVDetailSet[] GetDetailSets(string documentID)</code>                    | Returns the detail set values for a specific document                                        |
| <code>PVFile GetPreferredFile(PVPage, string jobStepName, bool bitonal)</code> | Returns the file that matches the bitonal value (otherwise, first file in array is returned) |
| <code>string GetExtension(string imagePath)</code>                             | Returns the extension of an image path                                                       |

## Enumerations

The enumerations described in this section can be used within your custom code.

### public enum ConvertFileType

This enumeration is used by the `ConvertImages()` function and specifies the conversion types that will be applied to one or more images.

```
{
 /// <summary>
 /// No file conversion (returns image input path and appends an
 /// extension if not passed in destinationFile variable)
 /// </summary>
 CVT_NO_CONVERSION,
 /// <summary>
 /// TIFF with Group IV and/or medium JPEG compression (single- or
 /// multi-page)
 /// </summary>
 CVT_TIFF_G4_MEDJPG,
 /// <summary>
 /// TIFF with Group IV and/or LZW compression (single- or multi-
 /// page)
 /// </summary>
}
```

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```
CVT_TIFF_G4_LZW,
 /// <summary>
 /// TIFF with no compression (single- or multi-page)
 /// </summary>
CVT_TIFF_NONE,
 /// <summary>
 /// PDF with Group IV and/or medium JPEG compression (single- or
 multi-page)
 /// </summary>
CVT_PDF_G4_MEDJPG,
 /// <summary>
 /// PDF with Group IV and/or LZW compression (single- or multi-page,
 and image-only PDFs)
 /// </summary>
CVT_PDF_G4_LZW,
 /// <summary>
 /// JPEG with medium JPEG compression (single-page only)
 /// </summary>
CVT_JPG_MEDJPG,
 /// <summary>
 /// GIF (single-page only)
 /// </summary>
CVT_GIF,
 /// <summary>
 /// BMP (single-page only)
 /// </summary>
CVT_BMP,
 /// <summary>
 /// PNG (single-page only)
 /// </summary>
CVT_PNG
 /// <summary>
 /// JPEG 2000
 /// </summary>
CVT_JPG2000

}
```

## public enum OutputFileType

This enumeration is used by the `GetPageImage()` function, and specifies the output file types when single pages are retrieved from a multiple-page image.

```
{
 /// <summary>
 /// JPEG
 /// </summary>
 OFT_JPG
 /// <summary>
 /// TIFF
 /// </summary>
 OFT_TIFF
 /// <summary>
 /// Bitmap
 /// </summary>
 OFT_BMP
 /// </summary>
 OFT_PNG
}
```

## public enum UIRefreshLevel

This enumeration synchronizes the Operator Console's user interface with any changes made to the batch via custom code. Setting the `UIRefreshLevel` in custom code forces the user interface to refresh the selected component specified by the enumeration value (`None`, `Index`, `CurrentDocumentIndexes`, etc.). If you use either the `Index Populated` or `Index Validate Custom Code Event` to change an index value, the Operator Console's Index Manager will remain synchronized using the **`UIRefreshLevel.Index`** value.

```
{
 /// <summary>
 /// no UI refresh required
 /// </summary>
 None = 0x00,
 /// <summary>
 /// index field needs to be refreshed (i.e., via IndexValidate or
 /// IndexPopulate event)
 /// </summary>
}
```

```
Index = 0x01,
/// <summary>
/// all indexes for current document need to be refreshed (does not
/// apply to Match and Merge)
/// </summary>
CurrentDocumentIndexes = 0x02,
/// <summary>
/// current page needs to be refreshed
/// </summary>
SinglePage = 0x04,
/// <summary>
/// multiple pages need to be refreshed
/// </summary>
MultiPage = 0x08

}
```

## Public Properties

The public properties listed in this section can be used within your custom code.

```
/// <summary>
/// Batch object
/// </summary>
public PVBatch Batch

/// <summary>
/// Parent Window
/// </summary>
public Control Parent

/// <summary>
/// Control referencing the current index
/// </summary>
public Control Control

/// <summary>
/// Used to pass optional parameters
/// </summary>
public object Parameter
```



```

/// <summary>
/// Code result that returns status of custom code execution
/// </summary>
public CodeResult CodeResult

/// <summary>
/// PDF Resolution used when importing PDF files
/// </summary>
public Int32 PDFResolution

/// <summary>
/// PDF Smoothing option used when importing PDF files
/// </summary>
public PDFSmoothing PDFSmoothing

```

## Debug Custom Code

Custom code that you type in the **Script Editor** window is compiled on-the-fly by PaperVision Capture, so there is no way to debug or step through this code at run time. However, if you write code in your own assemblies and call out to these pre-compiled assemblies, then you can debug this code by attaching your debugger to the appropriate capture process.

For code that is run in a manual job step (for example, code running in a "Saving Indexes" event), then you should attach your debugger to the **CaptureClient.exe** process.

### To debug code that is executed in an automated custom code step

1. On the machine where the code is going to be executed, stop the **PaperVision Process Initiator Windows** service.
2. Set your debugger to start an external application for debugging.
3. From the directory where PaperVision Capture is installed, choose the **DSI.PVECommon.PVProcWork.exe** executable and pass a command line argument of "0." When you start this executable, it will execute any pending "Process Batch" operations (including executing custom code steps) that have been appropriately scheduled. (See "Configure Automation Service Scheduling" on page 54 for information about scheduling operations.)
4. When you are finished debugging, restart the **PaperVision Process Initiator Windows** service.



#### CAUTION

Do not attempt to debug code in a production environment. Doing so may adversely impact system performance and have unpredictable impacts on customer data and end-user functionality.

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# CHAPTER 14

## Manual QC

---

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- Operator Permissions Properties ..... 507





## Manual QC Step Overview

The **Manual QC** step allows operators to manually tag batches, documents, pages, and index fields for further review in the Operator Console. When the **Allow Manual QC** property is enabled in the **Capture** or **Indexing** step, operators can tag batches, documents, pages, and indexes for further review while scanning or indexing. Enabling the **Allow Manual QC** property within a **Capture** or **Indexing** step consumes a Capture QC Manual license in addition to the Capture Scan or Capture Index license.

QC batch statistics are recorded for the **Manual QC** step. QC batch statistics provide totals for tagged index values, pages, and documents per batch. Batch statistics also provide the total number of tags and record how many of each tag type were applied. The total amount of time the operator spent in the **Manual QC** step is also recorded. See "Batch Statistics" on page 641 and "QC Batch Statistic Descriptions" on page 648 for more information.

This content describes how to configure properties that apply to the **Manual QC** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure a Manual QC step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Manual QC** step to the workspace using one of the following methods.
  - Select the step that you want **Manual QC** to follow. On the **Job Step Toolbox** tab, double-click **Manual QC**.
  - On the **Job Step Toolbox** tab, drag **Manual QC** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Manual QC**.
5. Double-click the **Manual QC** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



#### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized**  .
  - To alphabetically sort the properties without any categories, click **Alphabetical**  .
8. For instructions to set **Manual QC** step properties, see the following:

- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
- See "Custom Code Events [Step Level] Properties" on page 504 for instructions to set the properties under this category.
- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
- See "General [Step Level] Properties" on page 505 for instructions to set the properties under this category.
- See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

**N O T E**

The **Allow Hand-Key Indexing** property is not available in the **Manual QC** step. Operators assigned to the **Manual QC** step can review index values in the read-only **Index Manager** so they can apply QC index tags as necessary (without consuming a Capture Index license that is required to edit indexes).

---

- See "Manual QC - QC Auto Play Property" on page 506 for instructions to set the property under this category.
  - See "Operator Permissions Properties" on page 507 for instructions to set the properties under this category.
9. For instructions to add pass and fail links and custom QC tags, see the following:
- See "Add Pass and Fail Links" on page 513 for instructions to perform this task.
  - See "Add Custom QC Tags" on page 503 for instructions to perform this task.

## Add Pass and Fail Links

When you configure a **Manual QC** or **Automated QC** step, you can define pass and fail links from each step. Pass and fail links define how batches will flow through job steps after:

- an operator completes a **Manual QC** step in the Operator Console.
- an **Automated QC** step finishes executing all automated tasks.

If any QC tags were added to a batch, document, image, or index, then upon batch submission, that batch fails the QC step and goes to the step to which the fail link is pointing. If no QC tags were added to the batch, document, image, or index, then upon batch submission, that batch passes the QC step and goes to the step to which the pass link is pointing.

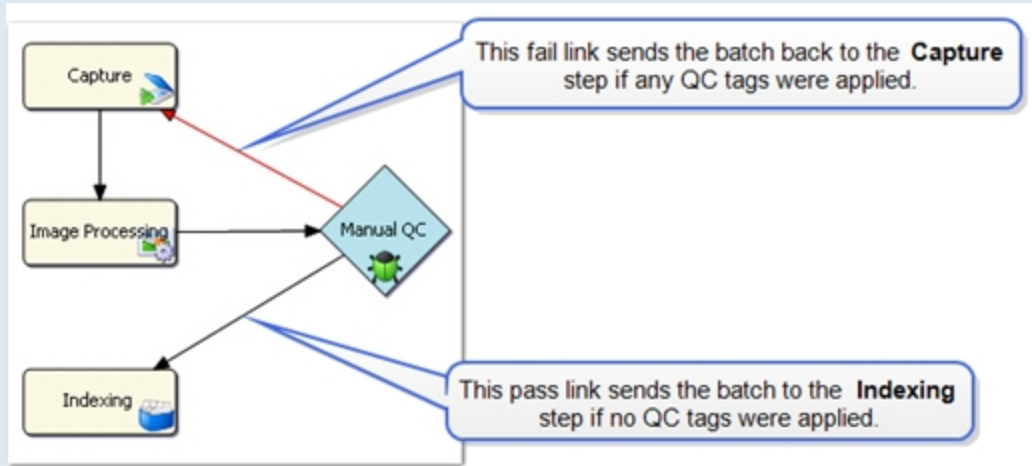
**N O T E**

Defining a pass or fail link from a QC step is not required. However, when using pass and fail links, the job must have only one end step.

---

**E X A M P L E**

In a job containing a **Capture**, **Image Processing**, **Manual QC**, and **Indexing** step, you can add a fail link from a **Manual QC** step that points back to the **Capture** step if an operator tags an image to be re-scanned. You can also add a pass link from the **Manual QC** step that points to the **Indexing** step if an operator does not tag any images in the batch.



### To add a pass link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. Select the **Manual QC** or **Automated QC** step from which you want to create a pass link.
4. Hold down the Ctrl key, and then click the job step where the batch is to be routed if no QC tags are applied during the QC step.
5. Do one of the following:
  - On the **Job Steps** menu, click **Add Pass Link**.
  - On the toolbar, click **Add Pass Link**.

### To remove a pass link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps for which you want to remove the pass link.
4. Do one of the following:

- On the **Job Steps** menu, click **Remove Pass Link**.
- On the toolbar, click **Remove Pass Link**.

### To add a fail link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. Select the **Manual QC** or **Automated QC** step from which you want to create a fail link.
4. Hold down the Ctrl key, and then click the job step where the batch is to be routed if any QC tags are applied during the QC step.
5. Do one of the following:
  - On the **Job Steps** menu, click **Add Fail Link**.
  - On the toolbar, click **Add Fail Link**.

Fail links are red so you can easily identify them.

### To remove a fail link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps for which you want to remove the fail link.
4. Do one of the following:
  - On the **Job Steps** menu, click **Remove Fail Link**.
  - On the toolbar, click **Remove Fail Link**.

## Add Custom QC Tags


You can define custom QC tags that are available for selection when operators inspect batches, documents, pages, and index fields in the Operator Console. The following predefined tags are available for operators to select in the **Manual QC** step, and in **Capture** and **Indexing** steps if the **Allow Manual QC** property is enabled.

- **Batch** Category Predefined Tags
  - **Document Count** - This tag indicates that the document count for the batch fall outside of the specified range.
  - **Index Sequence** - This tag indicates that one or more numeric index values fall out outside of the specified range.
- **Document** Category Predefined Tags
  - **Document Page Count** - This tag indicates that the document page count falls outside of the specified range.
  - **Document Rescan** - This tag indicates that the document needs to be scanned once again

- **Index** Category Predefined Tags
  - **Index Error** - This tag indicates that an indexing error exists.
  - **Reindex** - This tag indicates that a specific index field needs to be indexed again.
- **Page** Category Predefined Tags
  - **Bad Image** - This tag indicates that an image cannot be opened.
  - **Bad Image Path** - This tag indicates that an image cannot be located.
  - **Image Dimensions** - This tag indicates that an image falls outside the specified height and width parameters.
  - **Image File Size** - This tag indicates that an image size falls outside the specified range.
  - **Page Rescan** - This tag indicates that the page needs to be scanned again.
  - **Skipped Full Text Processing** - This tag can be automatically applied in an OCR step and indicates that the Nuance OCR engine was not able to read any text so only an image appears.

You add custom QC tags at the job level, so they apply to the entire job and not a specific job step.

### To add custom QC tags

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure that no job steps are selected by clicking on a blank area of the workspace.
3. Click the **Properties** tab, and then if necessary, expand **General**.
4. Click **Custom QC Tags**, and then click the ellipsis button to open the **Custom QC Tags** dialog box.
5. From the **Category** list, select the item for which you want to create the tag.
6. Click **Add**, and then type the tag text that you want to appear on the Operator Console.
7. (Optional) After a tag appears in the list, you can select it, and then click  to delete it.

## Custom Code Events [Step Level] Properties

You can configure custom code that operators can run in the Operator Console. For each property, you can select the scripting language and configure the custom code. Some properties contain code-handling arguments that you can modify; these arguments define what actions are triggered after an operator executes the custom code. (See "Digitech Systems' API" on page 477 for more information).

### To set the Custom Code Events [Step Level] properties

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Custom Code Events [Step Level]**.
3. Click one of the following properties:
  - **Batch Opened** - This property runs custom code when the operator opens a batch in the Operator Console.



**N O T E**

The custom code associated with the **Batch Opened** property will not run if the **Max Number Documents per Batch** property is enable and the user completes the **Submit and Create New Batch** operation. (See "Max Number Documents Per Batch" on page 124 for instructions to set this property.)

- **Batch Submitted** - This property runs custom code when the operator submits a batch in the Operator Console.
  - **Custom Code Execution** - This property runs custom code when the operator clicks the **Execute Custom Code** command on the **Edit** menu or toolbar in the Operator Console.
4. Click the ellipsis button to open the **Select Custom Code Generator** dialog box where you can specify the custom code to be run.
  5. See "Custom Code Generators" on page 429 for information about specifying custom code.

**T I P**

To prevent the programming language prompt from appearing each time you configure custom code properties, right-click the ellipsis button, and then select **Custom Code Options**. Select either the **C#** or **Visual Basic** programming language to use by default, and then select the **Suppress the dialog when creating new custom code** check box.

## General [Step Level] Properties

Under the **General [Step Level]** category, you can set the **Browse Batch Single Row Indexes** and the **Update Detail Sets on Save** properties. These properties are described in the following procedures.

### To set the Browse Batch Single Row Indexes property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **General [Step Level]**.
3. Click **Browse Batch Single Row Indexes**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option causes indexes to display only on the first row of a document on the **Browse Batch** window, and only the first detail set contains the main index values. This is the default value.
  - **False** - Selecting this option causes indexes to be repeated for each detail set.

### To set the Update Detail Sets On Save property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **General [Step Level]**.
3. Click **Update Detail Sets On Save**, and then click the down arrow to select one of the following options:

- **True** - Selecting this option causes changes to detail sets that occur in the Operator Console to be retained when indexes are saved. This is the default value.
- **False** - Selecting this option allows detail fields to be edited in the Operator Console, but the changes are not saved. If index fields only are available for editing in the Operator Console, and detail sets exist but are not available for editing, you must select **False** so that the detail fields are not overwritten with blank values when indexes are saved.

## Manual QC - QC Auto Play Property

The **QC Auto Play** property is available only in the **Manual QC** step or in manual steps that have the **Allow Manual QC** property enabled, which requires a Capture QC Manual license. The **QC Auto Play** property lets you specify parameters for the QC Auto Play function in the Operator Console. You can specify how long (in milliseconds) each image appears on screen for operators to perform inspections on batches, documents, pages, and indexes. Additionally, you can determine whether to skip batches or documents during auto play.

### To set the QC Auto Play property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Manual QC**.
3. Click **QC Auto Play**, and then click the ellipsis button to open the **QC Auto Play** dialog box.
4. In the **Delay (ms)** box, type how long (in milliseconds) you want each image or group of images to remain on screen so operators can inspect them.
5. In the **Skip Mode** area, select one of the following options:
  - **Batch** - Selecting this option causes the QC Auto Play function to skip batches. If you select this option, you can specify only **Page Skipping** options. The **Document Skipping** options are unavailable.
  - **Document** - Selecting this option causes the QC Auto Play function to skip documents. If you select this option, you can specify **Page Skipping** and **Document Skipping** options.
6. If you selected **Document** in the previous step, in the **Document Skipping** area, select one of the following options:
  - **None** - Selecting this option causes the QC Auto Play function to skip no documents so operators must inspect all documents.
  - **Number** - When you select this option, you can specify the number of documents you want the QC Auto Play function to skip. For example, if you type **5**, the QC Auto Play function displays every fifth document for inspection.
  - **Random** - When you select this option, the QC Auto Play function skips an arbitrary number of documents between zero and the number you type. For example, if you type **10**, then the QC Auto Play function might skip three documents the first time it runs, seven documents the second time it runs, nine documents the third time it runs, and so on.
7. In the **Page Skipping** area, select one of the following options:
  - **None** - Selecting this option causes the QC Auto Play function to skip no pages so operators must inspect all pages.

- **Number** - When you select this option, you can specify the number of pages you want the QC Auto Play function to skip. For example, if you type **5**, the QC Auto Play function displays every fifth page for inspection.
  - **Random** - When you select this option, the QC Auto Play function skips an arbitrary number of pages between zero and the number you type. For example, if you type **10**, then the QC Auto Play function might skip three pages the first time it runs, seven pages the second time it runs, nine pages the third time it runs, and so on.
8. Click **OK** to save your settings and close the dialog box.

## Operator Permissions Properties

By default, operators can perform most document and page operations while in the **Manual QC** step. You can specify whether operators have permission to view the **Browse Batch** window, and import images in the **Manual QC** step. The Import Images property is the only property that, when enabled, requires an additional Capture Scan license (in addition to the Capture Index license). The remaining properties do not require an additional license, and are enabled by default to give operators flexibility in manipulating documents and pages when performing manual QC operations in the Operator Console.

### To set the Add Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Add Documents**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators append a blank document to the end of the batch.
  - **False** - Selecting this option prevents operators from adding documents.

### To set the Browse Batch property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Browse Batch**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators view the **Browse Batch** window in the Operator Console. This is the default value.
  - **False** - Selecting this option prevents operators from viewing the **Browse Batch** window.

### To set the Copy Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Copy Documents**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators copy all pages and append the new document after the selected document.
  - **False** - Selecting this option prevents operators from copying pages.

### To set the Copy/Move Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Copy/Move Pages**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators copy/paste and cut/paste consecutive or non-consecutive pages in one document or across multiple documents. The operator can also drag and drop pages from one location to another in the **Thumbnails** window or multiple-display view.
  - **False** - Selecting this option prevents operators from copying and moving pages.

### To set the Delete Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Delete Documents**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators delete documents and their associated images.
  - **False** - Selecting this option prevents operators from deleting documents.

### To set the Delete Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Delete Pages**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators delete one or multiple page(s) within one document or across multiple documents.
  - **False** - Selecting this option prevents operators from deleting pages.

### To set the Extract and Copy Regions property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Extract and Copy Regions**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators extract a region of an image and copy it to the next page of the document.
  - **False** - Selecting this option prevents operators from extracting and copying regions.

### To set the Import Images property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.

3. Click **Import Images**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators import images into a document in the Operator Console. This is the default value.
  - **False** - Selecting this option prevents operators from importing images.

**NOTE**

When you select **True** for this property, the **Manual QC** step also consumes a Capture Scan license (in addition to the Capture QC Manual license).

---

### To set the Insert Document Breaks property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Insert Document Breaks**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators insert a document break within a document.
  - **False** - Selecting this option prevents operators from inserting document breaks.

**NOTE**

When you select **True** for this property, the **Manual QC** step also consumes a Capture Scan license (in addition to the Capture QC Manual license).

---

### To set the Invert and Save Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Invert and Save Pages**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators invert the polarity of one or multiple pages, and then save the pages.
  - **False** - Selecting this option prevents operators from inverting page polarity and then saving the changes.

### To set the Remove Document Breaks property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Remove Document Breaks**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators remove an existing document break within a document.

- **False** - Selecting this option prevents operators from removing document breaks.

### To set the Re-Save Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Re-Save Pages**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators save a page that has had rotation or polarity settings applied to it.
  - **False** - Selecting this option prevents operators from saving pages that have had rotation or polarity settings applied.

### To set the Rotate and Save Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Rotate and Save Pages**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators rotate one or multiple pages and then save the pages.
  - **False** - Selecting this option prevents operators from rotating pages and then saving them.

### To set the Shuffle Documents to Duplex property

1. On the workspace of the **Job Definitions** window, double-click the **Manual QC** step. (See "To configure a Manual QC step" on page 500 if you need help adding a **Manual QC** step.)
2. On the **Properties** tab, if necessary, expand **Operator Permissions**.
3. Click **Shuffle Documents to Duplex**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option lets operators shuffle documents to duplex
  - **False** - Selecting this option prevents operators from shuffling documents to duplex.

# CHAPTER 15

## Automated QC

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## Automated QC Step Overview

The **Automated QC** job step provides automated quality control operations on batches, documents, pages, and indexes without requiring user input in the Operator Console. The **Automated QC** step can enhance QC accuracy and productivity for your batches and jobs. When an **Automated QC** step is used in a job, a Capture QC Auto license is consumed upon image capture (in the **Capture** step).

Automated QC statistics are recorded by the automation service when the **Automated QC** step runs. QC batch statistics provide totals for tagged index values, pages, and documents per batch. Batch statistics also provide the total number of tags and record how many of each tag type were applied. See "Batch Statistics" on page 641 and "QC Batch Statistic Descriptions" on page 648 for more information.

This content describes how to configure properties that apply to the **Automated QC** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure an Automated QC step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Automated QC** step to the workspace using one of the following methods.
  - Select the step that you want **Automated QC** to follow. On the **Job Step Toolbox** tab, double-click **Automated QC**.
  - On the **Job Step Toolbox** tab, drag **Automated QC** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Automated QC**.
5. Double-click the **Automated QC** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



#### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Automated QC** step properties, see the following:
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.



- See "Automated QC Properties" on page 515 to access instructions for each property under this category.
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
  - See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.
  - See "Index Properties - General QC [Step Level]" on page 519 to access instructions to set index properties that are specific to the **Automated QC** step.
9. See "Add Pass and Fail Links" below for instructions to perform this task.

## Add Pass and Fail Links

When you configure a **Manual QC** or **Automated QC** step, you can define pass and fail links from each step. Pass and fail links define how batches will flow through job steps after:

- an operator completes a **Manual QC** step in the Operator Console.
- an **Automated QC** step finishes executing all automated tasks.

If any QC tags were added to a batch, document, image, or index, then upon batch submission, that batch fails the QC step and goes to the step to which the fail link is pointing. If no QC tags were added to the batch, document, image, or index, then upon batch submission, that batch passes the QC step and goes to the step to which the pass link is pointing.



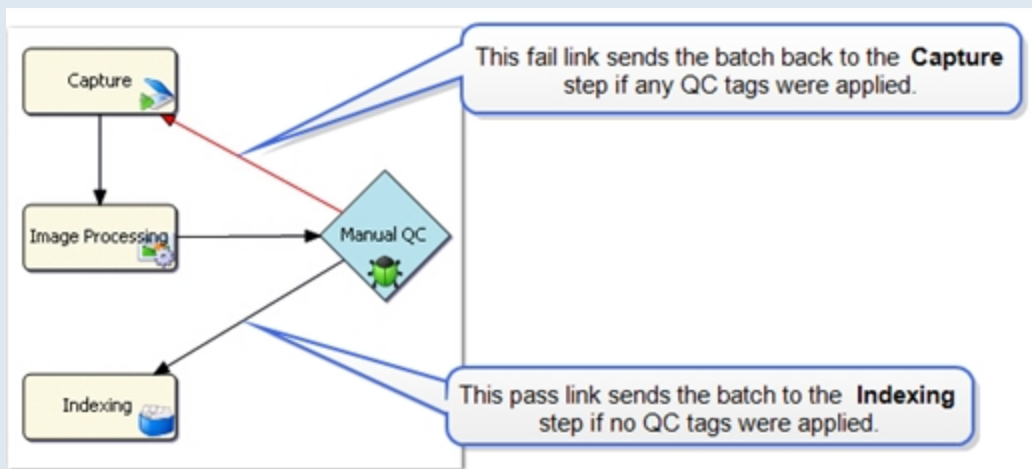
### NOTE

Defining a pass or fail link from a QC step is not required. However, when using pass and fail links, the job must have only one end step.

---

**E X A M P L E**

In a job containing a **Capture**, **Image Processing**, **Manual QC**, and **Indexing** step, you can add a fail link from a **Manual QC** step that points back to the **Capture** step if an operator tags an image to be re-scanned. You can also add a pass link from the **Manual QC** step that points to the **Indexing** step if an operator does not tag any images in the batch.



### To add a pass link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. Select the **Manual QC** or **Automated QC** step from which you want to create a pass link.
4. Hold down the Ctrl key, and then click the job step where the batch is to be routed if no QC tags are applied during the QC step.
5. Do one of the following:
  - On the **Job Steps** menu, click **Add Pass Link**.
  - On the toolbar, click **Add Pass Link**.

### To remove a pass link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps for which you want to remove the pass link.
4. Do one of the following:

- On the **Job Steps** menu, click **Remove Pass Link**.
- On the toolbar, click **Remove Pass Link**.

### To add a fail link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. Select the **Manual QC** or **Automated QC** step from which you want to create a fail link.
4. Hold down the Ctrl key, and then click the job step where the batch is to be routed if any QC tags are applied during the QC step.
5. Do one of the following:
  - On the **Job Steps** menu, click **Add Fail Link**.
  - On the toolbar, click **Add Fail Link**.

Fail links are red so you can easily identify them.

### To remove a fail link from a QC step

1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. Ensure the job steps you want to work with appear on the workspace. (See "Add Job Steps" on page 84 if you need help.)
3. On the workspace, hold down the Ctrl key, and then click the two job steps for which you want to remove the fail link.
4. Do one of the following:
  - On the **Job Steps** menu, click **Remove Fail Link**.
  - On the toolbar, click **Remove Fail Link**.

## Automated QC Properties

Automated QC properties let you specify which operations occur when the **Automated QC** step runs. Under the **Automated QC** category, you can set the following properties.

- See "Batch Document Count" on the next page for instructions to set this property.
- See "Document Page Count" on the next page for instructions to set this property.
- See "Image Dimensions" on page 517 for instructions to set this property.
- See "Image File Size (KB)" on page 517 for instructions to set this property.
- See "Invalid Image" on page 518 for instructions to set this property.
- See "Invalid Image Path" on page 518 for instructions to set this property.
- See "Prefer Bitonal" on page 519 for instructions to set this property.

## Batch Document Count

The **Batch Document Count** property lets you specify a minimum and/or maximum number of documents in a batch. For example, you can specify that each batch contains a minimum of one document and a maximum of 25 documents. If the document count for a batch does not fall within the defined range, it is tagged for review in the Operator Console.

### To set the Batch Document Count property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Batch Document Count**, and then click the ellipsis button to open the **Batch Document Count** dialog box.
4. To enforce a minimum document count for each batch, select the **Minimum** check box, and then type the minimum number of documents in the box.
5. To enforce a maximum document count for each batch, select the **Maximum** check box, and then type the maximum number of documents in the box.

## Document Page Count

The **Document Page Count** property lets you specify a minimum and/or maximum number of pages in a document. If the page count of a document falls outside of the specified range, it is tagged for review in the Operator Console.

### To set the Document Page Count property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Document Page Count**, and then click the ellipsis button to open the **Document Page Count** dialog box.
4. To enforce a minimum page count for each document, select the **Minimum** check box, and then type the minimum number of pages in the box.
5. To enforce a maximum page count for each document, select the **Maximum** check box, and then type the maximum number of pages in the box.



#### N O T E

Because pages may have been removed as a result of automated image operations, the **Automated QC** step ensures that the document page count falls within range as a final verification. If the document page count falls outside this range, the document is tagged for review.

---

## Image Dimensions

The **Image Dimensions** property lets you specify the height and/or width (in pixels) that images must fall within. If the dimensions of an image do not fall within those specified, you can specify that it either be deleted or tagged for review in the Operator Console.



### TIP

To calculate the approximate dimensions of an image in pixels, multiply the original size of the image (in inches) by the resolution of the scanned image. For example, an 8.5 x 11 inch page that is scanned at 200 DPI would be approximately 1700 pixels wide x 2200 pixels high.

---

### To set the Image Dimensions property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Image Dimensions**, and then click the ellipsis button to open the **Image Dimensions** dialog box.
4. In the **Action** list, select one of the following:
  - **Tag** - Select this option to have images that fall outside of the specified dimensions tagged for review in the Operator Console.
  - **Delete** - Select this option to have images that fall outside of the specified dimensions deleted in the Operator Console.
5. In the **Width** area, do the following:
  - To enforce a minimum width for each image, select the **Minimum** check box, and then type the minimum width in pixels in the box.
  - To enforce a maximum width for each image, select the **Maximum** check box, and then type the maximum width in pixels in the box.
6. In the **Height** area, do the following:
  - To enforce a minimum height for each image, select the **Minimum** check box, and then type the minimum height in pixels in the box.
  - To enforce a maximum height for each image, select the **Maximum** check box, and then type the maximum height in pixels in the box.

## Image File Size (KB)

The **Image File Size (KB)** property lets you specify the file size that images must fall within. If the size of an image does not fall within the defined range, you can specify that it either be deleted or tagged for review in the Operator Console.

### To set the Image File Size (KB) property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)

2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Image File Size (KB)**, and then click the ellipsis button to open the **Image File Size** dialog box.
4. In the **Action** list, select one of the following:
  - **Tag** - Select this option to have images that fall outside of the specified file size tagged for review in the Operator Console.
  - **Delete** - Select this option to have images that fall outside of the specified file size deleted in the Operator Console.
5. To enforce a minimum file size for each image, select the **Minimum** check box, and then type the minimum files size in kilobytes in the box.
6. To enforce a maximum file size for each image, select the **Maximum** check box, and then type the maximum file size in kilobytes in the box.

### Invalid Image

The **Invalid Image** property lets you specify whether the **Automated QC** step verifies that each image can be opened successfully and what action to take if the image cannot be opened.



#### NOTE

Because the image must be opened successfully for the dimensions and size to be evaluated, when the **Image Dimensions** and/or **Image File Size (KB)** properties are set, the **Invalid Image** property is unavailable, as its operation is inherently included in the others.

---

### To set the Invalid Image property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Invalid Image**, and then click the down arrow to select one of the following options:
  - **Off** - Selecting this option disables this feature.
  - **Delete Page** - Selecting this option enables this feature, and images that cannot be opened are deleted.
  - **Tag Page** - Selecting this option enables this feature, and images that cannot be opened are tagged for review.

### Invalid Image Path

The **Invalid Image Path** property lets you specify whether the **Automated QC** step verifies that each image path can be located and what action to take if the image path cannot be located.

**N O T E**

Because the image must be located successfully for the dimensions and size to be evaluated, when the **Image Dimensions** and/or **Image File Size (KB)** properties are set, the **Invalid Image Path** property is unavailable, as its operation is inherently included in the others.

### To set the Invalid Image Path property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Invalid Image Path**, and then click the down arrow to select one of the following options:
  - **Off** - Selecting this option disables this feature.
  - **Delete Page** - Selecting this option enables this feature, and images for which the image path cannot be located are deleted.
  - **Tag Page** - Selecting this option enables this feature, and images for which the image path cannot be located are tagged for review.

## Prefer Bitonal

The **Prefer Bitonal** property lets you specify whether to use bitonal (black and white) images.

### To set the Prefer Bitonal property



1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Automated QC**.
3. Click **Prefer Bitonal**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option will cause bitonal images to be used. When using only dual stream scanners, select **True**.
  - **False** - Selecting this option specifies that bitonal images will not be used.

## Index Properties - General QC [Step Level]

In the **Automated QC** step, you can add new indexes and configure properties for each index. (See "To add an index" on page 139 for instructions to add an index.) The **General QC [Step Level]** properties let you specify QC tasks that are performed on the index when the **Automated QC** step runs.

### To access index properties - General QC [Step Level]



1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.

4. In the **Index Properties** list, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.

**T I P**

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

5. (Optional) To sort the properties do one of the following:
- To sort the properties by category, at the top of the **Index Properties** list, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
6. For instructions to set the index configuration properties that are not specific to the **Automated QC** step, see the following:
- See "General [Job Level] Properties" on page 144 for access to instructions to set each property under this category.
  - See "General [Step Level] Properties" on page 151 for access to instructions to set each property under this category.
  - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set each property under this category.
7. For instructions to set the index configuration properties that are specific to the **Automated QC** step and appear under the **General QC [Step Level]** category, see the following:
- See "Check for Indexing Errors" below for instructions to set this property.
  - See "Check Numeric Sequence" on the facing page for instructions to set this property.
  - See "QC Index Formatting" on page 522 for instructions to set this property.
  - See "Reformat Index Value" on page 524 for instructions to set this property.

## Check for Indexing Errors

The **Check for Indexing Errors** property lets you specify whether the selected index is checked for errors (for example, a blank field or invalid character or number). When this property is enabled, if an error is found, the index is tagged for review. Indexing errors are determined by comparing the index value against the criteria specified in the following configured index properties in the listed order.

- **Index Type** - See "Index Type" on page 149 for instructions to set this property.
- **Index Verification Regular Expression** - See "Index Verification Regular Expression" on page 150 for instructions to set this property.
- **Verification Search Strings** - See "Verification Search Strings" on page 156 for instructions to set this property.
- **Predefined Values** - See "Predefined Index Values [Job Level] Properties" on page 159 for instructions to set this property.



### To set the Check for Indexing Errors property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General QC [Step Level]**.
6. Click **Check for Indexing Errors**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option causes the index to be checked for errors, and then tagged for review when an error is found.
  - **False** - Selecting this option disables checking the index for errors.

## Check Numeric Sequence

The **Check Numeric Sequence** property is available only for numeric indexes (that is, when the **Index Type** property for the index is set to **Number**). When this property is enabled, all the values for the index are checked to determine the minimum and maximum values for the batch. Then, the batch is checked to ensure that all index values that fall in between the minimum and maximum values exist. Any missing index values that fall between the minimum and maximum values are written to batch-level tags. (See "Batch Statistics" on page 641 and "QC Batch Statistic Descriptions" on page 648 for more information.)

### EXAMPLE

You have a numeric **Check Number** index that appears on invoices, and you want to identify the check numbers for all of the invoices that were paid last month. You enable the **Check Number Sequence** property for the **Check Number** index, and then process the batch. The system will identify the lowest and highest check numbers, and then look for all check numbers in between. It will write all missing check numbers to a batch-level tag.

### To set the Check Numeric Sequence property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General QC [Step Level]**.
6. Click **Check Numeric Sequence**, and then click the down arrow to select one of the following options:

- **True** - Selecting this option causes the minimum and maximum values for the index to be identified, and then verifies that all values in between the minimum and maximum values exist. Missing index values are written to batch-level tags.
- **False** - Selecting this option disables checking the numeric sequence.

## QC Index Formatting

The **QC Index Formatting** property lets you specify parameters for formatting index values. For example, you can configure this property to automatically insert or remove leading or trailing characters to create index values of a specific length, or automatically run a search for an index value and replace it with specific characters.

### To set the QC Index Formatting property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General QC [Step Level]**.
6. Click **QC Index Formatting**, and then click the ellipsis button to open the **QC Index Formatting** dialog box.
7. Select one of the following options:
  - **Remove Characters** - Select this option to remove a specified number of characters from the index value.
    - To remove characters at the beginning of the index value, select the **Leading Characters** check box, and then type or select the number of characters in the box.
    - To remove characters at the end of the index value, select the **Trailing Characters** check box, and then type or select the number of characters in the box.
  - **Insert Characters** - Select this option to insert a character in the index value, and then complete the following steps:
    1. In the **Character** box, type the character you want to insert, and then do one of the following:
      - To insert the character at the beginning of the index value, ensure that the **Trailing Characters** check box is cleared.
      - To insert the character at the end of the index value, select the **Trailing Characters** check box.
    2. In the **Length** box, type or select the number of characters that the resulting index value should contain. If this value is greater than the number of characters in the index, the value in the **Character** box will be inserted multiple times until the length requirement is met.

**E X A M P L E**

You type an asterisk ( \* ) in the **Character** box, and **6** in the **Length** box. The index value is **Test**. These parameters would result in either **Test\*\*** for trailing characters, or **\*\*Test** for leading characters.

- **Search and Replace** - Select this option to automatically search for and replace any portion of the index value containing the value you specify.

**E X A M P L E**

You specify to search for **Test** and replace it with **Exam**. These parameters would cause the index values of **123Test**, **Test123**, and **123Test123** to be changed to **123Exam**, **Exam123**, and **123Exam123**.

If you select the **Search and Replace** option, complete the following steps:

1. Select or clear the **Case-Sensitive** check box to specify whether you want the search to be case-sensitive.
2. In the **Search For** box, do one of the following:
  - Type the value for which you want to search.
  - Select **<Blank>** to cause blank index fields to be populated with the value you type in the **Replace With** box.
  - Type an asterisk ( \* ) to cause all values (indexed or blank) to be replaced with the value you type in the **Replace With** box.

**N O T E**

If the **Replace With** box is blank, any occurrences of the value in the **Search For** box will be removed from the index field.

---

3. In the **Replace With** box, do one of the following:
  - Type the value that will replace the searched for value.
  - Leave the box blank if you want to remove the value in the **Search For** box from the index field.
8. To test the settings you specified, in the **Preview** area, type a test value in the **Input** box, and then view the **Result** box to see the applied settings.

## Reformat Index Value

The **Reformat Index Value** property lets you specify whether specific index values are reformatted and index masking is performed. When this property is enabled, the index value is reformatted based on the settings of the following configured index properties.

- **Index Format** - See "Index Format" on page 145 for instructions to set this property.
- **Index Masking Regular Expression** - See "Index Masking Regular Expression" on page 147 for instructions to set this property.

### To set the Reformat Index Value property

1. On the workspace of the **Job Definitions** window, double-click the **Automated QC** step. (See "To configure an Automated QC step" on page 512 if you need help adding an **Automated QC** step.)
2. On the **Properties** tab, if necessary, expand **Indexes**.
3. Click **Indexes**, and then click the ellipsis button to open the **Index Configuration** dialog box.
4. In the **Indexes** list, click the index you want to configure. (See "To add an index" on page 139 if you need help adding an index.)
5. In the **Index Properties** list, if necessary, expand **General QC [Step Level]**.
6. Click **Reformat Index Value**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option causes the index value to be reformatted based on the settings of the **Index Format** and **Index Masking Regular Expression** properties.
  - **False** - Selecting this option disables reformatting of the index value.

# CHAPTER 16

## Batch Splitting Step

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## Batch Splitting Step Overview

The **Batch Splitting** step is an automated step that lets you define conditions that, when met, cause the batch to be split into two or more operations. The batch can be split into another step or another job. For example, you can set up conditions to split a batch to another step when a certain invoice number or invoice series is detected. If the invoice numbers starting with 1001 need to be processed differently than those starting with 6232, you can specify that the batch is split when invoices starting with 6232 occur.





### NOTE

When a job that contains a **Batch Splitting** step is exported, any configured target jobs or steps are removed, and must be reconfigured when the job is subsequently imported back into the **Job Definitions** window. (See "Import and Export Jobs" on page 112 for more information about these tasks.)

---

This content describes how to configure properties that apply to the **Batch Splitting** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure a Batch Splitting step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Batch Splitting** step to the workspace using one of the following methods.
  - Select the step that you want **Batch Splitting** to follow. On the **Job Step Toolbox** tab, double-click **Batch Splitting**.
  - On the **Job Step Toolbox** tab, drag **Batch Splitting** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Batch Splitting**.
5. Double-click the **Batch Splitting** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



### TIP

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .

8. For instructions to set **Batch Splitting** step properties, see the following:
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
  - See "Configure Batch Splitting" on page 530 for instructions to set the properties under the **Batch Splitting** category.
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
  - See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.
9. After you set **Batch Splitting** step properties, see "Test Batch Splitting Configurations" on page 537 if you want to test your settings.

## Target Job Configuration Window Overview

This content describes the components of the **Target Job Configuration** window that you use to configure settings for batch splitting. Becoming familiar with this window will help you more easily perform configuration tasks. See "Configure Batch Splitting" on page 530 for step-by-step instructions for setting up batch splitting.

### To open the Target Job Configuration window

1. On the workspace of the **Job Definitions** window, double-click the **Batch Splitting** step. (See "To configure a Batch Splitting step" on the previous page if you need help adding a **Batch Splitting** step.)
2. On the **Properties** tab, if necessary, expand **Batch Splitting**.
3. Click **Target Jobs**, and then click the ellipsis button to open the **Target Jobs** dialog box.



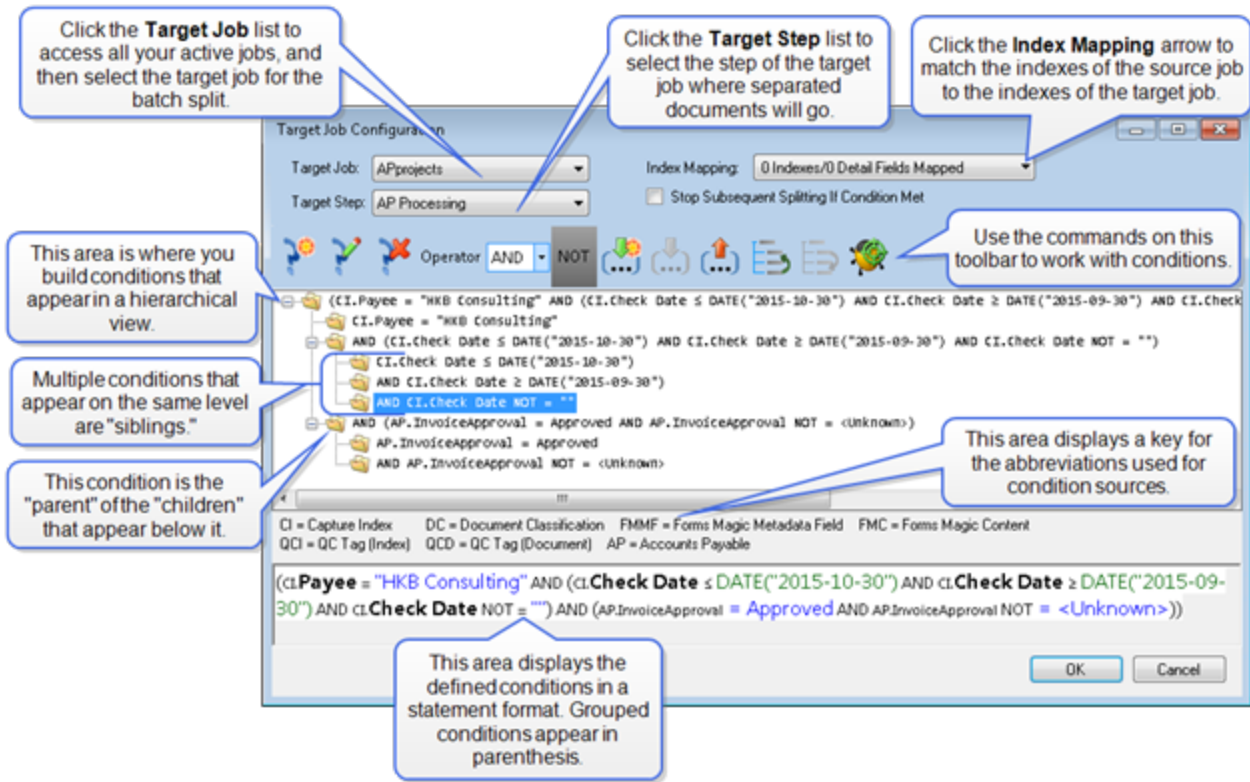
#### NOTE

All of the batch-splitting jobs to which you have access appear in the **Target Jobs** dialog box. If you are creating the initial **Batch Splitting** step, no jobs will appear.




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4. On the toolbar, click **Add Batch Split** to open the **Target Job Configuration** window.

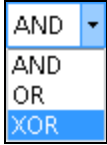





## CHAPTER 16 Batch Splitting Step





The commands on the toolbar of the **Target Job Configuration** window are described in the following table.

| Toolbar Button and Command Name                                                                                 | Function                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Add New Condition</b> | Click <b>Add New Condition</b> to define a condition. See "Condition Sources" on page 532 for instructions.                                                                        |
| <br><b>Edit Condition</b>    | Click <b>Edit Condition</b> to change the settings of the selected condition. See "Condition Sources" on page 532 for information about the settings available for each condition. |
| <br><b>Remove Condition</b>  | Click <b>Remove Condition</b> to delete the selected condition.                                                                                                                    |



| Toolbar Button and Command Name                                                                                                    | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>Operator list</b></p>                      | <p>Click the <b>Operator</b> list to select an operator for the selected condition.</p> <p><b>AND</b> - This condition and the previous condition must be met before the batch split occurs.</p> <p><b>OR</b> - This condition or the next condition must be met before the batch split occurs.</p> <p><b>XOR</b> - The batch split will occur if “condition A” is true or “condition B” is true but not when both conditions are true. If both conditions are true, the batch split will not occur.</p> |
|  <p><b>Toggle NOT Operator</b></p>                | <p>Click <b>Toggle NOT Operator</b> to set the batch split to occur when the selected condition is not present.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
|  <p><b>Move Condition Into New Group</b></p>      | <p>Click <b>Move Condition Into New Group</b> to create a new folder underneath the selected condition. You must have at least two conditions defined at the same level to create a new group.</p>                                                                                                                                                                                                                                                                                                       |
|  <p><b>Move Condition To Adjacent Group</b></p> | <p>Click <b>Move Condition To Adjacent Group</b> to move the selected condition down to the level of the first existing child.</p>                                                                                                                                                                                                                                                                                                                                                                       |
|  <p><b>Ungroup Condition</b></p>                | <p>Click <b>Ungroup Condition</b> to move the selected condition up one level.</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |
|  <p><b>Move Node Up Among Siblings</b></p>      | <p>Click <b>Move Node Up Among Siblings</b> to move the selected condition up in order among conditions that are on the same level.</p>                                                                                                                                                                                                                                                                                                                                                                  |

| Toolbar Button and Command Name                                                                                               | Function                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>Move Node Down Among Siblings</b></p> | Click <b>Move Node Down Among Siblings</b> to move the selected condition down in order among conditions that are on the same level.                                 |
|  <p><b>Toggle Test Mode</b></p>              | Click <b>Toggle Test Mode</b> to toggle the test mode on and off. (See "Test Batch Splitting Configurations" on page 537 for information about using the test mode.) |

## Configure Batch Splitting

When you use a **Batch Splitting** step, a separate step or job can process specific documents. This allows the batch to continue processing when certain conditions are met rather than having the batch process stop. The source job is the job that contains the **Batch Splitting** step being configured. The target job is the job to which the documents separated by the batch split are being sent. To configure **Batch Splitting**, you must complete the following steps:

1. Add a **Batch Splitting** step. (See "To configure a Batch Splitting step" on page 526 for instructions.)
2. Set the properties for the **Batch Splitting** step. (See "To configure batch splitting" below for instructions.)
3. Configure condition sources. Condition sources let you specify the type of content on which the splitting of the batch will be based. For example, an index, QC tag, or invoice status. (See "Condition Sources" on page 532 for information about condition sources and instructions to configure them.)
4. Configure comparison types for the condition source. Comparison types let you specify the criteria used to evaluate each condition source. For example, when a specific value occurs in an index. (See "Comparison Types" on page 534 for information about comparison types and instructions to configure them.)

You configure batch splitting in the **Target Job Configuration** window. (See "Target Job Configuration Window Overview" on page 527 to learn about the features of this window.) The following procedure will get you started, and then direct you to the subsequent required procedures.

### To configure batch splitting

1. On the workspace of the **Job Definitions** window, double-click the **Batch Splitting** step. (See "To configure a Batch Splitting step" on page 526 if you need help adding a **Batch Splitting** step.)
2. On the **Properties** tab, if necessary, expand **Batch Splitting**.
3. Click **Retain Document**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option causes copies of the documents in the source batch to be retained when they are split to another batch.

- **False** - Selecting this option causes documents in the source batch to be removed and reside only in the batch to which they are split.
4. Click **Target Jobs**, and then click the ellipsis button to open the **Target Jobs** dialog box.

**NOTE**

All of the batch-splitting jobs to which you have access appear in the **Target Jobs** dialog box. If you are creating the initial **Batch Splitting** step, no jobs will appear.

5. For jobs that appear in the **Target Jobs** dialog box, you can do the following:

| To                          | Do this                                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Remove a job                | Click the job, and then click <b>Remove Batch Split</b> .                                                                                          |
| Move a job up in priority   | Select the job you want to move, and then click <b>Move Node Up Among Siblings</b> . Jobs are run in the order in which they appear in the list.   |
| Move a job down in priority | Select the job you want to move, and then click <b>Move Node Down Among Siblings</b> . Jobs are run in the order in which they appear in the list. |
| Toggle test mode on and off | Click <b>Toggle Test mode</b> . See "Test Batch Splitting Configurations" on page 537 for instructions to use test mode.                           |

6. Do one of the following:
  - If this is an initial set up, on the toolbar, click **Add Batch Split**.
  - If you want to edit an existing job, select it, and then click **Edit Batch Split**. (See "Target Job Configuration Window Overview" on page 527 for information about the features you can use for editing. See "Condition Sources" on the next page for information about condition sources and instructions to configure them.)
7. From the **Target Job** list, select the job that will process the documents separated by the **Batch Splitting** step.
8. From the **Target Step** list, select the step within the target job that will process the documents separated by the **Batch Splitting** step.
9. In the **Index Mapping** box, click the down arrow to open the **Indexes** dialog box.
10. In the **Source** column, select the index value you want to map.
11. In the **Target** column, click the down arrow, and then select the target index value to which you want the source index value mapped.

**N O T E**


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It is not necessary to match every **Source** index value to a **Target** index value.

---

12. Repeat the previous two steps for each index and detail field you want to map, and then click **OK**.
13. (Optional) Select the **Stop Subsequent Splitting If Condition Met** check box to stop the batch-splitting process when this condition is met. This option stops the batch splitting process when more than one job is configured in the batch splitting conditions (that is, more than one job appears on the **Target Jobs** dialog box). When this condition is met, the rest of the conditions configured to split the batch to other jobs will be ignored.
14. Click **Add New Condition** to open the **Please Choose Condition Source** dialog box.
15. Go to "Condition Sources" below for information about condition sources and instructions to configure them.

## Condition Sources

Condition sources let you specify the type of content on which the splitting of the batch will be based. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530 to open the **Please Choose Condition Source** dialog box where you can select one of the following options.

- **QC Index Tag** - Selecting this option splits the batch when the quality control index tag you specify is found in the document. (See "To configure the QC Index Tag condition source" below for configuration instructions.)
- **QC Document Tag** - Select this option to initiate a batch split when the quality control document tag you specify is found in the batch. (See "To configure the QC Document Tag condition source" on the facing page for configuration instructions.)
- **Capture Index** - Select this option to initiate a batch split when the index you specify is found in the document. (See "To configure the Capture Index condition source" on the facing page for configuration instructions.)
- **Invoice Approval** - Select this option to initiate a batch split when the invoice status you specify is found in the batch. (See "To configure the Invoice Approval condition source" on page 534 for configuration instructions.)

The following procedures describe how to configure each condition source.

### To configure the QC Index Tag condition source

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530 to open the **Please Choose Condition Source** dialog box.
2. Select **QC Index Tag**, and then click **Next** to open the **Please Choose Capture Index** dialog box.
3. Click the list, and then select the index that will initiate the batch split.
4. Click **Next** to open the **Please Choose Comparison Type** dialog box.
5. Select one of the following options:

- **Tag Exists** - Selecting this option initiates the batch split when a QC index tag exists. After you select this option, click **Finish** to complete the set up of this condition source.
  - **String Comparison** - Selecting this option initiates the batch split when the QC index tag contains a specified string.
  - **Numeric Comparison** - Selecting this option initiates the batch split when the QC index tag contains a specified numeric value.
  - **Date/Time Comparison** - Selecting this option initiates the batch split when the QC index tag contains a specified date/time value.
  - **Regular Expression** - Selecting this option initiates the batch split using a regular expression.
6. Go to "Comparison Types" on the next page for information about comparison types and instructions to configure them.

### To configure the QC Document Tag condition source

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530 to open the **Please Choose Condition Source** dialog box.
2. Select **QC Document Tag**, and then click **Next** to open the **Please Choose Comparison Type** dialog box.
3. Select one of the following options:
  - **Tag Exists** - Selecting this option initiates the batch split when a QC document tag exists. After you select this option, click **Finish** to complete the set up of this condition source.
  - **String Comparison** - Selecting this option initiates the batch split when the QC document tag contains a specified string.
  - **Numeric Comparison** - Selecting this option initiates the batch split when the QC document tag contains a specified numeric value.
  - **Date/Time Comparison** - Selecting this option initiates the batch split when the QC document tag contains a specified date/time value.
  - **Regular Expression** - Selecting this option initiates the batch split using a regular expression.
4. Go to "Comparison Types" on the next page for information about comparison types and instructions to configure them.

### To configure the Capture Index condition source

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530 to open the **Please Choose Condition Source** dialog box.
2. Select **Capture Index**, and then click **Next** to open the **Please Choose Capture Index** dialog box.
3. Click the list, and then select the index that will initiate the batch split.
4. Click **Next** to open the **Please Choose Comparison Type** dialog box.
5. Go to "Comparison Types" on the next page for information about comparison types and instructions to configure them.

### To configure the Invoice Approval condition source

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530 to open the **Please Choose Condition Source** dialog box.
2. Select **Invoice Approval**, and then click **Next** to open the **Please Specify Invoice Approval Status** dialog box.
3. Click the **Invoice Approval Status** list, and then select the invoice status that will initiate the batch split.
4. Click **Finish** to complete the set up of this condition source.

## Comparison Types

Comparison types let you specify the criteria used to evaluate each condition source. The specified condition source determines the type of content on which the splitting of the batch will be based, for example, an index. You can then use a comparison type to evaluate the contents of that index so that when it has a specific value it causes the batch to split.

If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530, and then under "Condition Sources" on page 532, complete the procedure for the condition source you want to use. The **Please Choose Comparison Type** dialog box should be open so you can select one of the following options.

- **String Comparison** - Selecting this option initiates the batch split when the condition source contains a specified string. (See "To configure the String Comparison type" below for configuration instructions.)
- **Numeric Comparison** - Selecting this option initiates the batch split when the condition source contains a specified numeric value. (See "To configure the Numeric Comparison type" on the facing page for configuration instructions.)
- **Date/Time Comparison** - Selecting this option initiates the batch split when the condition source contains a specified date/time value. (See "To configure the Date/Time Comparison type" on page 536 for configuration instructions.)
- **Regular Expression** - Selecting this option initiates the batch split using a regular expression. A regular expression is a pattern of text that consists of ordinary characters (for example, letters a through z) and special characters, known as metacharacters. The pattern describes one or more strings to match when searching text. See [https://msdn.microsoft.com/en-us/library/ae5bf541\(v=vs.90\).aspx](https://msdn.microsoft.com/en-us/library/ae5bf541(v=vs.90).aspx) for examples of regular expressions and a listing of metacharacters and their behavior in the context of regular expressions. (See "To configure the Regular Expression comparison type" on page 536 for configuration instructions.)

The following procedures describe how to configure each comparison type.

### To configure the String Comparison type

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530, and then under "Condition Sources" on page 532, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **String Comparison**, and then click **Next** to open the **Please Specify Comparison** dialog box.

**T I P**

For easy reference, the selected condition source is displayed under the dialog box title and above the drop-down list.

3. On the list, click the down arrow to select one of the following options:
  - **=** (equal to) - Select this option to specify that the value of the condition source must match exactly the value typed in the box below the list.
  - **CONTAINS** - Select this option to specify that the value of the condition source must contain the value typed in the box below the list.
  - **IN** - Select this option to specify that the value of the condition source must be contained within the value typed in the box below the list.

**E X A M P L E**

Suppose that you want to split a batch so that it is routed to the following departments: accounting, marketing, and support. To accomplish this, you could use two methods. You could create three separate conditions with the comparison type set to **=** (equal to), and then type the specific department for each one. As an alternative, you could create one condition with the comparison type set to **IN**, and then type **accounting, marketing, support** in the box below the list.

4. In the box below the list, type the value that will initiate the batch split.
5. If you want to match the capitalization of the value you typed, then select **Case Sensitive**.
6. Click **Finish** to save the condition.

### To configure the Numeric Comparison type

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530, and then under "Condition Sources" on page 532, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **Numeric Comparison**, and then click **Next** to open the **Please Specify Comparison** dialog box.

**T I P**

For easy reference, the selected condition source is displayed under the dialog box title and above the drop-down list.

3. On the list, click the down arrow to select one of the following options:
  - **=** (equal to) - Select this option to specify that the value of the condition source must match exactly the value typed in the box below the list.
  - **>** (greater than) - Select this option to specify that the value of the condition source must be greater than the value typed in the box below the list.
  - **≥** (greater than or equal to) - Select this option to specify that the value of the condition source must be greater than or equal to the value typed in the box below the list.

- < (less than) - Select this option to specify that the value of the condition source must be less than the value typed in the box below the list.
  - ≤ (less than or equal to ) - Select this option to specify that the value of the condition source must be less than or equal to the value typed in the box below the list.
4. In the box below the list, type the value that will initiate the batch split.
  5. If you want to match the capitalization of the value you typed, then select **Case Sensitive**.
  6. Click **Finish** to save the condition.

### To configure the Date/Time Comparison type

1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530, and then under "Condition Sources" on page 532, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **Date/Time Comparison**, and then click **Next** to open the **Please Specify Comparison** dialog box.



#### T I P

For easy reference, the selected condition source is displayed under the dialog box title and above the drop-down list.

---

3. On the list, click the down arrow to select one of the following options:
  - = (equal to) - Select this option to specify that the value of the condition source must match exactly the time and/or date values specified below the list.
  - > (greater than) - Select this option to specify that the value of the condition source must be later than the time and/or date values specified below the list.
  - ≥ (greater than or equal to ) - Select this option to specify that the value of the condition source must be later than or equal to the time and/or date values specified below the list.
  - < (less than) - Select this option to specify that the value of the condition source must be earlier than the time and/or date values specified below the list.
  - ≤ (less than or equal to ) - Select this option to specify that the value of the condition source must be earlier than or equal to the time and/or date values specified below the list.
4. Select one of the following items that will initiate the batch split.
  - **Time** - If you select this option, type or select the time in the corresponding box.
  - **Date** - If you select this option, type or select the date in the corresponding box.
  - **Date/Time** - If you select this option, type or select the date and time in the corresponding boxes.
5. Click **Finish** to save the condition.

### To configure the Regular Expression comparison type



#### N O T E

Before you start this procedure, prepare the regular expression you want to use to split the batch.

---





1. If you haven't already done so, complete the procedure under "Configure Batch Splitting" on page 530, and then under "Condition Sources" on page 532, complete the procedure for the condition source you want to use.
2. In the **Please Choose Comparison Type** dialog box, select **Regular Expression**, and then click **Next** to open the **Please Specify Regular Expression** dialog box.

**T I P**

For easy reference, the selected condition source is displayed under the dialog box title and above the **Regular Expression** box.

---

3. In the **Regular Expression** box, type the regular expression that will initiate the batch split.
4. In the **Test** box, type a test value applicable to the regular expression you entered.  
If the regular expression is working correctly, a  appears next to the **Test** box. Otherwise, a  appears.
5. Click **Finish** to save the condition.

## Test Batch Splitting Configurations

You can test your batch splitting configurations in the following locations:

- **Target Jobs** - This dialog box is the first one you see as you work with the **Target Jobs** property. It serves as a dashboard where you can see a listing of target jobs set up for batch splitting.
- **Target Job Configuration** - This dialog box is where you set up conditions for batch splitting. You can test conditions as you create or edit them. (See "Target Job Configuration Window Overview" on page 527 for more information about this window.)

The following procedures will walk you through testing batch splitting configurations in both locations.

### To test conditions on the Target Jobs dialog box

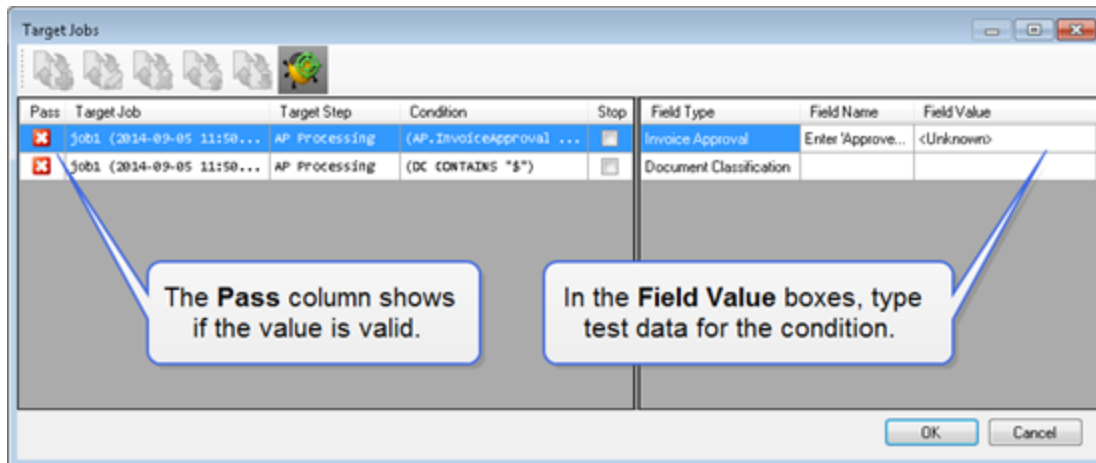
1. On the workspace of the **Job Definitions** window, double-click the **Batch Splitting** step. (See "To configure a Batch Splitting step" on page 526 if you need help adding a **Batch Splitting** step.)
2. On the **Properties** tab, if necessary, expand **Batch Splitting**.
3. Click **Target Jobs**, and then click the ellipsis button to open the **Target Jobs** dialog box.

**N O T E**

All of the batch-splitting jobs to which you have access appear in the **Target Jobs** dialog box.

---

4. On the toolbar, click **Toggle Test Mode** to open test fields on the right pane.



- In the **Field Value** boxes, you can type data to test the criteria of the condition. When you type a correct value, a appears in the **Pass** column. Otherwise, a appears.
- Click **Toggle Test Mode** to exit test mode.
- If you had a condition that did not pass validation, select it, and then click **Edit Batch Split**.
- In the **Target Job Configuration** window, check the condition to ensure it was configured correctly. (See "Configure Batch Splitting" on page 530 for step-by-step instructions for setting up batch splitting.)

### To test conditions on the Target Job Configuration window

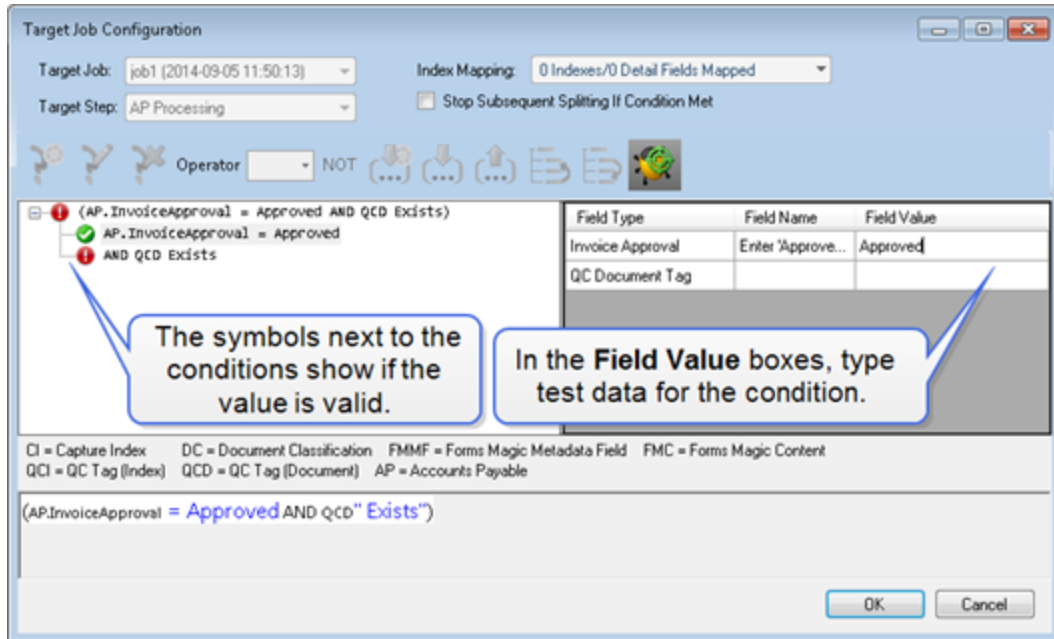
- On the workspace of the **Job Definitions** window, double-click the **Batch Splitting** step. (See "To configure a Batch Splitting step" on page 526 if you need help adding a **Batch Splitting** step.)
- On the **Properties** tab, if necessary, expand **Batch Splitting**.
- Click **Target Jobs**, and then click the ellipsis button to open the **Target Jobs** dialog box.





#### NOTE

All of the batch-splitting jobs to which you have access appear in the **Target Jobs** dialog box.

- Click the target job you want to test, and then click **Edit Batch Split** to open the **Target Job Configuration** window.
- On the toolbar, click **Toggle Test Mode** to open test fields on the right pane.



6. In the **Field Value** boxes, you can type data to test the criteria of the condition.  
When you type a correct value, a  appears next to the condition on the left pane. Otherwise, a  appears.
7. Click **Toggle Test Mode** to exit test mode.
8. If you had a condition that did not pass validation, check the condition to ensure it was configured correctly. (See "Condition Sources" on page 532 for step-by-step instructions for setting up batch splitting.)

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# CHAPTER 17

## AP Processing Step

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## AP Processing Step Overview

The **AP Processing** step is a manual step that you assign to a PaperVision Capture user. Using an **AP Processing** step lets you match a single purchase order with a single invoice, multiple purchase orders with a single invoice, and approve or reject invoices. Purchase order information can be retrieved from an external data source.

This content describes how to configure properties that apply to the **AP Processing** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure an AP Processing step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **AP Processing** step to the workspace using one of the following methods.
  - Select the step that you want **AP Processing** to follow. On the **Job Step Toolbox** tab, double-click **AP Processing**.
  - On the **Job Step Toolbox** tab, drag **AP Processing** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **AP Processing**.
5. Double-click the **AP Processing** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



#### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **AP Processing** step properties, see the following:
  - See "AP Processing Properties" on the facing page to access instructions to set properties under the **AP Processing** category.
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.

- See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

## AP Processing Properties

Under the **AP Processing** category, you can set the following properties.

- See "Allow Modify Indexes" below for instructions to set this property.
- See "Multi PO" below for instructions to set this property.
- See "Rejection Reasons" on the next page for instructions to set this property.
- See "Single PO" on the next page for instructions to set this property.

### Allow Modify Indexes

The **Allow Modify Indexes** property determines whether operators can edit indexes in the Operator Console while in the **AP Processing** step.



#### N O T E

Enabling the **Allow Modify Indexes** property causes the **AP Processing** step to consume a Capture Index license.

---

#### To set the Allow Modify Indexes property

1. On the workspace of the **Job Definitions** window, double-click the **AP Processing** step. (See "To configure an AP Processing step" on the previous page if you need help adding an **AP Processing** step.)
2. On the **Properties** tab, if necessary, expand **AP Processing**.
3. Click **Allow Modify Indexes**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this options lets operators modify indexes while in the **AP Processing** step.
  - **False** - Selecting this options prevents operators from modifying indexes while in the **AP Processing** step.

### Multi PO

The **Multi PO** property lets you specify the detail set and data sources for invoices that reference multiple purchase orders. Set this property if your purchase order field is a detail field.

#### To set the Multi PO property


1. On the workspace of the **Job Definitions** window, double-click the **AP Processing** step. (See "To configure an AP Processing step" on the previous page if you need help adding an **AP Processing** step.)
2. On the **Properties** tab, if necessary, expand **AP Processing**.
3. Click **Multi PO**, and then click the ellipsis button to open the **Pick Detail Field** dialog box.
4. From the list of detail fields, select the field that contains the purchase order information, and then click **Next**.

5. Configure the external data source. (If you need help, see "Configure an External Data Source" below for instructions.)
6. Click **Finish** to save the external data source configurations.

### Rejection Reasons

The **Rejection Reasons** property lets you define rejection reasons that operators can select from in the Operator Console.

#### To set the Rejection Reasons property

1. On the workspace of the **Job Definitions** window, double-click the **AP Processing** step. (See "To configure an AP Processing step" on page 542 if you need help adding an **AP Processing** step.)
2. On the **Properties** tab, if necessary, expand **AP Processing**.
3. Click **Rejection Reasons**, and then click the ellipsis button to open the **Specify Rejection Reasons** dialog box.
4. Click **Add**, and then type the reason that the invoice is rejected.
5. Repeat the previous step to add more reasons.
6. (Optional) After a reason appears in the list, you can select it, and then click the up and down arrows to move it, or click  to delete it.
7. When the list of reasons looks the way you want it to appear in the Operator Console, click **OK** to save your settings.

### Single PO

The **Single PO** property lets you specify the index and data sources for invoices that reference single purchase orders. Set this property if your purchase order field is an index field.

#### To set the Single PO property

1. On the workspace of the **Job Definitions** window, double-click the **AP Processing** step. (See "To configure an AP Processing step" on page 542 if you need help adding an **AP Processing** step.)
2. On the **Properties** tab, if necessary, expand **AP Processing**.
3. Click **Single PO**, and then click the ellipsis button to open the **Pick Capture Index** dialog box.
4. From the list of indexes, select the PO field, and then click **Next**.
5. Configure the external data source. (If you need help, see "Configure an External Data Source" below for instructions.)
6. Click **Finish** to save the external data source configurations.

## Configure an External Data Source

In the **AP Processing** step you can specify an external data source for PO field data and PO line items. The following procedure will walk you through configuring Microsoft® SQL Server and Microsoft® Access for external data sources.



### To configure an external data source

1. If you haven't done so already, complete one of the following procedures until you get to the **Select Datasource Provider** dialog box.
  - See "Multi PO" on page 543 for instructions to set properties for invoices that reference multiple purchase orders.
  - See "Single PO" on the previous page for instructions to set properties for invoices that reference single purchase orders.
2. Do one of the following:
  - To configure a Microsoft SQL Server database for the external data source, select **Microsoft® SQL Server**, and then click **Next**. In the **Connect To Server** dialog box, specify the following values, and then click **Next**.
    - **Server** - Type the name of the server where the database to which you want to connect is located.
    - **Authentication** - Select the type of authentication required for the database user. SQL Server Authentication requires a user name and password. Windows Authentication uses the login credentials of the current user. No user name or password is required.
    - **Username** - Type the user name for the database user who has access to the database.
    - **Password** - Type the password for the database user.
    - **Database** - Select the database to be used.
  - To configure a Microsoft Access database, select **Microsoft® Access**, and then click **Next**. In the **Specify Database File Path** dialog box, specify the following values, and then click **Next**.
    - **Database Path** - Click the ellipsis button to locate and select the database, and then click **Open**.
    - **Password** - If required, type your password.
    - **Datasource Provider** - If you have more than one version of Microsoft Office Access Database Engine Provider, select the version you want to use.






#### N O T E

If this is the first time you have set up Microsoft Access as a data source, you must download the Microsoft Office Access Database Engine. Click the link (**Click here to download Access provider**) to begin the download. After it is complete, click **Cancel** and then start this procedure over.

---

3. In the **Select Tables and Associations** dialog box, click the **Tables** tab, and then select the table(s) from which you want to retrieve invoice and PO data.
4. Click the **Associations** tab, and then click **Add** to define a table association. Specify the following values, and then click **Add**.
  - **Table 1** - Select one of the tables for which you want to create an association.
  - **Column** - Select the column name for which you want to create an association.

- **Table 2** - Select the table for which you want to create an association with Table 1. You must select two different tables.
  - **Column** - Select the column name for which you want to create an association with the column you specified from Table 1.
  - **Join Type** - Select the type of join you want to use to combine the rows from the tables.
5. If you want to add additional associations, repeat the previous step.
  6. (Optional) After an association appears in the list, you can select it, and then click: the up and down arrows to move it,  to edit it, or  to delete it.
  7. When you are done adding associations, click **Next**.
  8. In the **Select Columns** dialog box, click **Add**, specify the following values to add columns to return in the query, and then click **Add**.
    - **Table** - Select the table you want to use.
    - **Column** - Select the column you want to use in the matching process.
    - **Field Name** - Type the name you want to appear in the **AP Processing** window.
  9. If you want to add more columns, repeat the previous step.
  10. (Optional) After a column appears in the list, you can select it, and then click the up and down arrows to move it, or click  to delete it.
  11. When you are finished adding and arranging the columns, click **Next**.
  12. In the **Configure the Query Where Clause** dialog box, you can create a where clause to filter the purchase order fields. For example, you might want to create a filter to return specific purchase order numbers, or purchase orders that fall within a specified range. To create your query, click **Add Condition**, and then specify the following values.
    - **Table** - Select the table you want to use.
    - **Column** - Select the column that contains the data you want to filter.
    - **Parameter** - Select the parameter you want to use. Static values are unavailable for the **AP Processing** step.
    - **Condition Operator** - Select the condition operator you want to use to create your query.
    - **Group Condition** - Select this check box to group this condition with the preceding condition.
  13. Click **Apply** to save the condition. If you want to add additional conditions, repeat the previous step.
  14. You can edit conditions by clicking on the column, parameter, or operator values in each condition.
  15. You can click the arrow to the upper-right of the condition to add a sub condition or delete a condition.
  16. After you are finished configuring the where clause, click **Next**.
  17. In the **Test Query** dialog box, if you want to test your query, type a parameter in the **Value** box, and then click **Execute**.

18. Click **Next** to open the **External Data Source (PO Fields) Configured** dialog box.
19. Click **Next**, and then repeat this procedure to configure the external data source for retrieving PO line items.
20. After you get to the **External Data Source (PO Line Items) Configured** dialog box, click **Finish**.

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# CHAPTER 18

## Business Rules Step

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## Business Rules Step Overview

The **Business Rules** step is an automated step that provides predefined business rules. These business rules perform complex tasks for which there is a common business need, such as ensuring that invoice totals and date ranges are correct, that specified field values are populated, and performing various comparison, matching, merging, and validation operations on indexes. You can customize each business rule to meet your specific business needs. Business rules are grouped into the following categories based on the functions they perform:

- AP (Accounts Payable)
- Capture Detail Set
- Capture Index
- EDI
- Forms Magic

This content describes how to configure properties that apply to the **Business Rules** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure a Business Rules step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Business Rules** step to the workspace using one of the following methods.
  - Select the step that you want **Business Rules** to follow. On the **Job Step Toolbox** tab, double-click **Business Rules**.
  - On the **Job Step Toolbox** tab, drag **Business Rules** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Business Rules**.
5. Double-click the **Business Rules** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



#### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
- To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Business Rules** step properties, see the following:
- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
  - See "Configure Business Rules" below for instructions to configure business rules using the **Business Rules** property.
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
  - See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

## Configure Business Rules

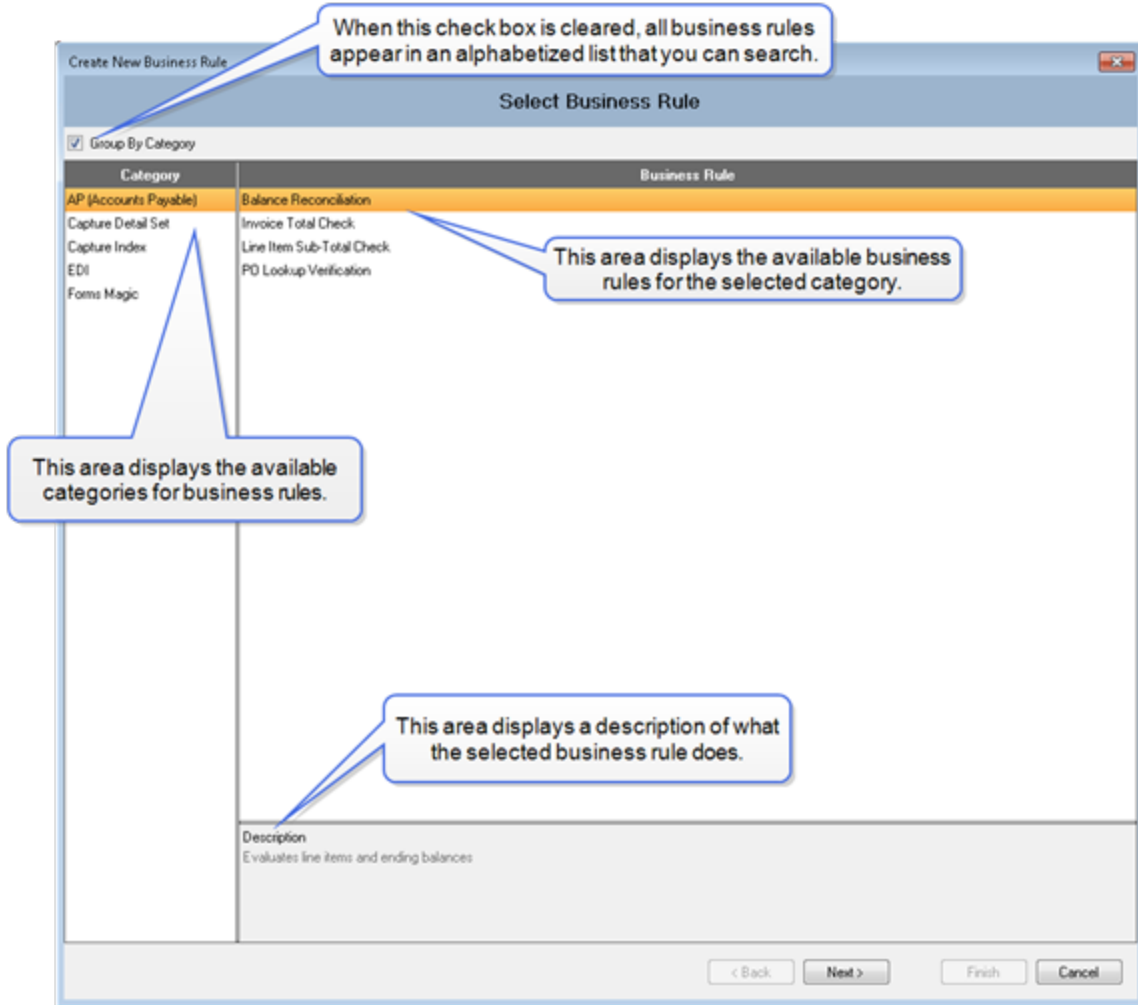
You can choose the business rule you want to configure on the **Select Business Rule** dialog box.

### To open the Select Business Rule dialog box

1. On the workspace of the **Job Definitions** window, double-click the **Business Rules** step. (See "To configure a Business Rules step" on the previous page if you need help adding a **Business Rules** step.)
2. On the **Properties** tab, if necessary, expand **Business Rules**.
3. Click **Business Rules**, and then click the ellipsis button to open the **Specify Business Rules** dialog box where you can do the following:

| To                             | Do this                                                                                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Add a new business rule        | Click <b>Add a business rule</b> .                                                                                                                                                 |
| Edit an existing business rule | Click the business rule, and then click <b>Edit the selected business rule</b> . If you need more information, go to the configuration section for the business rule you selected. |
| Remove a business rule         | Click the business rule, and then click <b>Remove the selected business rule</b> .                                                                                                 |
| Reorder the business rules     | Select the business rule you want to move, and then click <b>Move the selected row up</b> or <b>Move the selected row down</b> .                                                   |

4. Click **Add a business rule** to open the **Select Business Rule** dialog box.



5. For instructions to configure the business rule(s) in each category, see the following:
- See "Configure AP (Accounts Payable) Business Rules" on the facing page for instructions.
  - See "Configure Capture Detail Set Business Rule" on page 556 for instructions.
  - See "Configure Capture Index Business Rules" on page 557 for instructions.
  - See "Configure EDI Business Rule" on page 563 for instructions.
  - See "Configure Forms Magic Business Rules" on page 565 for instructions.



# Configure AP (Accounts Payable) Business Rules

The following **AP (Accounts Payable)** business rules are available:

- **Balance Reconciliation** - This business rule reconciles invoices and balance sheets by taking a starting balance or previous line item total, adding or subtracting debits and credits, and then checking the result. It then iterates through the document and verifies the ending balance.
- **Invoice Total Check** - This business rule checks the invoice total against the sum of all line items, plus other charges like shipping and taxes. By default, a tag is automatically applied to documents that do not pass the check so they can be reviewed.
- **Line Item Sub-Total Check** - This business rule checks each line item (detail fields) total against the calculated amount to verify that the invoice is correct. For example, you can use this rule to verify that the Quantity x the Unit Price + Tax - Discount = the Line Total amount.
- **PO Lookup Verification** - This business rule checks each line item value against an external data source and tags a document if a match is not found.

The following procedures will walk you through configuring the **AP (Accounts Payable)** business rules.

## To configure the Balance Reconciliation business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **AP (Accounts Payable)**.
4. In the **Business Rule** list, click **Balance Reconciliation**, and then click **Next**.
5. In the **Pick Culture** dialog box, select the culture from the list that you want to use to parse currency symbols, and then click **Next**.
6. In the **Configure Balance Reconciliation** dialog box, specify the following values:
  - In the **Account Type** group, select **Debit** or **Credit**. Your selection determines what values are added or subtracted. For example, in debit accounts, debits are added and credits are subtracted; in credit accounts, credits are added and debits are subtracted.
  - In the **Capture Indexes** group, select **Starting Balance**, and then pick the index value from the list that you want to use for the starting value. If you do not select this option, the business rule will use 0.00 as a starting value.



### N O T E

If your document uses a character other than a plus sign (+), minus sign (-) or parentheses () to indicate credits and debits (for example, if an invoice indicates a debit with "db" preceding the value instead of a minus sign), then type the special character in the **Flip Sign on Special Characters** box. You can use the pipe symbol "|" to separate more than one entry. You can use this option for any of the Capture indexes or detail fields.

---

- In the **Capture Indexes** group, select **Ending Balance**, and then pick the index value from the list that you want to use for the ending value. If you do not select this option, the business rule will not include the ending balance during reconciliation.
  - In the **Capture Detail Fields** group, select **Debit**, and then pick the detail field from the list that you want to use for debit values. Any value without a special character, will be added in Debit Account types, and subtracted in Credit Account types during reconciliation. (If your invoices do not have a separate debit and credit column, then you should only select the column type that matches the account type you selected.)
  - In the **Capture Detail Fields** group, select **Credit**, and then pick the detail field from the list that you want to use for credit values. Any value without a special character will be added in Credit Account types, and subtracted in Debit Account types during reconciliation. (If your invoices do not have a separate debit and credit column, then you should only select the column type that matches the account type you selected.)
  - In the **Capture Detail Fields** group, select **Line Item Total**, and then pick the detail field from the list that you want to use for line item totals. Any value that does not equal the sum of the previous line item total, plus the debits and credits on the current line, will be tagged. You must select either an **Ending Balance** index value, or a **Line Item Total** detail field, or both.
7. After you have made your selections, click **Next**.
  8. In the **Tag Document** dialog box, select **Tag Document** to specify that documents with parsing and calculation errors are tagged; if you don't want documents tagged, clear this check box.
  9. In the **Description** box, type what you want to appear on the tag.
  10. Click **Finish** to save the business rule.

### To configure the Invoice Total Check business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **AP (Accounts Payable)**.
4. In the **Business Rule** list, click **Invoice Total Check**, and then click **Next**.
5. In the **Pick Culture** dialog box, select the culture from the list that you want to use to parse currency symbols, and then click **Next**.
6. In the **Pick Capture Detail Field** dialog box, select the detail field that contains the total for each line item, and then click **Next**.
7. In the **Pick Capture Index** dialog box, select the index that contains the total amount for the invoice, and then click **Next**.
8. (Optional) If you want to include other items that affect the invoice total, such as discounts, shipping charges, and tax, perform the following subprocedure. Otherwise, click **Next**.
  1. In the **Pick Other Invoice Fields** dialog box, click **Add a new invoice field**.
  2. In the **Capture Index** column list, select the index that contains the value you want added to or subtracted from the invoice total.
  3. In the **Operator** column, do one of the following:

- Select **+** to add the index value to the invoice total.
  - Select **-** to subtract the index value from the invoice total.
4. Repeat the two previous steps to include other index values.
  5. (Optional) To move an index, select it, and then click the up or down arrow to move it.
  6. (Optional) To remove an index, select it, and then click **Remove the selected row**.
  7. After you are finished adding indexes, click **Next**.
  8. In the **Bad Invoice Total Action** dialog box, to specify that documents with totals that do not equal the sum of the line items are tagged, select the **Tag Document** check box; if you don't want documents tagged, clear this check box.
  9. In the **Tag Name** box, you can type what you want to appear on the tag or use the default text.
  10. Click **Finish** to save the business rule.

### To configure the Line Item Sub-Total Check business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **AP (Accounts Payable)**.
4. In the **Business Rule** list, click **Line Item Sub-Total Check**, and then click **Next**.
5. In the **Pick Culture** dialog box, select the culture from the list that you want to use to parse currency symbols, and then click **Next**.
6. In the **Pick Line Item Fields** dialog box, specify the following values.
  - **Quantity** - Select the index value that contains the quantity for the line item. This value is required.
  - **Unit Price** - Select the index value that contains the unit price for the line item. This value is required.
  - **Discount** - Select the index value that contains the discount for the line item. You can leave this value blank if it is not applicable.
  - **Tax** - Select the index value that contains the tax for the line item. You can leave this value blank if it is not applicable.
  - **Line Total** - Select the index value that contains the total for the line. This value is required.
6. Click **Next** to open the **Bad Line item Action** dialog box where you specify what action(s) occurs when documents with incorrect line item totals are found. You can select the following options:
  - **Tag Document** - Select this check box if you want to tag documents with incorrect line item totals. If you don't want documents tagged, clear this check box. In the **Tag Name** box, you can type what you want to appear on the tag or use the default text.
  - **Clear Line Item Total** - Select this check box to clear the index value for the line item total.
  - **Clear Quantity** - Select this check box to clear the index value for the quantity.
  - **Clear Unit Price** - Select this check box to clear the index value for the unit price.

- **Clear Discount** - Select this check box to clear the index value for the discount.
  - **Clear Tax** - Select this check box to clear the index value for the tax.
7. Click **Finish** to save the business rule.

### To configure the PO Lookup Verification business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **AP (Accounts Payable)**.
4. In the **Business Rule** list, click **PO Lookup Verification**, and then click **Next**.
5. Configure the data source. (See "Configure an External Data Source" on page 569 if you need help.)
6. In the **No Match Line Item Action** dialog box, if you want to tag documents that do not meet your match criteria with an external source, select the **Tag Document** check box. If you don't want documents tagged, clear this check box.
7. In the **Tag Name** box, you can type what you want to appear on the tag or use the default text.
8. Click **Finish** to save the business rule.

## Configure Capture Detail Set Business Rule

The **Capture Detail Set** business rule category contains the **Complete Group** business rule. This business rule verifies that each specified detail field in a group is populated. You can configure this rule to skip a group if one of the specified fields contains one of a set of predefined values.

### To configure the Complete Group business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Detail Set**.
4. In the **Business Rule** list, click **Complete Group**, and then click **Next**.
5. From the **Available** list, select the detail fields to check if they are empty or missing. If the selected detail field has a value, this business rule is disregarded. To select multiple detail fields, hold down the Ctrl key. To select all detail fields, select the **Select All** check box.
6. Click the right arrow to move the detail fields you selected to the **Members** list.
7. (Optional) To remove detail fields from the **Members** list, select them, and then click the left arrow. To remove all detail fields, select the **Select All** check box, and then click the left arrow.
8. After you are finished selecting detail fields, click **Next**.
9. (Optional) If you want to specify a value for a detail field that when found will cause the business rule to skip that detail set or line item, perform the following subprocedure. Otherwise, click **Next**.

1. In the **Pick Capture Detail Field** dialog box, select **Enable Exception Field**.
2. Click **Add an exception value**, and then type the exception value in the box that appears.
3. Repeat the previous step if you want to add multiple exception values.
4. (Optional) To move an exception, select it, and then click the up or down arrow to move it.
5. (Optional) To remove an exception, select it, and then click **Remove the selected row**.
6. In the **Exception Field** list, select the detail field to which you want to apply the exception(s) you created, and then click **Next**.

**N O T E**

You can define exceptions for only one detail field. Exceptions are applied to the detail field that is selected when you click **Next**.

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10. In the **Incomplete Group Action** dialog box, to specify that documents with missing or empty detail fields are tagged, select the **Tag Document** check box; if you don't want documents tagged, clear this check box.
11. In the **Tag Text** box, you can type what you want to appear on the tag or use the default text.
12. Click **Finish** to save the business rule.

## Configure Capture Index Business Rules

The following **Capture Index** business rules are available:

- **Date Range** - This business rule checks that date ranges defined by two index fields are correct. For example, with a date range using a “from” and “to” format, such as **from** 01/01/2014 **to** 01/01/2015, this business rule verifies that the value in the “to” field falls on or after the value in the “from” field.
- **Field Splitting** - This business rule splits a single Capture index into multiple indexes based on delimiters that you specify.
- **Match Field Value (Another Capture Index)** - This business rule matches the PaperVision Capture index values you specify against one another.
- **Match Field Value (External Source)** - This business rule matches the PaperVision Capture index values you specify against index values from an external source that you specify.
- **Merge Like Documents** - This business rule merges pages from multiple documents with the same index values into a single document.
- **Missing Field Value** - This business rule checks for missing index value(s).
- **NPI (National Provider Identifier) Check** - This business rule verifies that the National Provider Identifier (NPI) contained in an index field is valid. The NPI is a unique 10-digit identification number issued to health care providers in the United States by the Centers for Medicare and Medicaid Services. The NPI has replaced the Unique Provider Identification Number (UPIN) as the required identifier for Medicare services, and is used by other payers, including commercial healthcare insurers.


The following procedures will walk you through configuring the **Capture Index** business rules.

### To configure the Date Range business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **Date Range**, and then click **Next**.
5. In the **Pick the From** field list, select the index that contains the earliest value for a date range, and then click **Next**.
6. In the **Pick the To field** list, select the index that contains the latest value for a date range, and then click **Next**.
7. In the **Date Range Actions** dialog box, specify the tagging option(s) to apply when a date range is incorrect, that is, the "from" value for the date range occurs later than the "to" value. You can specify the following options. For each option, type the text that you want to appear on the tag in the **Tag Text** box. To remove a tagging option, clear the check box.
  - **Tag 'From' Index** - Select this check box to place a tag on the index that contains the "from" value for the date range.
  - **Tag 'To' Index** - Select this check box to place a tag on the index that contains the "to" value for the date range.
  - **Tag Document** - Select the check box to place a tag on the document that contains an incorrect date range.
8. Click **Finish** to save the business rule.

### To configure the Field Splitting business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **Field Splitting**, and then click **Next**.
5. In the **Pick Capture Index** dialog box, click the index in the list you want to split, and then click **Next**.
6. Click **Add a new index** to open the **Pick Capture Index** dialog box. (To filter the list of indexes, type a letter in the **<Filter List>** box.)
7. Select the first index you want to populate, and then click **OK**.
8. Repeat the previous two steps until you have added all the indexes you require. The indexes are populated in the order in which they appear.
9. For indexes in the **Capture Indexes** list, you can do the following:

| To               | Do this                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change an index  | Click the index, and then click <b>Edit the selected index</b> . Select the new index, and then click <b>OK</b> .                                                                                                                                                                                                                                           |
| Remove an index  | Click the index, and then click <b>Remove the selected index</b> .                                                                                                                                                                                                                                                                                          |
| Reorder an index | <p>Select the index you want to move, and then click <b>Move the selected index up</b> or <b>Move the selected index down</b>.</p> <hr/> <p> <b>IMPORTANT</b></p> <p>Indexes are populated in the order in which they appear in the <b>Capture Indexes</b> list.</p> <hr/> |

10. After your index list is complete, click **Next**.
11. In the **Pick Delimiters** dialog box, click **Add a new delimiter**, type the delimiter you want to use to split the index, and then click **OK**.
12. Repeat the previous step to add additional delimiters.
13. (Optional) To delete a delimiter, select it, and then click **Remove the delimiter**.
14. To test the delimiters, type an index value in the **Input Value** box. The results appear in the **Field Splitting Result** box.
15. Click **Next** when you are done.
16. In the **Field Splitting Actions** dialog box, specify the action to occur when the number of words split does not match the number of indexes available to populate. In the **More words split than indexes** area, you can set the following options:
  - **Tag 'From' Index** - Select this check box to place a tag on the index you split. Type the information you want to include in the tag.
  - **Tag Document** - Select this check box to place a tag on the document. Type the information you want to include in the tag.
  - **Populate Indexes** - Select this check box to populate the indexes when there are more words than available indexes. Select the **Populate last 'To' index with the remaining words** option, or the **Discard remaining words** option depending on how you want to handle the excess words.
17. In the **Less words split than indexes** area, you can specify the action to occur when there are less words split than indexes. You can set the following options:
  - **Tag 'From' Index** - Select this check box to place a tag on the index you split. Type the information you want to include in the tag.
  - **Tag Document** - Select this check box to place a tag on the document. Type the information you want to include in the tag.
  - **Populate Indexes** - Select this check box to populate the indexes, leaving the remaining indexes blank.
18. Click **Finish** to save the business rule.

### To configure the Match Field Value (Another Capture Index) business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **Match Field Value (Another Capture Index)**, and then click **Next**.
5. In the **Pick Capture Index** dialog box, select the index to check against another Capture index, and then click **Next**.
6. Select the index to check against the first index you selected in the previous step, and then click **Next**.
7. In the **No Match Action** dialog box, specify the action to occur when the specified index values do not match. You can specify the following tagging options. For each option, type the text that you want to appear on the tag in the **Tag Text** box. To remove a tagging option, clear the check box.
  - **Tag Index** - Select this check box to place a tag on the first index you selected.
  - **Tag Document** - Select this check box to place a tag on the document that contains the index values that do not match.
  - **Populate Index** - Select this check box to populate the first index you selected with a different value, and then select one of the following options:
    - **Constant** - Select this option to populate the index with the value you type in the box.
    - **Other Index** - Select this option to populate the index with the value contained in the index you select from the list.
    - **External Source** - Select this option to populate the index with a value you specify from an external source. If you select this value, click **Next**, and then configure the data source. (See "Configure an External Data Source" on page 569 if you need help.)
    - **Match Value** - Select this option to populate the first index with the value from the second index you selected.
8. Click **Finish** to save the business rule.

### To configure the Match Field Value (External Source) business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **Match Field Value (External Source)**, and then click **Next**.
5. In the **Pick Capture Index** dialog box, select the index to match against an external source, and then click **Next**.
6. Configure the data source. (See "Configure an External Data Source" on page 569 if you need help, and then go to the next step in this procedure.)



7. Select the index to check against the first index you selected in the previous step, and then click **Next**.
8. In the **Missing Index Action** dialog box, specify the action to occur when the index is missing or empty. You can specify the following tagging options. For each option, type the text that you want to appear on the tag in the **Tag Text** box. To remove a tagging option, clear the check box.
  - **Tag Index** - Select this check box to place a tag on the first index you selected.
  - **Tag Document** - Select this check box to place a tag on the document that contains the index values that do not match.
  - **Populate Index** - Select this check box to populate the first index you selected with a different value, and then select one of the following options:
    - **Constant** - Select this option to populate the index with the value you type in the box.
    - **Other Index** - Select this option to populate the index with the value contained in the index you select from the list.
    - **External Source** - Select this option to populate the index with a value you specify from an external source. If you select this value, click **Next**, and then configure the data source. (See "Configure an External Data Source" on page 569 if you need help.)
9. Click **Finish** to save the business rule.

### To configure the Merge Like Documents business rule



#### N O T E

Using the **Document Processing Conditions** option with the **Merge Like Documents** business rule can produce unexpected results. All documents that meet the merge criteria will be merged whether or not they meet the document processing condition. For example, if your batch has three documents that meet the merge criteria, but only one of them meets the document processing condition, all three documents will still be merged.

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1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **Merge Like Documents**, and then click **Next** to open the **Configure Merge Like Documents** dialog box.
5. In the **Available Indexes** list, select the indexes you want to include in the merge process, and then click the right arrow.
  - To select multiple indexes, hold down the Ctrl key, click the indexes, and then click the right arrow.
  - To select all index values, select the **Select All** check box, and then click the right arrow.

**N O T E**

Detail fields are not available for selection, as the merge process cannot be performed on them.

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6. (Optional) To remove an index from the Selected Indexes list, select it, and then click the left arrow.
  - To select multiple indexes, hold down the Ctrl key, click the indexes, and then click the left arrow.
  - To select all index values, select the **Select All** check box, and then click the left arrow.
7. In the **Selected Indexes** list, for each index you can set the following options:
  - **Ignore Case** - Select this check box to cause the merge process to ignore the case of the index value.
  - **Allow Blank** - Select this check box to cause the merge process to include blank values. Selecting this option will merge documents with blank indexes you selected into one document.
8. Near the lower-left corner of the dialog box, you can select the following options:
  - **Merge Detail Sets** - This option determines how detail sets are handled during the merge process. Select this check box to merge all of the detail set data from the documents being merged. When selected, if a detail set has a blank value, it is populated with the corresponding value from the other document in the merge. When this check box is cleared, only the detail sets from the first document that matches the merge criteria are retained and the others are discarded.
  - **Merge Indexes** - This option determines how values for indexes that are not specified to match are handled during the merge process. If one of the index fields on which you are not matching has a blank value, but the other document in the merge process contains a value for that index, select the **Merge Indexes** check box to populate the blank value with the value from the other document. The metadata is carried forward so that Forms Magic confidence values are available after merging. When this check box is cleared, the indexes values from the first document that matches the merge criteria are retained and the others are discarded.
9. Click **Finish** to save the business rule.

### To configure the Missing Field Value business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **Missing Field Value**, and then click **Next**.
5. In the **Pick Capture Index** dialog box, select the index to check if the value is missing, and then click **Next**.
6. In the **Missing Index Action** dialog box, specify the action to occur when the index is missing or empty. You can specify the following tagging options. For each option, type the text that you want to appear on the tag in the **Tag Text** box. To remove a tagging option, clear the check box.

- **Tag Index** - Select this check box to place a tag on the first index you selected.
  - **Tag Document** - Select this check box to place a tag on the document that contains the index values that do not match.
  - **Populate Index** - Select this check box to populate the first index you selected with a different value, and then select one of the following options:
    - **Constant** - Select this option to populate the index with the value you type in the box.
    - **Other Index** - Select this option to populate the index with the value contained in the index you select from the list.
    - **External Source** - Select this option to populate the index with a value you specify from an external source. If you select this value, click **Next**, and then configure the data source. (See "Configure an External Data Source" on page 569 if you need help.)
7. Click **Finish** to save the business rule.

### To configure the NPI (National Provider Identifier) Check business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Capture Index**.
4. In the **Business Rule** list, click **NPI (National Provider Identifier) Check**, and then click **Next**.
5. In the **Pick Capture Index** dialog box, select the index that contains the National Provider Identifier (NPI) value that you want to validate using the Luhn formula, and then click **Next**.
6. In the **No Match Action** dialog box, specify the action to occur when the NPI is not valid. You can specify the following tagging options. For each option, type the text that you want to appear on the tag in the **Tag Text** box. To remove a tagging option, clear the check box.
  - **Tag Index** - Select this check box to place a tag on the index that contains the invalid NPI.
  - **Tag Document** - Select this check box to place a tag on the document that contains the invalid NPI.
  - **Populate Index** - Select this check box to populate the index that contains the invalid NPI, and then select one of the following options:
    - **Constant** - Select this option to populate the index with the value you type in the box.
    - **Other Index** - Select this option to populate the index with the value contained in the index you select from the list.
    - **External Source** - Select this option to populate the index with a value you specify from an external source. If you select this value, click **Next**, and then configure the data source. (See "Configure an External Data Source" on page 569 if you need help.)
7. Click **Finish** to save the business rule.

## Configure EDI Business Rule

The **EDI** business rule category contains the HIPAA 837 business rule. This business rule generates a file in an approved HIPAA 837P EDI format used by medical practices, and generates the output

location for the export. To use the EDI QC option in the Operator Console, you can only have one HIPAA 837 business rule per Capture job.





### N O T E

Additional information on EDI standards and definitions is available at [http://www.ihs.gov/hipaa/835\\_837/newsletter4/#layout](http://www.ihs.gov/hipaa/835_837/newsletter4/#layout).

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### To configure the HIPAA 837 business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **EDI**.
4. In the **Business Rule** list, click **HIPAA 837**, and then click **Next**.
5. In the **HIPAA 837P File Settings** dialog box, you can define how the EDI files are named, and where they are stored. Specify the following items, and then click **Next**.
  - **Filename prefix** - Type the file name prefix you want to use for the EDI file. You can use a file name prefix and Capture indexes, or you can leave this box blank and use only Capture indexes to name the file.
  - **Root path** - Type the path, or click the ellipsis button to open the **Browse For Folder** dialog box where you can browse to, and then select the location where you want the EDI file stored. You can also create a new folder by clicking **Make New Folder**, and then typing the name of the folder.
  - **Default value** - Type the value to populate any blank index values that are used for file or folder names.
  - If you want to use Capture index values to create EDI file names, select the index(es) you want to use and their order in the **Select Capture Indexes to use in filename** list. You can change the order of the indexes by using the arrow buttons next to the list. Multiple indexes are separated by an underscore ( `_` ) in the file name.
  - If you want to use Capture index values to create folder and subfolder names, select the index(es) you want to use and their order in the **Select Capture Indexes to use in folder names list**. You can change the order of the indexes by using the arrow buttons next to the list. The EDI file is stored in the last subfolder.
6. In the **HIPAA 837P Document Settings** dialog box, you can define the EDI file formatting. Specify the following items, and then click **Next**.
  - **837 Version** - Select the HIPAA electronic transaction standard you want to use from the list.
  - **Segment** - Type the delimiter you want to use to separate data segments in the EDI file. A tilde ( `~` ) is the default character.
  - **Include carriage return line feed** - Select this option if you want each data segment to appear on a separate line in the EDI file for better readability.
  - **Element** - Type the delimiter you want to use to separate data elements in the EDI file. An asterisk ( `*` ) is the default character.

- **Composite** - Type the delimiter you want to use to separate composite data elements in the EDI file. A colon ( : ) is the default character.
  - **Repetition Separator** - Type the delimiter you want to use to separate repeating data elements in the EDI file. A greater than sign ( > ) is the default character.
  - **Tag document with warnings** - Select this option to tag the document with any warnings when the file is generated.
  - **Always generate file** - Select this option if you want to always generate a file regardless of any warnings.
7. In the **HIPAA 837P 1500 Paper Form Configuration** dialog box, map components of the 1500 Health Insurance Claim Form to Capture indexes using the following methods. Click **Next** when you have mapped all the indexes.
    - If you auto generated index and detail fields in an Indexing step, click **Automap Indexes** and **Automap Detail Fields** to populate the Capture indexes.
    - Click the component on the form, or click the component on the list in the left pane you want to map to a Capture index. In the right pane, click **Capture Index**, and then select the index you want from the list, or click **Constant**, and then type the value with which you want to populate that index. If the component includes a check box, select the index from the **Capture Index** list to which you want to map , and then type the index value in the table below for each check box selection. Click **Apply**, and then select the next component.
    - Some index fields that contain control numbers have the option of mapping to an index value, or selecting a beginning number and incrementing that number for each document. To specify the control number, select **Initial Value**, and then type the control number you want, or select the number from the list. If you want to increment the control number automatically for additional documents, select the **Increment control number each document** check box.
    - Some index fields that contain dates have the option of using a Capture index value, or using the date and time information from your computer. Select **Use PC clock** to populate the Capture index with the date and time information from your computer when the EDI file is generated.
  8. In the HIPAA 837P Test dialog box, you can test the EDI generated output. The mapped Capture indexes are listed on the pane on the right. You can click  , or  to add or delete detail sets. Type the corresponding Capture values you want to test, and then click **Generate**. The EDI file appears in the left pane, and a list of warnings appear below. You can double-click the warning, and the associated segment in the EDI file appears above in yellow.
  9. Click **Finish** to save the business rule.

## Configure Forms Magic Business Rules

The following **Forms Magic** business rules are available:

- **Merge Multiple Detail Sets Into One Detail Set** - This business rule merges multiple Forms Magic detail sets into a single Forms Magic detail set that is used to map fields in PaperVision Capture. You must configure at least two Forms Magic detail sets to use this business rule. This business rule merges detail sets from multiple Forms Magic form types into a single detail set. You can then use this merged field set in PaperVision Capture to perform other work.

- Search Forms Magic Metadata to Extract and Populate Index Fields** - This business rule lets you search a document or form for specific terms that precede and follow a Forms Magic field. This business rule is useful if you want to locate and use data elements in unstructured documents to populate Forms Magic fields, that is, the data element you need does not always appear in the same location. In this scenario, you could specify unique text that precedes and follows the data element you want to capture. When the business rule finds the unique text, you can configure it to populate the Forms Magic field with the data element that falls between the specified search criteria.

The following procedures will walk you through configuring the **Forms Magic** business rules.

To configure the **Merge Multiple Detail Sets Into One Detail Set** business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Forms Magic**.
4. In the **Business Rule** list, click **Merge Multiple Detail Sets Into One Detail Set**, and then click **Next**.
5. In the **Pick FM Projects** dialog box, click **Add an FM Project** to open the **Pick FM Project** dialog box. (To filter the list of projects, type a letter in the **<Filter List>** box.)
6. Select the FM project you want to use, and then click **OK**.
7. Repeat the previous two steps until you have added all the FM projects you require.
8. For projects that appear in the **Forms Magic Project** list, you can do the following:

| To                | Do this                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Change a project  | Click the project, and then click <b>Edit the selected project</b> . Select the new project, and then click <b>OK</b> .            |
| Remove a project  | Click the project, and then click <b>Remove the selected project</b> .                                                             |
| Reorder a project | Select the project you want to move, and then click <b>Move the selected project up</b> or <b>Move the selected project down</b> . |

9. Click **Finish** to save the business rule.

To configure the **Search Forms Magic Metadata to Extract and Populate Index Fields** business rule

1. Open the **Select Business Rule** dialog box. (See "To open the Select Business Rule dialog box" on page 551 if you need help.)
2. Ensure that the **Group By Category** check box is selected.
3. In the **Category** list, click **Forms Magic**.

4. In the **Business Rule** list, click **Search Forms Magic Metadata to Extract and Populate Index Fields**, and then click **Next** to open the **Full Text Parsing** dialog box.
5. To select a file to use for testing this business rule, to the right of the **Test Document** box, click the ellipsis button.
6. In the **Open** dialog box, select an image file (for example, .tiff, .jpg, .png) or a .pdf file, and then click **Open**.

The Full-Text OCR Engine will proceed to parse the document.

7. (Optional) By default, all non-alphanumeric characters are stripped from documents. If you want to use any non-alphanumeric characters, you must type them in the **Allowed Characters** box. Do not separate multiple characters with a space. For example, if you want to capture an entire valid email address, you must type a period ( . ) and an at sign ( @ ) without any spaces in the **Allowed Characters** box.
8. (Optional) By default, a single space is used as the delimiter to separate words. If you want to use something other than a single space, type the value in the **Delimiter** box.
9. Select the Forms Magic Project you want to use from the **FM Project** list.
10. (Optional) To include characters from other languages, click **Languages**, and then double-click the language(s) you want to include from the **Available** list, or select the languages, and then click the right arrow. To remove languages from the **Select** list, double-click the language, or select it, and then click the left arrow. Click **OK** to save your selections, or **Cancel** to return to the **Full Text Parsing** dialog box.
11. Click **View Words** to display the words that were parsed by the OCR engine. This data helps you identify the words that appear before and after the data element you want to capture. Click an area outside of the **View Words** box to close it.
12. To specify the words for which you want to search, click **Add**, and then specify the following items:
  - **by Content Type** - Select this check box to filter Forms Magic fields by form type. After you select this option, you can select a value from the associated list.
  - **by Form** - This check box is available after you have selected a form type. Select this check box to filter Forms Magic fields by forms within a form type. You can select the form from the associated list.
  - **Search Words** - Type the words for which you want to search. You cannot leave this box blank.
  - **Action** - Select the action to take when the words you specified are found.
  - **FM Field** - This option is available only if you selected **Populate FM Field** for the **Action** option. Select the FM field that you want populated.



**E X A M P L E**

To locate a specific data element, you must search for unique text that precedes and follows the data element you want to capture. For example, you want to use an email address to populate the Customer Code field from the following text: **Email Address: john.doe@DSI.com of customer**. To accomplish this, you must create two entries. For the first entry, type **Email Address** in the **Search Words** box, and then set the **Action** to **None**. For the second entry, type **of customer** in the **Search Words** box, set the **Action** to **Populate FM field**, and then set **FM Field** to **Customer Code**. Your entries would appear similar to the following:

| Search Words    | Action            | FM Field      | Results |
|-----------------|-------------------|---------------|---------|
| Email   Address | None              |               |         |
| of   customer   | Populate FM Field | Customer Code |         |

These entries tell the business rule to find text that begins with **Email Address** and ends with **of customer**, and then use the content that falls between those words to populate the Customer Code field. You can add as many entries as you need to populate FM fields. After you have located a piece of text, when you add additional search criteria, search forward from the point where the last set of criteria ended.

- Repeat the previous step until you have defined all search criteria and actions.
- After an entry appears in the list, you can do the following:

| To               | Do this                                                                                                                |
|------------------|------------------------------------------------------------------------------------------------------------------------|
| Change an entry  | Click the entry, and then click  . |
| Remove an entry  | Click the entry, and then click  .  |
| Reorder an entry | Select the entry you want to move, and then click the up or down arrows.                                               |

- After you have defined all search criteria and actions, you can click **Test** to verify that the business rule is working correctly.



**I M P O R T A N T**

Each time you click **Test**, your Forms Magic license is deprecated equal to the number of pages in the test document.

- Click **Finish** to save the business rule.



# Configure an External Data Source

There are several business rules that let you specify an external data source. The following procedure will walk you through configuring Microsoft® SQL Server and Microsoft® Access for external data sources.

## To configure an external data source

1. Complete the procedure for configuring the business rule until you get to the **Select Datasource Provider** dialog box.
2. Do one of the following:
  - To use a Microsoft SQL database as the external data source, select **Microsoft® SQL**, and then click **Next**. In the **Connect To Server** dialog box, specify the following values, and then click **Next**.
    - **Server** - Type the name of the server where the database to which you want to connect is located.
    - **Authentication** - Select the type of authentication required for the database user. SQL Server Authentication requires a user name and password. Windows Authentication uses the login credentials of the current user, so no user name or password is required.
    - **Username** - Type the user name for the database user who has access to the database.
    - **Password** - Type the password for the database user.
    - **Database** - Select the database to be used.
  - To use a Microsoft Access database as the external data source, select **Microsoft® Access**, and then click **Next**. In the **Specify Database File Path** dialog box, specify the following values, and then click **Next**.
    - **Database Path** - Click the ellipsis button, locate, and then select the database, and then click **Open**.
    - **Password** - If required, type your password.
    - **Datasource Provider** - If you have more than one version of Microsoft Office Access Database Engine Provider, select the version you want to use.



### NOTE

If this is the first time you have set up Microsoft Access as a data source, you must download the Microsoft Office Access Database Engine. Click the link (**Click here to download Access provider**) to begin the download. After it is complete, click **Cancel**, and then start this procedure over.

---

3. In the **Select Tables and Associations** dialog box, click the **Tables** tab, and then select the table(s) from which you want to retrieve data.
4. Click the **Associations** tab, and then click **Add an association** to define a table association.
5. Specify the following values, and then click **Add**.
  - **Table 1** - Select one of the tables for which you want to create an association.
  - **Column** - Select the column name for which you want to create an association.

- **Table 2** - Select the table for which you want to create an association with Table 1. You must select two different tables.
  - **Column** - Select the column name for which you want to create an association with the column you specified from Table 1.
  - **Join Type** - Select the type of join you want to use to combine the rows from the tables.
6. To add additional associations, repeat the previous step.
  7. (Optional) After an association appears in the list, you can do the following:

| To                     | Do this                                                                                                                                        |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Change an association  | Click the association, and then click <b>Edit the selected association</b> . Make the changes, and then click <b>Update</b> .                  |
| Remove an association  | Click the association, and then click <b>Remove the selected association</b> .                                                                 |
| Reorder an association | Select the association you want to move, and then click <b>Move the selected association up</b> or <b>Move the selected association down</b> . |

8. After you are done adding associations, click **Next**.
9. In the **Select Columns** dialog box, click **Add a new column**.
10. Specify the following values to add columns to return in the query, and then click **Add**.
  - **Table** - Select the table you want to use.
  - **Column** - Select the column that you want to use in the matching process.
  - **Field Name** - Type the name you want to use for the field.
11. To add additional columns, repeat the previous step.
12. (Optional) After a column appears in the list, you can do the following:

| To               | Do this                                                                                                                         |
|------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Delete a column  | Click the column, and then click <b>Delete the selected column</b> .                                                            |
| Reorder a column | Select the column you want to move, and then click <b>Move the selected column up</b> or <b>Move the selected column down</b> . |

13. After you are done adding and arranging the columns, click **Next**.
14. In the **Configure the Query Where Clause** dialog box, you can create a where clause to filter fields. To create your query, click **Add Condition**, and then specify the following values.
  - **Table** - Select the table you want to use.
  - **Column** - Select the column that contains the data you want to filter.

- In the **Parameter** area, select one of the following options:
    - **Parameter** - Select this option to specify an index, and then select the index from the list.
    - **Static Value** - Select this option to specify a static value, and then type the value in the box.
  - **Condition Operator** - Select the condition operator you want to use to create your query.
  - **Group Condition** - Select this check box to group this condition with the preceding condition.
15. Click **Apply** to save the condition, and then if you want to add additional conditions, repeat the previous step.
  16. (Optional) You can edit conditions by clicking on the column, parameter, or operator values in each condition.
  17. (Optional) You can click the arrow on the upper-right of the condition to add a sub condition or delete a condition.
  18. After you are done configuring the where clause, click **Next**.
  19. In the **Test Query** dialog box, if you want to test your query, type a parameter in the **Value** box, and then click **Execute**.

The **Results** area displays the results of the test query.
  20. After you are satisfied with the configuration, click **Next**, and then continue with the procedure for the business rule you are configuring.

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# CHAPTER 19

## Forms Magic Configuration

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## Forms Magic Configuration Overview

With PaperVision Forms Magic, you can automate document classification and index field value extraction for use in other job steps. You must create forms and configure indexes in Forms Magic for that data to be available for the:

- **Forms Classification and Extraction** step
- **Forms Index Mapping** step

To configure Forms Magic for use in the listed job steps, you must complete the following steps.

1. If necessary, create a Forms Magic project. (See "Forms Magic Projects" below for instructions.)
2. Import images for clustering and classification. Forms Magic will group like images into clusters. If the project contains previously configured forms, new images will be classified against those as well. (See "Cluster New Documents" on page 583 for instructions.)
3. For each form, you must select a setup image. (See "Clustering Results" on page 585 for instructions.)
4. Configure indexes and detail fields for each setup image. This includes creating extraction zones, and adding anchors to aid in extraction. (See "Manage Forms" on page 588 and "Form Designer Overview" on page 597 for instructions for completing these tasks.)
5. If needed, create color dropout filters to apply to any zone on the setup image to aid in extraction. (See "Color Dropout Filters" on page 609 for instructions.)
6. Test the classification and extraction process. (See "Test Classification" on page 607 for instructions.)

## Forms Magic Projects

A Forms Magic project is a collection of forms and form types, classification information, and extraction data. All Forms Magic tasks are performed within a Forms Magic project. Forms Magic requires at least one Forms Magic project, but you can create as many as you need. In job steps that require Forms Magic data, you will reference the project where that data resides. All Forms Magic projects have a default set of form types and indexes.

### To view Forms Magic projects

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)
2. The right pane shows a list of defined projects.
3. Select a project to view its properties and advanced configuration settings on the bottom pane.

### To create a new Forms Magic project

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)
2. To open the **New Forms Magic Project** dialog box, do one of the following:

- On the **Action** menu, click **New Project**.
  - On the toolbar, click **Create a New Forms Magic project**.
  - Right-click the selected item, and then click **New Project**.
3. In the **Name** box, type the name of the Forms Magic project.
  4. In the **Regex Validation** list, select one of the following:
    - **English** - to validate regular expressions in English.
    - **All** - to validate regular expressions in all languages.

**N O T E**

If you plan on using languages or character sets that are not Latin-based (for example, Cyrillic or Japanese), you must set this property to **All**.

---

5. In the **Match Minimum Count** box, type or select the minimum number of words found on a page needed to classify. If less than 15 words are found, the document will not classify. You can click **Reset** to set the number to the default value of **15**.
6. In the **Filtered Word Minimum Size** box, type or select the minimum number of characters a word must contain before Forms Magic will use it when identifying or classifying a form. You can click **Reset** to set the number to the default value of **3**.
7. In the **Match Threshold** box, type or select the percentage of a word's length that must equal the length of the same word in the setup image for it to be a match. For example, if this value is set to **80**, a word that is 21% larger or smaller than the corresponding word in the setup image, is not considered a match. You can click **Reset** to set the number to the default value of **80**.
8. In the **Auto-Generate Form-Type Indexes and Detail Fields** area, you can set the following options.
  - Select the **Enabled** check box if you want to auto-generate default index fields and detail fields in the default forms.
  - Select **Use All Upper-Case** if you want to auto-generate index fields and detail fields using all upper case letters.
9. Click **OK** to save the new project.

### To delete a Forms Magic project

**N O T E**

Deleting a Forms Magic project removes all setup images and any associated Forms Magic data.

---

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)  
The right pane shows a list of defined projects.
2. On the right pane, click the project you want to delete, and then do one of the following:

- On the **Action** menu, click **Remove Project**.
  - On the toolbar, click **Remove the Selected Forms Magic Project**.
  - Right-click the selected item, and then click **Remove Project**.
3. Click **Yes** to confirm the deletion.

### To edit the SQL datasource credentials for a Forms Magic project



#### NOTE

If the SQL log on information has expired or changed from the settings used when PaperVision Capture was installed, you might need to edit the SQL credentials for a Forms Magic project. You must have **db\_owner** permissions for the applicable database to perform this procedure.

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)  
The right pane shows a list of defined projects.
2. On the right pane, click the project for which you want to edit the SQL credentials, and then do one of the following:
  - On the **Action** menu, click **Edit SQL Credentials**.
  - On the toolbar, click **Edit SQL Credentials for the Selected Forms Magic Project**.
  - Right-click the selected item, and then click **Edit SQL Credentials**.
3. In the **Edit FM Project SQL Datasource Information** dialog box, do one of the following:
  - Select the **Use Windows Authentication** check box to use the Windows login credentials of the current user.
  - Type the user name and password for the SQL database.
4. Click **OK**, and then close the Administration Console.
5. Restart the PaperVision Forms Magic Communication Server and the PaperVision Forms Magic Worker Service.

### To import a Forms Magic project

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)
2. Do one of the following:
  - On the **Action** menu, click **Import Project**.
  - On the toolbar, click **Import a Forms Magic Project File (.fmproj)**.
  - Right-click the selected item, and then click **Import Project**.
3. In the **Project Name** dialog box, type a name for the imported project.
4. Click the ellipsis button to open the **Select Import File** dialog box.
5. Locate and select the .fmproj file for the project to import, and then click **Open**.



### To export a Forms Magic project

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)

The right pane shows a list of defined projects.

2. On the right pane, click the project you want to export as an .fmproj file, and then do one of the following:
  - On the **Action** menu, click **Export Project**.
  - On the toolbar, click **Export the Selected Forms Magic Project**.
  - Right-click the selected item, and then click **Export Project**.
3. In the **Save As** dialog box, go to the location where you want to save the .fmproj file.
4. In the **File Name** box, type a name for the project, and then click **Save**.

### To edit Advanced FM Project Configuration options



#### NOTE

With the Advanced FM Project Configuration options, you can improve classification performance and accommodate very large projects.

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)

The right pane shows a list of defined projects.

2. On the right pane, click the project for which you want to edit **Advanced FM Project Configuration** settings, and then do one of the following to open the **Advanced FM Project Configuration** dialog box.
  - On the **Action** menu, click **Advanced FM Project Configuration**.
  - On the toolbar, click **Advanced FM Project Configuration**.
  - Right-click the selected item, and then click **Advanced FM Project Configuration**.
3. In the **Advanced FM Project Configuration** dialog box, you can specify the following options.
  - **Search Word Optimization** - This option will improve classification performance in large projects by searching for large words first. Select **Enabled**, and then type or select the word size you want Forms Magic to use to begin its search. (We recommend 11 characters as a starting point.)
    - **Use Text Lines**. This option will further increase classification speeds by searching for collections of words on a line of text. Select **Use Text Lines**, and then type or select the word size you want Forms Magic to use to begin its search. (We recommend 20 characters as a starting point.)

- **Classification PAGING** - This option will reduce the amount of memory that is used by classifying documents against one subset of all the classifications at a time. You can specify the number of pages in the subset that Forms Magic will use. Fewer pages will consume less memory, but will also reduce classification speeds. Select **Enabled** and then type or select the number of pages.
  - **Dispatch FM Processing** - This option will better utilize the amount of memory used in the **Forms Classification and Extraction** job step. Large FM projects can consume more memory than the automation server (a 32-bit process) supports. If you receive out of memory exceptions from the automation server in the **Forms Classification and Extraction** job step, you can have a 64-bit FM Worker conduct FM processing. (PaperVision Capture automatically selects 64-bit workers for installation on 64-bit machines.) Select **Enabled** to have a 64-bit FM Worker conduct FM processing.
  - **High Precision Classification** - This option is useful if the Forms Magic brain (a component of the Forms Magic database) contains different forms that are very similar. The default A.I. Engine distinguishes between forms that have up to 80% similarity. If you have forms that have greater than 80% similarity, and you try to **Force Add** them, Forms Magic will identify them as already existing. This option allows Forms Magic to classify forms that have greater than 80% similarity, but may also impact classification speeds. Select **Enabled** to have Forms Magic use High Precision when classifying documents.
  - **Batch Processing Disk Caching** - This option is useful if you are using the **Auto Break** feature with documents that consist of more than 1000 pages. Forms Magic stores OCR data in memory during batch processing for both the Automation Service and the Forms Designer step. With very large documents, this may cause out of memory exceptions. Select **Enabled** to store OCR data on disk, rather than in memory, and thereby significantly reduce memory consumption.
4. (Optional) Click **Reset** to return the settings to their default conditions.
  5. Click **OK**, and then restart the FM Worker and FM Communication services.

### To refresh the list of Forms Magic projects

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)
2. Do one of the following:
  - On the **Action** menu, click **Refresh**.
  - On the toolbar, click **Refresh**.
  - Right-click, and then click **Refresh**.

### To edit the Communication Host information



#### **N O T E**

If the location of the communication server has changed, you will need to update the endpoint configuration.

---

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need

help.)

2. On the right pane, click the down arrow next to the **Communication Host** to open the **Communication Host** dialog box.
3. In the **URL** box, type the URL for the Forms Magic Communication Server.
4. In the **Port** box, type the new port number you want to use for the Forms Magic Communication Server.



#### N O T E

You must use a port number less than 65535, or the Forms Magic services will fail to start.

---

5. Click **OK**.
6. Read the note that states you must restart the Forms Magic services for the changes to take affect, and then click **OK**.

### To address network timeouts

---



#### C A U T I O N

When using large image files, there may be instances where you receive network timeout messages because of the timeout threshold settings, or because the default maximum message size is not large enough to handle the image files when added as a new form. For performance reasons, you may want to adjust the timeout thresholds or maximum message size for client operations, file transfers, and worker operations. These are advanced configuration components, and we recommend that you contact Digitech Systems technical support before changing any of these settings. The following procedure describes only how to access these settings.

---

1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)
2. On the right pane, click the down arrow next to **Network Timeouts/Max Received Message Sizes** to access the advanced configuration settings.
3. Modify these settings only after consulting with Digitech Support.

## Forms Magic Designer Overview

The **Forms Magic Designer** is the starting point for all the tasks you perform in Forms Magic. You can import images for classification, create forms, and configure indexes in the **Forms Magic Designer**. You can also create color dropout filters, and test classification and extraction configurations. Any action you perform in the **Forms Magic Designer** happens in real time, and is saved automatically. More than one person can work in the same project at a time. From the **Forms Magic Designer**, you can open the necessary windows and designers to configure forms, indexes, and color dropout filters for use in Capture job steps.



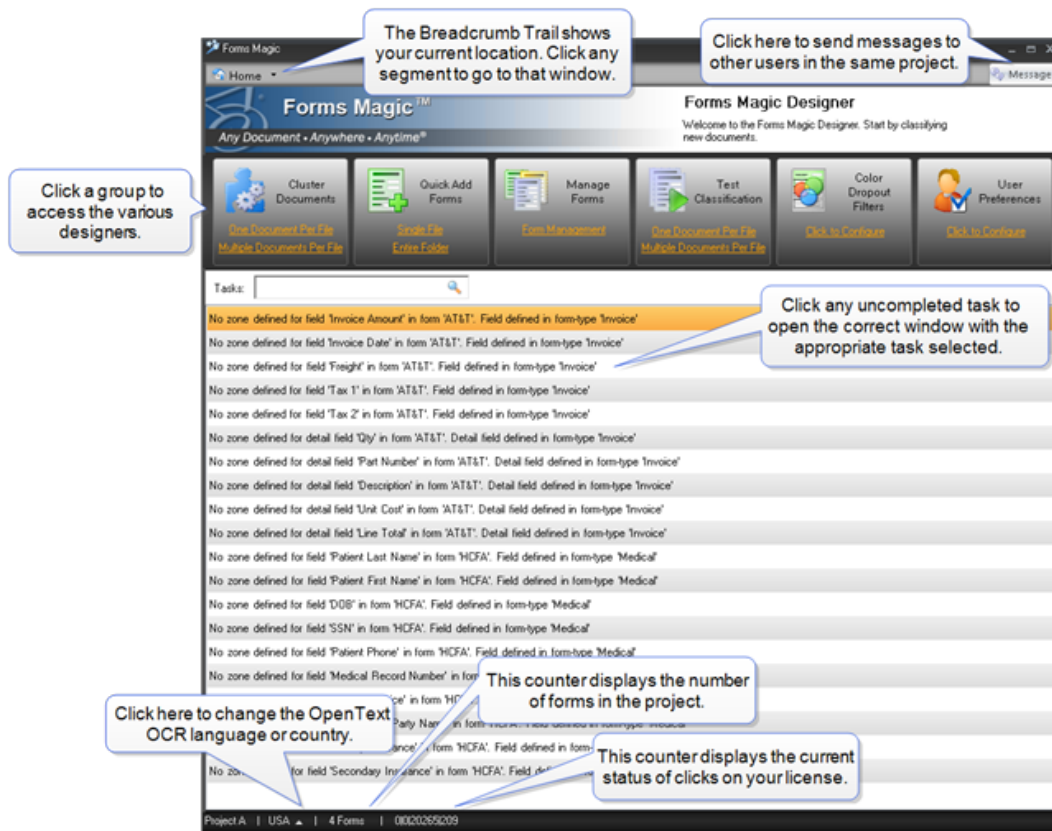
**N O T E**

Before you can open the **Forms Magic Designer**, you must create a Forms Magic Project. See "To create a new Forms Magic project" on page 574 for instructions to complete this task.

To open the Forms Magic Designer

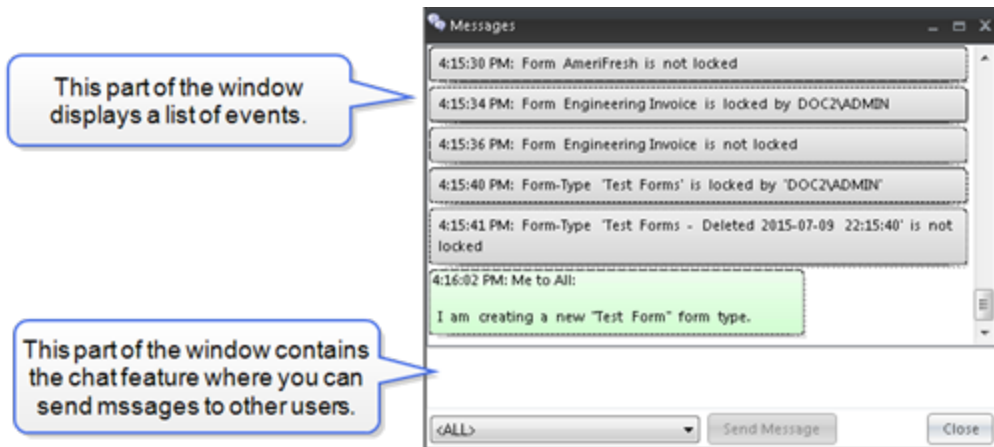
1. After you have logged in to the Administration Console, on the left pane, expand **Forms Magic**, and then click **Projects**. (See "Logging In to the Administration Console" on page 33 if you need help.)
2. On the right pane, select the Forms Magic project you want to work with, and then do one of the following:
  - Double-click the project.
  - On the **Action** menu, click **Forms Magic Designer**.
  - On the toolbar, click **Launches the Forms Magic Designer for the Selected Project**.
  - Right-click the selected item, and then click **Forms Magic Designer**.

A description of the components of the **Forms Magic Designer** follows.



## Messages

Click **Messages** on the **Forms Magic Designer** to open the following window.



The upper section of the **Messages** window displays: when forms were locked and unlocked, when forms and form types were added and deleted, user log in events, and messages to other users.

The lower section of the **Messages** window contains the chat feature where you can send messages to other users working in the project.

### To send a message

1. Click the down arrow, and then select the user to whom you want to send a message. To send a messages to everyone working in the project, select **<ALL>**.
2. Type your message in the box, and then click **Send Message**.

Your message appears in the event list.

## OCR Languages

You can select the language, language group, country, or country group that the OpenText OCR engine will use in Forms Magic.



### NOTE

You cannot select the OCR character set individually; it must be selected with another language, language group, country, or country group. For a complete list of Open Text supported countries, languages, country groups, and character sets, see "OpenText Languages" on page 671



### NOTE

You can only select countries or languages that belong to the same code page. Once you make your first selection, any countries and languages that do not belong to that code page will be unavailable. See "OpenText Languages" on page 671 for a list of code pages.



### NOTE

If you select a language group, it is recommended to select only one, since they encompass multiple languages, countries, and code pages:

---



### NOTE

For language groups, recognition results are always represented by Unicode characters. The English character set (A-Z, a-z) is implicitly available with all country-language selections, even Greek or Cyrillic.

---

### To select the OpenText OCR language(s)

1. On the lower part of the **Forms Magic Designer**, click the up arrow next to **Language**.
2. From the **Available** list, select the language, language group, country or country group by doing one of the following:
  - Double-click each item you want to use.
  - Select the item(s) you want to use (hold down the Ctrl key to select multiple items), and then click the right arrow.
3. (Optional) To remove items from the **Select** list, do one of the following:
  - In the **Select** list, double-click each item you want to remove.
  - In the **Select** list, select the item(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
  - To remove all items, select the **Select All** check box, and then click the left arrow.










## Clicks

You can rest the pointer on the **Clicks** area on the lower part of the **Forms Magic Designer** to display a click license counter. This counter displays the current status of clicks on your Capture Forms Processing license. Depending on the type of license you have, the counter shows either the number of clicks used, or the number of clicks remaining on your license. Clicks are consumed in the following manner.

- **Character** - A click is consumed for each keystroke extracted from a field.
- **Classification** - A click is consumed every time a document is processed by the Forms Magic engine.
- **Field** - A click is consumed for each index or detail field where extraction is performed, regardless of whether the field is populated.
- **Page** - A click is consumed every time Forms Magic creates an MVX file.

## Common Functions

Many of the designers and windows in Forms Magic contain common functions and buttons. The following table describes common items found on many of the toolbars.

| Toolbar Button and Command Name                                                                                     | Function                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <br><b>Zoom-In</b>                 | Increases the view size of the document each time you click the command.                                         |
| <br><b>Zoom-Out</b>                | Decreases the view size of the document each time you click the command.                                         |
| <br><b>Fit Width</b>               | Expands the document to fit the width of the page.                                                               |
| <br><b>Fit Height</b>              | Expands the document to fit the height of the page.                                                              |
| <br><b>Fit Page</b>                | Expands the document to fit the page.                                                                            |
| <br><b>Test</b>                    | Opens the test window for one document per file. (See "Test Classification" on page 607 for instructions.)       |
| <br><b>Test (Multi-Doc File)</b> | Opens the test window for multiple documents per file. (See "Test Classification" on page 607 for instructions.) |
| <br><b>Previous Page</b>         | Goes to the previous page.                                                                                       |
| <br><b>Next Page</b>             | Goes to the next page.                                                                                           |

## Cluster New Documents

The first step in configuring Forms Magic is clustering new documents. Clustering documents is the process of identifying documents, and then clustering like documents into groups. From these groups, you will pick a setup image, name the form, and assign it a form type. Documents can be any length, and consist of one document per file, or multiple documents per file. For clustering purposes, OCR is performed only on the first page of a document. When you close the **Forms Magic Designer**, only documents that have been saved as setup images are retained. All other documents are removed.

You cluster new documents in the **Forms Magic Designer**. If you are unfamiliar with the **Forms Magic Designer**, see "Forms Magic Designer Overview" on page 579 to learn about its features.

### To cluster one document per file

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Cluster Documents** group, click **One Document Per File** to open the **Clustering - Specify Input Documents** window.
3. To add documents, do one of the following:
  - Drag the files you want to use onto the left pane.
  - Click **Pick Files** to access the **Open** dialog box. Locate and select the files you want to use, and then click **Open**.

The right pane displays thumbnail images of the documents you added.

4. (Optional) You can click a thumbnail image to view it on the left pane.
5. (Optional) To remove documents, do one of the following:
  - Select the thumbnail image, and then click **Remove Selected**.
  - To remove all documents, click **Remove All**.
6. Click **Start Clustering** and Forms Magic will group like documents together, and then display the results on the **Auto-Classification Results** window.
7. See "Clustering Results" on the facing page for information about how to work with the results that appear in the **Clustering Results** window.

### To cluster multiple documents per file

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Cluster Documents** group, click **Multiple Documents Per File** to open the **Clustering - Specify Input Documents** window.
3. Click **Open File** to access the **Open** dialog box. Locate and select the file you want to use, and then click **Open**.

The right pane displays thumbnail images of the documents you added.

4. (Optional) You can click on a thumbnail image to view it on the left pane.
5. To specify how Forms Magic will break the file into individual documents for clustering, do one of the following:

- If you want to break the file into documents of an equal number of pages, click **Auto Break**. Select or type the number of pages per document, and then click **OK**.

The documents (and the number of pages per document) are listed on the left pane, a preview of the selected page displays on the middle pane, and thumbnail images of each page in the document appear on the right pane.

- If you want to manually insert document breaks, select the page that you want to insert a document break before, and then click **Insert Break**. The page you selected becomes the



first page of a new document. Continue inserting document breaks until you have created all the documents you want from the file.

6. (Optional) To remove a document break, select the first page of the document, and then click **Remove Break**.
7. Click **Start Clustering** and Forms Magic will group like documents together, and then display the results on the **Clustering Results** window.
8. See "Clustering Results" below for information about how to work with the results that appear in the **Clustering Results** window.

## Clustering Results

Before you can work with the results that appear in the **Clustering Results** window, you must cluster new documents. If you haven't already done this, see "Cluster New Documents" on page 583 for instructions. Classifying documents groups all new like documents into groups, compares them against any previously saved forms, and then displays the results in the **Clustering Results** window. Groups of documents that do not match any previously saved forms are listed on the **New Forms** tab. Groups that match any previously saved forms are listed on the **Existing Forms** tab.

For the groups of documents that appear on the **New Forms** tab, you can create a new form. To create a new form, you must name it, assign it to an existing form type (or create a new one to which you will assign it), and select a setup image. A setup image is the image that is used for classification. See "To create a new form" below for instructions to complete these tasks. After you have created a new form, it appears on the **Existing Forms** tab. If you want to edit an existing form, go to the **Forms** window. (See "Forms" on page 591 for instructions to open the **Forms** window and complete the tasks you can perform there.)

For the groups of documents that appear on the **Existing Forms** tab, you can change the setup image.



### NOTE

If you leave the **Clustering Results** window, but have not closed the **Forms Magic Designer** (which would have removed any unsaved images), you can click **View Clusters** to return to the **Clustering Results** window.

---

### To create a new form

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Cluster the documents you want to work with. (See "Cluster New Documents" on page 583 if you need help.)
3. In the **Cluster Results** window, on the **New Forms** tab, click the new form to which you want to assign a setup image.  
 Thumbnails of the files in that cluster appear on the right pane, and a preview of any selected image appears on the middle pane.
4. In the **Form Name** box, type the name you want to use for the form.
5. To assign this form to a form type, do one of the following:
  - To assign the form to an existing form type, select the form type from the list.
  - To create a new form type, complete the following subprocedure:

1. Click **New**, and then type a name for the new form type.
2. To assign an image to the new form type, do one of the following:
  - To use an image provided by Forms Magic, click the down arrow, select the image from the list, and then click **OK**.
  - To use your own image, click **New**. In the **Open** dialog box, select the image you want to use, click **Open**, and then click **OK**.
6. (Optional) If all of the forms on the **New Forms** tab are of the same form-type, you can click **Auto Add All** and Forms Magic will assign an alphanumerical form name to each new form, and use the best available image as the setup image. The new forms are then saved on the **Existing Forms** tab.
7. On the right pane, select the image you want to use for the setup image. Forms Magic lists the best image first.
8. (Optional) If you have classifications that are very similar, you can select specific words that are required for classification of this form by performing the following subprocedure.
  1. Click **Required Words**, and then in the **Classification Words** list, do one of the following:
    - Double-click each word you want to require.
    - Select the word(s) you want to require (hold down the Ctrl key to select multiple items), and then click the right arrow.
    - To require all of the listed words, select the **Select All** check box, and then click the right arrow.
  2. (Optional) To remove words from the **Required Words** list, do one of the following:
    - In the **Required Words** list, double-click each item you want to remove.
    - In the **Required Words** list, select the item(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
    - To remove all words, select the **Select All** check box, and then click the left arrow.
  3. Click **OK** to save your settings.
9. Click **Add Form** to save the form and move it to the **Existing Forms** tab.
10. Do one of the following:
  - Repeat this procedure until you have created all the forms and form types that you need.
  - Click the **Existing Forms** tab, select the form you want to work with, and then click **Open in Form Designer** to create index and detail field zones. (See "Form Designer Overview" on page 597 to access instructions for the tasks you can complete in the **Form Designer**.)

### To change the setup image for an existing form



#### **N O T E**

You can only replace the setup image with an image of the same resolution. Attempting to use an image with a different resolution will result in an error, and the operation will be canceled.

---

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)

2. Classify the documents you want to work with. (See "Cluster New Documents" on page 583 if you need help.)
3. In the **Clustering Results** window, on the **Existing Forms** tab, select the form for which you want to change the setup image.  
 Thumbnails of the files in that cluster appear on the right pane, and a preview of any selected image appears on the middle pane.
4. On the right pane, select the image you want to use for the setup image. Forms Magic lists the best image first.
5. Click **Update Setup Image**, and then click **OK**.

## Quick Add Forms

If you have files that are unique and do not need to be clustered, you can add them directly as forms. You have the option of adding individual files, or all the files within a folder. You can also specify whether multi-page files should be broken up into a separate form for each page, or remain a single, multi-page form. Once Forms Magic has added the forms to the form type you selected, you can access and configure them from the **Manage Forms** group just as you would any other form.

### To add a single file

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Quick Add Forms** group, click **Single File**. The **Open** dialog box appears.
3. In the **Open** dialog box, select the image you want to use, and then click **Open** to open the **Add New Forms** dialog box..
4. In the **Form Name** box, type the name you want to use for the new form.
5. To assign the form to a form type, do one of the following:
  - To assign the form to an existing form type, select the form type from the list.
  - To create a new form type, complete the following subprocedure:
    1. Click **New**, and then type a name for the new form type.
    2. To assign an image to the new form type, do one of the following:
      - To use an image provided by Forms Magic, click the down arrow, select the image from the list, and then click **OK**.
      - To use your own image, click **New**. In the **Open** dialog box, select the image you want to use, click **Open**, and then click **OK**.
6. Click **OK**.

### To add all the files in a folder



#### T I P

All the files in the folder will be assigned to the same form type. If you want to assign forms to different form types, create a folder for each one.

---

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Quick Add Forms** group, click **Entire Folder** to open the **Add Folder Forms** window.
3. Click **Folder** to open the **Browse For Folder** dialog box.
4. In the **Browse For Folder** dialog box, locate the folder you want to use and then click **OK**. A list of the files appears in the bottom pane..
5. From the **Form-Type** list, select the form type to which you want assign the new forms.
6. To create a separate form from each page of multi-page documents, select **Create Form for Each Page in Multi-Page Documents**.
7. Click **Start**.

## Manage Forms

In Forms Magic, you categorize forms by form type. You can then manage all the form types for a project, and the forms within each form type. You can then select an individual form to use to configure indexes. Here is an overview of how you can complete these tasks.

1. On the **Forms Magic Designer**, in the **Manage Forms** group, click **Form Management** to open the **Form Types** window.  
See "Form Types" below for instructions for the tasks you can perform on the Form Types window.
2. From the **Form Types** window, you can open the **Forms** window to manage all the forms within that form type.  
See "Forms" on page 591 for instructions for the tasks you can perform on the **Forms** window.
3. From the **Forms** window, you can select an individual form to configure indexes in the **Form Designer**.  
See "Form Designer Overview" on page 597 to access instructions for the tasks you can perform in the Form Designer.

## Form Types

In Forms Magic, you categorize forms by form type. You can sort form types, change their appearance, and create new form types. You can add and remove indexes and detail fields that are common to all forms within that form type. You can also rename and delete form types. You perform these tasks in the **Form Types** window. See the following procedure for instructions to open this window.



### I M P O R T A N T

Any operations you perform at the form-type level, will apply to all forms within that type. For example, if you delete a form type, all forms within that form type will also be deleted.

---

### To open the Form Types window

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Manage Forms** group, click **Form Management** to open the **Form Types** window.

The **Form Types** window lists all the form types in the project with information about each type, including the number of index fields, detail fields, and the number of forms.

### To sort form types

1. Open the **Form Types** window. (See "To open the Form Types window" on the previous page if you need help.)
2. On the toolbar, click one of the following:
  - **Sort by Name** - displays the form types in alphabetical order. Click the command again to reverse the order.
  - **Sort by Last Accessed** - displays the form types in the order in which they have been accessed. Click the command again to reverse the order.
  - **Sort by Most Accessed** - displays the form types based on how often they have been accessed. Click the command again to reverse the order.


### To create a new form type

1. Open the **Form Types** window. (See "To open the Form Types window" on the previous page if you need help.)
2. On the toolbar, click **New Form-Type**.
3. In the **Form-Type** box, type a name for the new form type.
4. To assign an image to the new form type, do one of the following:
  - To use an image provided by Forms Magic, click the down arrow, select the image from the list, and then click **OK**.
  - To use your own image, click **New**. In the **Open** dialog box, select the image (.tif, .jpg, .bmp, or .png) you want to use, click **Open**, and then click **OK**.

### To view forms within a form type

1. Open the **Form Types** window. (See "To open the Form Types window" on the previous page if you need help.)
2. On the right pane, do one of the following:
  - Double-click the form type you want to open.
  - Select the form type, and then on the toolbar, click **Show Forms of Selected Form-Type**.

### To change the appearance of the form types list

1. Open the **Form Types** window. (See "To open the Form Types window" on the previous page if you need help.)
2. On the toolbar, click , and then choose one of the following:
  - Click **Icons** to display only the icon for each form type.
  - Click **Details** to display only the details (name, fields, detail fields and the number of forms) for each form type.
  - Click **Icons + Details** to display the icon and details for each form type.

### To rename a form type

1. Open the **Form Types** window. (See "To open the Form Types window" on the previous page if you need help.)

2. On the right pane, select the form type you want to rename.
3. On the **Form-Type Info** pane, click **Rename**.
4. In the **Name** box, type the new name, and then click **OK**.

### To delete a form type



#### I M P O R T A N T

Deleting a form type also deletes all of the forms in that type.

---

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type you want to delete.
3. On the **Form-Type Info** pane, click **Delete**.
4. Click **Yes** to confirm the deletion.

### To add an index at the form-type level



#### N O T E

Adding indexes at the form-type level makes them available for all forms in that type.

---

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type to which you want to add an index.
3. On the **Indexes** pane, click **Add**.
4. In the **Name** box, type the index name, and then click **OK**.

### To remove an index at the form-type level



#### I M P O R T A N T

Removing indexes at the form-type level removes them from all forms in that type.

---

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type from which you want to remove an index.
3. On the **Indexes** pane, select the index you want to remove, and then click **Remove**.

### To rename an index at the form-type level



#### N O T E

Renaming indexes at the form-type level renames them from all forms in that type.

---

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type for which you want to rename an index.

3. On the **Indexes** pane, select the index you want to rename, and then click **Rename**.
4. In the **Name** box, type the new index name, and then click **OK**.

### To add a detail field at the form-type level



#### NOTE

Forms Magic supports only one detail field. Therefore, if that detail field is defined at the form-type level, all forms within that type will share the same detail field, and you cannot create a detail field specific to a form in that form type. If a detail field exists at the form level, you will not be able to add a form-type detail field.

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type to which you want to add a detail field.
3. On the **Detail Fields** pane, click **Add**.
4. In the **Name** box, type the detail field name, and then click **OK**.

### To remove a detail field at the form-type level



#### IMPORTANT

Removing a detail field at the form-type level removes it from all forms in that type.

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type to which you want to add a detail field.
3. On the **Detail Fields** pane, select the detail field you want to remove, and then click **Remove**.

### To rename a detail field at the form-type level



#### NOTE

Renaming a detail field at the form-type level renames it for all forms in that type.

1. Open the **Form Types** window. (See "To open the Form Types window" on page 588 if you need help.)
2. On the right pane, select the form type to which you want to add a detail field.
3. On the **Detail Fields** pane, select the detail field you want to rename, and then click **Rename**.
4. In the **Name** box, type the new detail field name, and then click **OK**.

## Forms

Forms are created when you add a form in the **Clustering Results** window. (See "Clustering Results" on page 585 for more information.) You work with forms on the **Forms** window where you can:

- Sort forms
- Change the appearance of forms
- Create new forms

- Add indexes and detail fields to individual forms and all forms in that form type
- Remove indexes and detail fields from individual forms and all forms in that form type
- Rename forms
- Delete forms
- Change form types
- Specify document breaks



### NOTE

With the exception of adding and deleting indexes and detail fields (which you can do at the form- and form-type level), all other operations you perform on the **Forms** window apply only to the selected form.

---

### To open the Forms window

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Manage Forms** group, click **Form Management** to open the **Forms Types** window.  
The **Form Types** window lists all the form types in the project with information about each type, including the number of index fields, detail fields, and the number of forms.
3. To access all forms within a form type, do one of the following:
  - Double-click the form type you want to open.
  - Select the form type you want to open, and then on the toolbar, click **Show Forms of Selected Form-Type**.

The **Forms** window lists all the forms within the form type you selected.

### To sort forms

1. Open the **Forms** window. (See "To open the Forms window" above if you need help.)
2. On the toolbar, click one of the following:
  - **Sort By Name** - displays the forms in alphabetical order. Click the command again to reverse the order.
  - **Sort By Last Used** - displays the forms in the order in which they have been accessed. Click the command again to reverse the order.
  - **Sort By Favorite** - displays the forms based on how often they have been accessed. Click the command again to reverse the order.

### To open the Form Designer

1. Open the **Forms** window. (See "To open the Forms window" above if you need help.)
2. Do one of the following:
  - Double-click the form you want to configure.
  - Select the form you want to configure, and then on the toolbar, click **Open Form Designer**.
3. See "Form Designer Overview" on page 597 for information about the tasks you can perform in the **Form Designer**.



### To create a new form

1. Open the **Forms** window. (See "To open the Forms window" on the previous page if you need help.)
2. On the toolbar, click **Create New Form** to open the **Clustering - Specify Input Documents** window.
3. See "Cluster New Documents" on page 583 for instructions to classify documents.
4. See "To create a new form" on page 585 for instructions to create a new form based on the results of the classification.

### To change the appearance of the forms list

1. Open the **Forms** window. (See "To open the Forms window" on the previous page if you need help.)
2. On the toolbar, click **Change View**, and then choose one of the following:
  - Click **Icons** to display only the icon for each form type.
  - Click **Details** to display only the details (form name, form type, the number of form-type indexes, the number of form indexes, and detail set information) for each form.
  - Click **Icons + Details** to display the icon and details for each form.

### To rename a form

1. Open the **Forms** window. (See "To open the Forms window" on the previous page if you need help.)
2. On the right pane, select the form you want to rename.
3. On the **Form Info** pane, click **Rename**.
4. In the **Name** box, type the new name, and then click **OK**.

### To delete a form

1. Open the **Forms** window. (See "To open the Forms window" on the previous page if you need help.)
2. On the right pane, select the form you want to delete.
3. On the **Form Info** pane, click **Delete**.
4. Click **Yes** to confirm the deletion.

### To change a form type



#### N O T E

When changing form types, existing form-type fields are discarded, and form-type fields from the new form type are applied. Form-level fields and attributes (anchors, color dropouts, etc.) are retained.

---

1. Open the **Forms** window. (See "To open the Forms window" on the previous page if you need help.)
2. On the right pane, select the form for which you want to change the form type.
3. On the **Form Info** pane, click **Change Form-Type**.
4. Select the new form type from the list.

5. Click **OK** to confirm your selection.

### To specify document breaks

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form for which you want to specify document breaks.
3. On the **Form Info** pane, click the **Document Breaks** link, and then do one of the following:
  - To use the number of setup pages to determine the number of pages in the classified document, select **Automatic**.
  - To specify the number of pages in the classified document, select **Fixed**, and then in the **Number of Pages** box, type or select the number of pages you want the classified document to have.
  - To specify a range of pages for the classified document, select **Variable**, and then in the **Number of Pages** boxes, type or select the minimum and maximum number of pages you want the classified document to have. If one of the pages within the specified page range classifies against a form, it will break the document on that page. If none of the pages in that page range can classify against an existing form, it will break the document at the maximum number of pages you specified. Optionally, if you select **Auto Terminate**, Forms Magic will look in the page range you specified for the last setup page in the form, and break the document on that page. If none of the pages match the last setup page, it will break the document on the maximum number of pages you specified.



#### NOTE

When selecting **Variable**, the default page range is 1-2. When selecting **Auto-Terminate**, the default page range is 2-3.

---

4. Click **OK** to save your settings.

### To specify required words



#### NOTE

If you have classifications that are very similar, you can select specific words that are required for classification of this form by performing the following procedure.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form for which you want to specify required words.
3. On the **Form Info** pane, click the **Required Words** link.
4. In the **Classification Words** list, do one of the following:
  - Double-click each word you want to require.
  - Select the word(s) you want to require (hold down the Ctrl key to select multiple items), and then click the right arrow.
  - To require all of the listed words, select the **Select All** check box, and then click the right arrow.
5. (Optional) To remove words from the **Required Words** list, do one of the following:

- In the **Required Words** list, double-click each item you want to remove.
  - In the **Required Words** list, select the item(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
  - To remove all words, select the **Select All** check box, and then click the left arrow.
6. Click **OK** to save your settings.

### To add an index at the form level



#### NOTE

Adding indexes at the form level makes them specific to that form.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form for which you want to add an index.
3. On the **Indexes** pane, click **Add –**.
4. In the **Name** box, type the index name, and then click **OK**.

### To add an index at the form-type level



#### NOTE

Adding indexes at the form-type level makes them available for all forms in that type.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form for which you want to add an index at the form-type level.
3. On the **Indexes** pane, click **Add ≡**.
4. In the **Name** box, type the index name, and then click **OK**.

### To remove an index



#### IMPORTANT

Indexes that apply to the form type appear with multiple horizontal lines (≡) in front of them. Removing an index at the form-type level removes it from all forms in that type.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form from which you want to remove an index.
3. On the **Indexes** pane, select the index you want to remove, and then click **Remove**.

### To rename an index



#### NOTE

Indexes that apply to the form type appear with multiple horizontal lines (≡) in front of them. Renaming an index at the form-type level renames it in all forms in that type.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form on which you want to rename an index.

3. On the **Indexes** pane, select the index you want to rename, and then click **Rename**.
4. In the **Name** box, type the new index name, and then click **OK**.

### To add a detail field at the form level



#### NOTE

Forms Magic supports only one detail field. Therefore, if that detail field is defined at the form-type level, all forms within that type will share the same detail field, and you cannot create a detail field specific to a form in that form type. If a detail field exists at the form level, you will not be able to add a form-type detail field.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form for which you want to add a detail field.
3. On the **Detail Fields** pane, click **Add –**.
4. In the **Name** box, type the index name, and then click **OK**.

### To add a detail field at the form-type level



#### NOTE

Forms Magic supports only one detail field type. Therefore, if that detail field is defined at the form-type level, all forms within that type will share the same detail field, and you cannot create a detail field specific to a form in that form type. If a detail field exists at the form level, you will not be able to add a form-type detail field.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form for which you want to add a detail field.
3. On the **Detail Fields** pane, click **Add ≡**.
4. In the **Name** box, type the index name, and then click **OK**.

### To remove a detail field



#### IMPORTANT

A detail field that applies to the form type appears with multiple horizontal lines (≡) in front of it. Removing a detail field at the form-type level removes it from all forms in that type.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form from which you want to remove a detail field.
3. On the **Detail Fields** pane, select the detail field you want to remove, and then click **Remove**.

### To rename a detail field



#### NOTE

A detail field that applies to the form type appears with multiple horizontal lines (≡) in front of it. Renaming a detail field at the form-type level renames it in all forms in that type.

---

1. Open the **Forms** window. (See "To open the Forms window" on page 592 if you need help.)
2. On the right pane, select the form on which you want to rename a detail field.
3. On the **Detail Fields** pane, select the detail field you want to rename, and then click **Rename**.
4. In the **Name** box, type the new detail field name, and then click **OK**.

## Form Designer Overview

After your images have been classified (see "Cluster New Documents" on page 583 for instructions), and you have named the form you are working with and assigned it to a form type (see "To create a new form" on page 585 for instructions), the next step is opening the form in the **Form Designer** so that you can configure indexes, detail fields, anchors, extraction zones, and assign color dropout filters.

If you already have a form open in the **Form Designer**, see the following sections for instructions about the tasks you can perform.

- See "Configure Setup Image and Pages" on the next page for instructions to complete these tasks.
- See "Configure Indexes" on page 599 for instructions to complete this task.
- See "Configure Detail Fields" on page 600 for instructions to complete this task.
- See "Configure Anchors" on page 602 for instructions to complete this task.
- See "Attach Anchors to Indexes" on page 603 for instructions to complete this task.
- See "Attach Anchors to Detail Fields" on page 605 for instructions to complete this task.
- See "Test Classification" on page 607 for instructions to complete this task.

If you need help opening the **Form Designer**, see the procedures below. You can open the **Form Designer** from several locations in Forms Magic, as describe in the following procedures.

- **Existing Forms** tab on the **Cluster Results** window. (See "Clustering Results" on page 585 for more information.)
- **Forms** window. (See "Forms" on page 591 for more information.)
- **Test Identification and Extraction** window. (See "Test Classification" on page 607 for more information.)

### To open the Form Designer from the Cluster Results window

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Classify the documents you want to work with. (See "Cluster New Documents" on page 583 if you need help.)
3. In the **Cluster Results** window, click the **Existing Forms** tab.
4. Select the form you want to work with, and then click **Open in Forms Designer**.

### To open the Form Designer from the Forms window

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Manage Forms** group, click **Form Management** to open the **Forms Types** window.

3. To access all forms within a form type, do one of the following:
  - Double-click the form type you want to open.
  - Select the form type you want to open, and then on the toolbar, click **Show Forms of Selected Form-Type**.
4. Double-click the form you want to work with in the **Form Designer**.


### To open the Form Designer from the Test Identification and Extraction window

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Test the documents you want to work with. (See "Test Classification" on page 607 if you need help.)
3. Select the form you want to work with, and then click **Form Designer**.

### To take control of a locked form



#### NOTE

Opening a form locks it to other users. Locked forms appear with the  indicator in the preview window when you open them. To make any changes to a locked form, you must first take control of it

---

1. Click **Unlock**, and then click **Yes**.
2. Click **OK**.  
The owner of the original lock is notified that you have taken control of the form.

## Configure Setup Image and Pages

In the **Form Designer**, you can replace the current setup image, and add, delete, and rearrange pages as described in the following procedures. On the **Pages** pane in the **Form Designer**, the first page (**Page 1**) is the setup image and is used for classification. After the setup image, you can add subsequent pages on which you can define indexes, detail fields, and anchors for extracting data. If you are classifying multiple documents per file and the **Document Breaks** setting is set to **Automatic**, the number of pages defines the number of pages in a classified document. (See "To cluster multiple documents per file" on page 584 for more information about document breaks.)

### To replace the setup image



#### NOTE

You can only replace the setup image with an image of the same resolution. Attempting to use an image with a different resolution will result in an error, and the operation will be canceled.

---

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on the previous page if you need help.)

3. On the **Pages** pane, select **Page 1**.
4. On the toolbar, click **Replace Setup Image**.
5. In the **Open** dialog box, locate and select the image you want to use, and then click **Open**.

#### To add a page

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the toolbar of the **Pages** pane, click **Add Image**.
4. In the **Open** dialog box, locate and select the image you want to add, and then click **Open**.

#### To remove a page

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Pages** pane, select the page you want to remove.
4. On the toolbar of the **Pages** pane, click **Remove Image**.
5. Click **Yes** to confirm the removal.

#### To reorder a page

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Pages** pane, select the page you want to move, and then click **Move Image Up** or **Move Image Down**.

## Configure Indexes

You must configure indexes so that Forms Magic can extract the data you need. You can specify where on the form the data resides and how to extract it. You may need to use anchors and color dropout filters to aid in extraction.

#### To configure an index

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Indexes** pane, do one of the following:
  - Select the index you want to configure.
  - To add a new index to the form, in the **Index** group, click **Add Form Index**, type the index name, and then click **OK**.
  - To add a new index to all the forms in the form type, in the **Index** group, click **Add Form-Type Index**, type the index name, and then click **OK**.
4. In the **Zone** group, click **Add Zone**.
5. Position the pointer where you want to draw the zone, and then click and drag the pointer to draw a border around the area where you want Forms Magic to extract the index value.

Any value extracted from the zone appears in the **Zone Text** window below the setup image or page.

6. (Optional) To move an index zone, select it, and then rest the mouse on the center of the zone until the cursor turns into a four-sided arrow. Click the zone and drag it to the desired location.
7. (Optional) To size an index zone, select it, and then drag the sizing handle(s).
8. (Optional) To remove an index zone, select it, and then in the **Zone** group, click **Remove Zone**.
9. To specify how content must fall within the defined zone to be extracted, in the **Index** group, click **Zone Extraction Type**, and then select one of the following:
  - **Top Left** - Select this option to specify that the top-left corner of the content must fall within the zone to be extracted. This is the default value.
  - **Overlap** - Select this option to specify that if any part of the content falls within the zone it will be extracted.
10. (Optional) To attach an anchor to the index, in the **Anchor** group, click **Attach Anchor**, select the anchor, and then click **OK**. (See "Configure Anchors" on page 602 for instructions to create an anchor.)
11. (Optional) To apply a color dropout filter to the index, in the **Dropout** group, click **Color Dropout**, select the filter, and then click **OK**. (See "Color Dropout Filters" on page 609 for instructions to create and edit dropout filters.) To apply the filter to all indexes (excluding detail fields), select the **Apply to All Fields** check box. To remove a color dropout filter, select **(None)**, and then click **OK**.
12. (Optional) To remove an index, in the **Index** group, click **Remove Index**.
13. (Optional) To rename an index, select the index, in the **Index** group, click **Rename Index**, type the new index name, and then click **OK**.



### TIP

On the **Indexes** pane, you can click a configured index, and it will appear on the setup image in the preview pane. You can also rest the pointer on an index to view configuration information.

---

14. Repeat this procedure until you have configured all of the indexes you need.

## Configure Detail Fields

Forms Magic supports only one detail set. Therefore, if that detail set is defined at the form-type level, all forms within that type will share the same detail fields, and you cannot create detail fields specific to that form.

### To configure a detail field

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Detail Fields** pane, do one of the following:



- Select the detail field you want to configure.
  - To add a new detail field to the form, in the **Field** group, click **Add Form Detail Field**, type the detail field name, and then click **OK**.
  - To add a new detail field to all the forms in the form type, in the **Field** group, click **Add Form-Type Detail Field**, type the detail field name, and then click **OK**.
4. In the **Zone** group, click **Add Zone**.
  5. Position the pointer where you want to draw the zone, and then click and drag the pointer to draw a border around the area where you want Forms Magic to extract the detail field value.  
Any value extracted from the zone appears in the **Zone Text** window below the setup image or page.
  6. (Optional) To move a detail field zone, select it, and then rest the mouse on the center of the zone until the cursor turns into a four-sided arrow. Click the zone and drag it to the desired location.
  7. (Optional) To size a detail field zone, select it, and then drag the sizing handle(s).
  8. (Optional) To remove a detail field zone, select it, and then in the **Zone** group, click **Remove Zone**.
  9. (Optional) To specify that the detail field is the first detail field in the line item, in the **Field** group, click **Set As Primary Field**.

**T I P**

Using the **Set as Primary Field** option is helpful when the detail field spans more than one line. Setting the first detail field in the line item to a primary field causes Forms Magic to begin a new line item in the detail set whenever it encounters a primary field.

---

10. (Optional) To remove the primary field setting, select the detail field, and then in the **Field** group, click **Clear As Primary Field**
11. (Optional) To attach anchors to the detail set, in the **Anchor** group, click **Detail Set**, and then do one of the following:
  - If all the detail fields are on one page, in the **Detail Set Zone** area, click **Attach**, select the anchor, and then click **OK**. (See "Configure Anchors" on the next page for instructions to create and edit anchors. See "Attach Anchors to Detail Fields" on page 605 for more information about using this option.)
  - If the detail fields span more than one page, in the **Header** area, click **Attach**, select the anchor, and then click **OK**. Repeat this step to attach the **Break Footer**, **Break Header**, and **Footer**. (See "Configure Anchors" on the next page for instructions to create and edit anchors. See "Attach Anchors to Detail Fields" on page 605 for more information about using this feature.)
12. (Optional) To apply a color dropout filter to the detail set, in the **Dropout** group, click **Detail Set**, select the filter, and then click **OK**. (See "Color Dropout Filters" on page 609 for instructions to create and edit dropout filters.) To remove a color dropout filter, select **(None)**, and then click **OK**.
13. (Optional) To remove a detail field, in the **Field** group, click **Remove Detail Field**.

14. (Optional) To rename a detail field, select the detail field, in the **Field** group, click **Rename Detail Field**, type the new name, and then click **OK**.

**T I P**

On the **Detail Fields** pane, you can click a configured detail field, and it will appear on the setup image in the preview pane. You can also rest the pointer on a detail field to view configuration information.

---

15. Repeat this procedure until you have configured all of the detail fields you need.

## Configure Anchors

An anchor is a zone drawn to include at least two words. Forms Magic will search for those words, and then superimpose the zone you have drawn. Anchors are used to aid in the extraction of information that is not always located in the same place on a form, but is always located in the same place relative to specific words on a form. They are also used to extract information that is repeated on a form. Depending on how you have applied the anchor to an index field or detail field, Forms Magic will then extract information from the anchor zone, or from a zone that is tied to that anchor. You can also use anchors to stop and start looking for index information. Configure the anchors you need, and then they will be available to apply to index fields and detail fields. (See "Attach Anchors to Indexes" on the facing page and "Attach Anchors to Detail Fields" on page 605 for more information.)

### To configure an anchor

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Anchors** pane, click **Add Anchor**.
4. Type the anchor name, and then click **Draw Zone**.
5. Position the pointer where you want to draw the zone, and then click and drag the pointer to draw a border around the area where you want Forms Magic to extract data and place the anchor.  
Any value extracted from the anchor zone appears in the **Zone Text** window below the setup image or page.
6. (Optional) To move an anchor, select it, and then rest the mouse on the center of the anchor until the cursor turns into a four-sided arrow. Click the anchor and drag it to the desired location.
7. (Optional) To size an anchor, select it, and then drag the sizing handle(s).
8. (Optional) To remove an anchor, select it, and then on the **Anchors** pane, click **Remove Anchor**.
9. (Optional) To rename an anchor, select it, and then on the **Anchors** pane, click **Rename Anchor**, type the new name, and then click **OK**.
10. (Optional) To apply a color dropout filter to the anchor, select it, and then on the **Anchors** pane, click **Color Dropout**, select the filter, and then click **OK**. (See "Color Dropout Filters" on page 609 for instructions to create and edit dropout filters.) To remove a color dropout filter, select **(None)**, and then click **OK**.

11. (Optional) To change the number of words needed to recognize the anchor, select it, and then on the **Anchors** pane, click **Required Matches**. Type or select the number of words needed to recognize the anchor, and then click **OK**.

**T I P**

On the **Anchors** pane, you can click a configured anchor, and it will appear on the setup image in the preview pane. You can also rest the pointer on an anchor to view configuration information.

---

12. Repeat this procedure until you have configured all of the anchors you need.
13. After you have defined anchors, you can attach them to indexes and detail fields. (See "Attach Anchors to Indexes" below and "Attach Anchors to Detail Fields" on page 605 for more information.)

## Attach Anchors to Indexes

Before you can attach an anchor to an index, you must create it first. See "Configure Anchors" on the previous page for instructions to create anchors. Attaching an anchor to an index is useful when the index value is not always located on the same place on a form, but is always located next to a certain word.

### EXAMPLE

If the index "Invoice Amount" appears after the last line item, its location will vary depending on the number of line items on the invoice. If you draw an anchor around the words "Pay This Amount," and then attach it the "Invoice Amount" index, Forms Magic searches for the words "Pay This Amount," applies the anchor, and then applies the index zone relative to the position of the anchor, and then extracts the data.

Any place Forms Magic finds the words "Pay This Amount," it will apply the anchor, and then place the index zone in the position you have drawn it relative to the anchor, not the page.

The following screen shot illustrates the preceding example. In the **Indexes** pane, the anchor icon appears next to the **Invoice Amount** index to indicate that an anchor is attached. See "To attach an anchor to an index" on the next page for instructions.

The screenshot shows the Forms Magic Form Designer interface. The main window displays a form with a table of invoice items and a summary section. A callout box points to the 'Pay This Amount' field in the summary section, stating: "This anchor was drawn around the words 'Pay This Amount'". Another callout box points to the 'Invoice Amount' field in the Indexes pane, stating: "The index field 'Invoice Amount' is attached to the anchor." The interface includes a navigation pane on the left with sections for Indexes, Detail Fields, and Anchors. The Indexes pane shows a list of index fields, with 'Invoice Amount' selected. The Detail Fields pane shows a list of detail fields, with 'Pay This Amount' selected. The Anchors pane shows a list of anchors, with 'Pay This Amount (2 Required...)' selected. The main form area shows a table of invoice items with columns for Description, Brand, Weight, Unit Price, and Amount. Below the table is a summary section with fields for Total Quantity, Total Weight, and Pay This Amount. The 'Pay This Amount' field is highlighted with a yellow background. The interface also includes a 'Pages' pane on the right showing a preview of the form across three pages.

| Description                                                      | Brand  | Weight | Unit Price | Amount |
|------------------------------------------------------------------|--------|--------|------------|--------|
| ROCESSED PARSLEY TRIM WASH<br>ON 4/24 CARTON NOSEI CA            | SNOWDY | 4      | \$9.550    | 9.55   |
| ROCESSED SALADS TRNY CHOP NO<br>COLOR Can 4/24 CARTON NOSEI<br>A |        | 600    | \$14.900   | 409.80 |
| ROCESSED LETTUCE ROMAINE<br>HOPPED-Can 6/24 CARTON<br>BOMHP CA   | SNOWDY | 480    | \$11.800   | 472.80 |
| ROCESSED CH LUCE ROMAINE<br>BLIND Can 4/24 CARTON NOSEI CA       | SNOWDY | 540    | \$11.900   | 393.20 |
| ROCESSED CH LUCE ROMAINE<br>HOPPED-Can 4/24 CARTON<br>NOSEI CA   |        | 320    | \$23.700   | 137.80 |
| RECORDER                                                         |        | 9      | \$11.900   | 11.90  |

| Total Quantity | Total Weight | Pay This Amount |
|----------------|--------------|-----------------|
| 187            | 8542         | 647.70          |

### To attach an anchor to an index

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Indexes** pane, select the index to which you want to attach an anchor.
4. In the **Anchor** group, click **Attach Anchor**, select the anchor, and then click **OK**. (See "Configure Anchors" on page 602 for instructions to create and edit anchors.)

**T I P**

On the **Anchors** pane, you can click a configured anchor, and it will appear on the setup image in the preview pane. You can also rest the pointer on an anchor to view configuration information.

## Attach Anchors to Detail Fields

Before you can attach an anchor to detail fields, you must create it first. See "Configure Anchors" on page 602 for instructions to create anchors. The two options available for using anchors with detail fields are described in the following sections.

### Zone Anchor

If the detail fields are contained on a single page, you can extract detail fields from within a zone as shown on the following graphic.

The screenshot shows the Forms Magic Form Designer interface. The main window displays a form titled "Form Designer" for "Form: TestMulti". The form includes a header section with "Alpha Support Services LLC" and "1000 Algonquin Street, Omaha, NE 68106". Below this is a table with columns for "Qty", "Description", "Unit Price", and "TOTAL". The table contains several rows of data, including "Kingston Royal 200 Keyboard" and "Free Finger Hole Mouse Keyboard". A yellow rectangular area highlights the table, with a callout box stating: "This anchor defines the area where all the detail fields in the detail set could appear." On the left side, there are two panes: "Indexes" and "Detail Fields". The "Detail Fields" pane lists "Qty", "Description", "Unit Price", and "Line Item Total". Below this is the "Anchors" pane, which shows a "Detail Set" menu. A callout box points to the "Detail Set Zone" option in this menu, stating: "Use the Detail Set Zone option when the detail set data appears on one page." The "Detail Set" menu also includes options for "Attach Detail Set", "OR", "Header", "Break Footer", "Break Header", and "Footer", each with an "Attach Detail Set" button.

### To attach a zone anchor to detail fields

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Detail Fields** pane, in the **Anchor** group, click **Detail Set**.
4. Next to **Detail Set Zone**, click **Attach**, select the anchor, and then click **OK**. (See "Configure Anchors" on page 602 for instructions to create and edit anchors.)

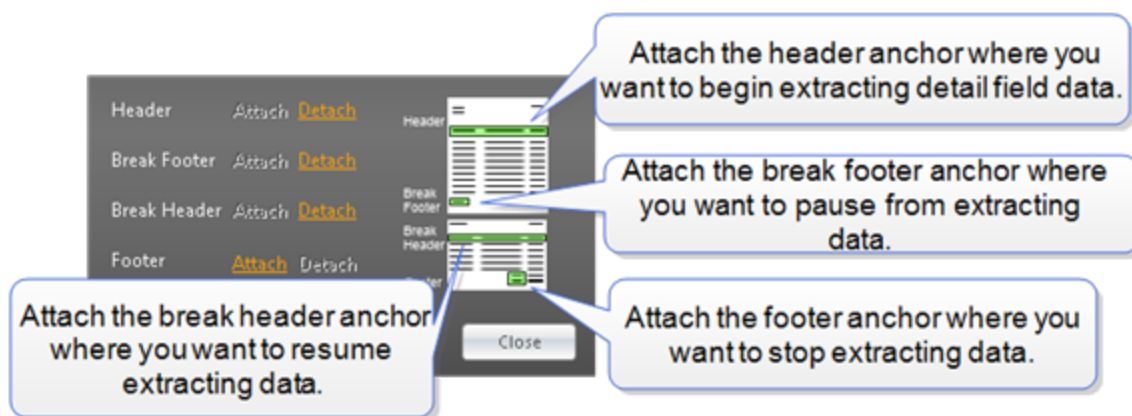


#### T I P

On the **Anchors** pane, you can click a configured anchor, and it will appear on the setup image in the preview pane. You can also rest the pointer on an anchor to view configuration information.

## Header and Footer Anchors

If the detail fields span more than one page, you can use anchors so that Forms Magic will start extracting detail fields at a header anchor, stop extracting at a break footer anchor, begin again at a break header anchor, and then stop completely at the footer anchor.



### To attach header and footer anchors to detail fields

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the **Detail Fields** pane, in the **Anchor** group, click **Detail Set**.
4. Next to the header or footer anchor you want to attach, click **Attach**, select the anchor, and then click **OK**. (See "Configure Anchors" on page 602 for instructions to create and edit anchors.)
5. Repeat steps 3 and 4 for each header and footer anchor.

**T I P**

On the **Anchors** pane, you can click a configured anchor, and it will appear on the setup image in the preview pane. You can also rest the pointer on an anchor to view configuration information.

## Test Classification

It is important to test forms to ensure that Forms Magic is extracting the data you want correctly. When you select documents to test, Forms Magic compares them against all existing forms and tries to classify them. You can test one document per file, or multiple documents per file. Testing documents lets you evaluate classification, data extractions, and document breaks. You can test a form from the **Forms Magic Designer**, or while you are configuring it in the **Form Designer**. The following procedures describe how to test from both locations.

### To test one document per file from the Forms Magic Designer

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Test Classification** group, click **One Document Per File** to open the **Test Identification and Extraction** window.
3. Click **Pick Files** to access the **Open** dialog box. Locate and select the files you want to test, and then click **Open**.

The **Documents** pane displays thumbnail images of the documents you added.

4. (Optional) You can click a thumbnail image to view it on the preview pane.
5. (Optional) To remove documents, do one of the following:
  - Select the thumbnail image, and then click **Remove Selected**.
  - To remove all documents, click **Remove All**.
6. Click **Start Test**.
7. See "Identification and Extraction Test Results" on the next page for information about how to work with the results that appear in the **Test Identification and Extraction** window.

### To test multiple documents per file from the Forms Magic Designer

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Test Classification** group, click **Multiple Documents Per File** to open the **Test Identification and Extraction** window.
3. Click **Open File** to access the **Open** dialog box. Locate and select the file you want to use, and then click **Open**.
4. Click **Start Test**.
5. See "Identification and Extraction Test Results" on the next page for information about how to work with the results that appear in the **Test Identification and Extraction** window.

### To test one document per file from the Form Designer

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the toolbar of the center pane, click **Test Form Identification and Field Extraction (Single-Doc Files)** to open the **Test Identification and Extraction** window.
4. Click **Pick Files** to access the **Open** dialog box. Locate and select the files you want to test, and then click **Open**.

The **Documents** pane displays thumbnail images of the documents you added.

5. (Optional) You can click a thumbnail image to view it on the preview pane.
6. (Optional) To remove documents, do one of the following:
  - Select the thumbnail image, and then click **Remove Selected**.
  - To remove all documents, click **Remove All**.
7. Click **Start Test**.
8. See "Identification and Extraction Test Results" below for information about how to work with the results that appear in the **Test Identification and Extraction** window.

### To test multiple documents per file from the Form Designer

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. Open the **Form Designer**. (See "Form Designer Overview" on page 597 if you need help.)
3. On the toolbar of the center pane, click **Test Form Identification and Field Extraction (Multi-Doc File)** to open the **Test Identification and Extraction** window.
4. Click **Open File** to access the **Open** dialog box. Locate and select the file you want to use, and then click **Open**.
5. Click **Start Test**.
6. See "Identification and Extraction Test Results" below for information about how to work with the results that appear in the **Test Identification and Extraction** window.

## Identification and Extraction Test Results

Before you can work with the test results that appear in the **Test Identification and Extraction** window, you must run the form identification and field extraction test. If you haven't already done this, see "Test Classification" on the previous page for instructions. On the **Test Identification and Extraction** window, the **Documents** pane contains thumbnails of the documents you selected to test. Any selected document appears in the center pane. The extracted data appears in the **Indexes** and **Detail Sets** panes. In the **Indexes** pane, the form type, and form information appears. You can click on each document to view the test results. If the form did not classify, no information appears in the **Indexes** or **Detail Sets** pane.

### To work with test results

1. On the **Test Identification and Extraction** window, on the **Documents** pane, click the document whose test results you want to view.



The first page of the document appears in the preview pane.

2. You can use the toolbar to adjust the image and scroll through the pages.
3. On the preview pane, you can see the form with the text used for classification highlighted.
4. On the **Indexes** pane, you can see the form type, form information, all the extracted data, and confidence values. You can click an index, and its zone appears on the form in the preview pane.
5. On the **Detail Sets** pane, you can see the detail set line item number, page number, the extracted data, and confidence values. You can click on any detail field value, and its zone and extracted text appears on the form in the preview pane.
6. If necessary, on the toolbar click **Form Designer** to make any configuration changes.

## Color Dropout Filters

In Forms Magic, you can create custom color filters that replace colors in your image with colors you specify. By default, the filter replaces the color you select with white. You can apply these filters to images and zones to aid in data extraction. The filters you create will then be available to apply to zones when you configure a form, and in some Capture job steps.

### To create a color dropout filter

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Color Dropout Filters** group, click **Click to Configure** to open the **Color Dropout Filters** window.
3. Click **New**.
4. Type the name of the new filter, and then click **OK**.
5. Click **Open Image** to access the **Open** dialog box. Locate and select the image you want to use to create the filter, and then click **Open**.

Two versions of the image you selected appear on the right pane. You can use the options on the tool bar to alter both images. (See "Common Functions" on page 582 for more information.)

6. (Optional) By default, the colors you select are replaced with white. To select a different replacement color, on the **Color Dropout Component** pane, click **Replacement**, and then do one of the following:
  - Under **Basic colors**, select the color you want to use, and then click **OK**.
  - Click **Define Custom Colors**, select or define the color you want to use, and then click **Add to Custom Colors**.
7. On the left image, click the color you want to replace.



#### T I P

Zooming in on the image makes it easier to select colors.

---

That color you clicked is removed from the image on the right, and a color dropout component is added to the filter. Each time you click on the left image, you add a component to the color filter.

8. (Optional) To remove a specific color dropout component, on the Color Dropout Components pane, select the color, and then click **Remove Color Component**.
9. (Optional) To remove all the color dropout components, on the Color Dropout Components pane, click **Clear All**.
10. Click **Done** to save the color dropout filter.

### To edit a color dropout filter

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Color Dropout Filters** group, click **Click to Configure** to open the **Color Dropout Filters** window.
3. From the **Color Dropout** list, select the filter you want to edit.
4. Click **Edit**.
5. See "To create a color dropout filter" on the previous page if you need help opening an image and adding color dropout components.
6. After you are finished editing the filter, click **Done** to save the color dropout filter.

### To rename a color dropout filter

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Color Dropout Filters** group, click **Click to Configure** to open the **Color Dropout Filters** window.
3. From the **Color Dropout** list, select the filter you want to rename.
4. Click **Rename**.
5. Type the new name for the filter, and then click **OK**.

### To delete a color dropout filter

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)
2. In the **Color Dropout Filters** group, click **Click to Configure** to open the **Color Dropout Filters** window.
3. From the **Color Dropout** list, select the filter you want to delete.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

## User Preferences

In Forms Magic, you can set user preferences to specify when MVX files are created, to apply color drop out filters to forms while testing classification, to highlight classification words, to highlight extractions zones and text, and to display confidence indicators for extracted text.

### To set user preferences

1. Open the **Forms Magic Designer**. (See "To open the Forms Magic Designer" on page 580 if you need help.)

2. In the **User Preferences** group, click **Click to Configure** to open the **User Preferences** window. You can specify the following options.
  - **Use Existing MVX** - If you want to skip the OCR process for files that already have MVX data, select the **Use Existing MVX** check box.
  - **Classification Color Dropout Filters** - With this option you can test color dropout filters that you apply to forms during the classification process. These filters are used only for classification, and do not impact color dropout filters applied to zones. (See "Color Dropout Filters" on page 609 if you need help creating a color dropout filter.)
    1. From the **Available** list, select the color drop out filter you want to apply by doing one of the following:
      - Double-click each filter you want to use.
      - Select the filter(s) you want to use (hold down the Ctrl key to select multiple items), and then click the right arrow.
      - To select all filters, select the **Select All** check box, and then click the right arrow.
    2. (Optional) To remove items from the **Members** list, do one of the following:
      - In the **Members** list, double-click each item you want to remove.
      - In the **Members** list, select the item(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
      - To remove all items, select the **Select All** check box, and then click the left arrow.
  - **Highlight Classification Words** - Select this option if you want the words used to classify the document highlighted on the **Test Identification and Extraction** window.
  - **Highlight Extraction Zones** - Select this option if you want the extractions zones highlighted on the **Test Identification and Extraction** window.
  - **Highlight Extracted Text** - Select this option if you want the text extracted from a zone highlighted on the **Test Identification and Extraction** window.
  - **Show Confidence Indicator** - Select this option if you want confidence indicators displayed for extracted text on the **Test Identification and Extraction** window.
3. Click **Apply** to save your settings, or **Reset** to apply the default settings.

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# CHAPTER 20

## Forms Classification and Extraction Step

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# Forms Classification and Extraction Step Overview

PaperVision Capture can process data from Forms Magic when you add a **Forms Classification and Extraction** step to a job. This step lets you select a Forms Magic project so that the job can access and process Forms Magic data. Before you can use this job step, you must create forms and configure indexes in Forms Magic. (See "Forms Magic Configuration Overview" on page 574 to get started with the required Forms Magic configuration tasks.)

This content describes how to configure properties that apply to the **Forms Classification and Extraction** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

## To configure a Forms Classification and Extraction step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Forms Classification and Extraction** step to the workspace using one of the following methods.
  - Select the step that you want **Forms Classification and Extraction** to follow. On the **Job Step Toolbox** tab, double-click **Forms Classification and Extraction**.
  - On the **Job Step Toolbox** tab, drag **Forms Classification and Extraction** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Forms Classification and Extraction**.
5. Double-click the **Forms Classification and Extraction** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Forms Classification and Extraction** step properties, see the following:

- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
- See "Forms Classification and Extraction Properties" below to access instructions for each property under this category.
- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
- See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

## Forms Classification and Extraction Properties

Under the **Forms Classification and Extraction** category, you can set the following properties.

- See "Auto Carry Indexes" below for instructions to set this property.
- See "Break Composite Documents" on the next page for instructions to set this property.
- See "Disable Forms Magic Tagging" on the next page for instructions to set this property.
- See "First N Pages" on page 617 for instructions to set this property.
- See "Forms Magic Classification IP Filters" on page 617 for instructions to set this property.
- See "Forms Magic Project" on page 617 for instructions to set this property.
- See "Languages" on page 618 for instructions to set this property.
- See "Process All Documents" on page 618 for instructions to set this property.
- See "Process Composite Documents" on page 619 for instructions to set this property.
- See "Unclassified Composite Document Handling" on page 619 for instructions to set this property.

## Auto Carry Indexes

The **Auto Carry Indexes** property lets you specify whether Forms Magic will carry over index values that were hand-keyed prior to classification. This property is available only when the **Process Composite Documents** and **Break Composite Documents** properties are set to **True**. (See "Process Composite Documents" on page 619 and "Break Composite Documents" on the next page for information about these properties.)

### To set the Auto Carry Indexes property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on the previous page if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Ensure that the **Process Composite Documents** and **Break Composite Documents** properties are set to **True**.
4. Click **Auto Carry Indexes**, and then click the down arrow to select one of the following options:

- **True** - Selecting this option will cause Forms Magic to carry over index values that were hand-keyed prior to classification.
- **False** - Selecting this option specifies that Forms Magic will not carry over index values that were hand-keyed prior to classification.

### Break Composite Documents

The **Break Composite Documents** property lets you specify whether you want PaperVision Capture to break composite documents based on the Forms Magic detection of different document types. This property is available only when the **Process Composite Documents** property is set to **True**. (See "Process Composite Documents" on page 619 for information about this property.)

#### To set the Break Composite Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Ensure that the **Process Composite Documents** property is set to **True**.
4. Click **Break Composite Documents**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option will cause PaperVision Capture to break composite documents based on the Forms Magic detection of different document types.
  - **False** - Selecting this option will cause composite documents to be left as they are.



#### N O T E

Setting this property to **False**, may produce unintended results for operators performing Forms Magic QC.

---

### Disable Forms Magic Tagging

The **Disable Forms Magic Tagging** property lets you specify whether you want Forms Magic to tag documents with extraction and classification errors. Disabling this property is useful when a QC step follows a **Forms Classification and Extraction** step, and you only want to view documents with QC tags.

#### To set the Disable Forms Magic Tagging property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Disable Forms Magic Tagging**, and then click the down arrow to select one of the following options:
  - **True** - .Selecting this option will stop Forms Magic from tagging documents.
  - **False** - .Selecting this option (the default setting) allows Forms Magic to tag documents.



## First N Pages

The **First N Pages** property lets you limit the number of pages to be processed from Forms Magic. For example, if you want to process only the first five pages of a document coming from Forms Magic, then type **5** for this property value. This prevents processing pages that you don't need.

### To set the First N Pages property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **First N Pages**, and then type the number of pages to be processed from Forms Magic. An entry of zero, the default, causes all pages to be processed.

## Forms Magic Classification IP Filters

The **Forms Magic Classification IP Filters** property lets you apply a color dropout filter that has been configured in Forms Magic to an image before classification.

### To set the Forms Magic Classification IP Filters property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Forms Magic Classification IP Filters**, and then click the ellipsis button to open the **Edit Classification Filters** dialog box.
4. Do one of the following:
  - In the **Available Filters** list, double-click the filter that you want to apply.
  - In the **Available Filters** list, select the filter(s) you want to apply (hold down the Ctrl key to select multiple items), and then click the right arrow.
  - To apply all of the available filters, select the **Select All** check box, and then click the right arrow.
5. (Optional) To remove filters from the **Selected Filters** list, do one of the following:
  - In the **Selected Filters** list, double-click each filter you want to remove.
  - In the **Selected Filters** list, select the filter(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
  - To remove all items, select the **Select All** check box, and then click the left arrow.

## Forms Magic Project

The **Forms Magic Project** property lets you select the Forms Magic project you want to use. Before you can set this property, you must create a Forms Magic Project. (See "Forms Magic Configuration Overview" on page 574 to get started with the required Forms Magic configuration tasks.)

### To set the Forms Magic Project property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Forms Magic Project**, and then click the down arrow to select the project you want to use.

## Languages

The **Languages** property lets you select other languages for which you want to include characters.

### To set the Languages property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Languages**, and then click the ellipsis button to open the **Select Languages and /or Countries** dialog box.
4. Do one of the following:
  - In the **Available** list, double-click each item you want to include.
  - In the **Available** list, select the item(s) you want to include (hold down the Ctrl key to select multiple items), and then, click the right arrow.
5. (Optional) To remove items from the **Select** list, do one of the following:
  - In the **Select** list, double-click each item you want to remove.
  - In the **Select** list, select the item(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
  - To remove all items, select the **Select All** check box, and then click the left arrow.

## Process All Documents

The **Process All Documents** property lets you specify whether you want PaperVision Capture to process all Forms Magic documents and overwrite any existing classifications.

### To set the Process All Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Process All Documents**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option will cause PaperVision Capture to process all Forms Magic documents and overwrite any existing classifications.
  - **False** - Selecting this option will cause Forms Magic to skip documents that have already been processed.

## Process Composite Documents

The **Process Composite Documents** property lets you specify whether you want PaperVision Capture to process documents as composite documents. Composite documents are documents that contain two or more documents to be processed. For example, if a document contains more than one invoice, it is a composite document that is made up of multiple embedded documents. (The **Process Composite Documents** property must be set to **True** for the **Break Composite Documents** property to be available. See "Break Composite Documents" on page 616 for information about this property.)

### To set the Process Composite Documents property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Process Composite Documents**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option will cause PaperVision Capture to process documents as composite documents.
  - **False** - Selecting this option will cause PaperVision Capture to treat each document as a single document.

## Unclassified Composite Document Handling

When Forms Magic processes composite documents, there might be cases where it is unable to classify all or a portion of the document. When this occurs, you can use the **Unclassified Composite Document Handling** property to specify how PaperVision Capture handles the unclassified documents. This property is available only when the **Process Composite Documents** and **Break Composite Documents** properties are set to **True**. (See "Process Composite Documents" above and "Break Composite Documents" on page 616 for information about these properties.)

### To set the Unclassified Composite Document Handling property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Classification and Extraction** step. (See "To configure a Forms Classification and Extraction step" on page 614 if you need help adding a **Forms Classification and Extraction** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Ensure that the **Process Composite Documents** and **Break Composite Documents** properties are set to **True**.
4. Click **Unclassified Composite Document Handling**, and then click the down arrow to select one of the following options:
  - **Leave as Single Document** - Selecting this option will keep the original composite document intact and tag it as an exception.
  - **Separate Into Classified Documents** - Selecting this option will break the original composite document into a batch of classified documents as identified by Forms Magic, and unclassified documents comprised of the unclassified pages from the original composite document. The unclassified documents are QC tagged.

### EXAMPLE

Here is an example of what happens when you set the **Unclassified Composite Document Handling** property to **Separate Into Classified Documents**. The original batch contains a single composite document that has six pages, and Forms Magic processing has classified them as follows:

- page 1 is a one-page invoice
- pages 2-3 are unclassified
- pages 4-5 are a two-page invoice
- page 6 is unclassified

The resulting batch will look as follows:

- Document 1 is comprised of the original page 1 (the one-page invoice).
- Document 2 is comprised of the original pages 2-3 (unclassified) and is QC tagged.
- Document 3 is comprised of the original pages 4-5 (the two-page invoice).
- Document 4 is comprised of the original page 6 (unclassified) and is QC tagged.

# CHAPTER 21

## Forms Index Mapping Step

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## Forms Index Mapping Step Overview

The **Forms Index Mapping** job step lets you map index files set up in Forms Magic and process them. Before you can use this job step, you must create forms and configure indexes in Forms Magic. (See "Forms Magic Configuration Overview" on page 574 to get started with the required Forms Magic configuration tasks.)

This content describes how to configure properties that apply to the **Forms Index Mapping** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure a Forms Index Mapping step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Forms Index Mapping** step to the workspace using one of the following methods.
  - Select the step that you want **Forms Index Mapping** to follow. On the **Job Step Toolbox** tab, double-click **Forms Index Mapping**.
  - On the **Job Step Toolbox** tab, drag **Forms Index Mapping** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Forms Index Mapping**.
5. Double-click the **Forms Index Mapping** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



#### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Forms Index Mapping** step properties, see the following:
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
  - See "Forms Index Mapping Properties" on the facing page to access instructions for each property under this category.

- See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.
- See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

## Forms Index Mapping Properties

Under the **Forms Index Mapping** category you can set properties that specify how index fields in Forms Magic are handled by the **Forms Index Mapping** step. Before you set the listed properties, you must create forms and configure indexes in Forms Magic. (See "Forms Magic Configuration Overview" on page 574 to get started with the required Forms Magic configuration tasks.)



### NOTE

All **Forms Index Mapping** step properties are removed when the step is copied to a new job.

---

- See "Apply Formatting" below for instructions to set this property.
- See "Map Forms Magic Detail Sets and Fields" on the next page for instructions to set the **Detail Set Mapping** property.
- See "Map Forms Magic Detail Sets and Fields" on the next page for instructions to set the **Field Mapping** property.
- See "Disable Forms Magic Tagging" on page 625 for instructions to set this property.
- See "Forms Magic Project" on page 626 for instructions to set this property.

## Apply Formatting

The **Apply Formatting** property lets you specify whether PaperVision Capture applies formatting to the contents of mapped Forms Magic fields upon import. For example, a currency value would automatically be formatted as such. If PaperVision Capture cannot parse an imported value as the specified field type, no formatting occurs. For example, if a currency field contained the value "John Smith" the field would be left as is.



### NOTE

All **Forms Index Mapping** step properties are removed when the step is copied to a new job.

---

### To set the Apply Formatting property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Index Mapping** step. (See "To configure a Forms Index Mapping step" on the previous page if you need help adding a **Forms Index Mapping** step.)
2. On the **Properties** tab, if necessary, expand **Forms Index Mapping**.
3. Click **Apply Formatting**, and then click the down arrow to select one of the following options:
  - **True** - Selecting this option will cause PaperVision Capture to automatically apply formatting to the contents of mapped Forms Magic fields upon import.

- **False** - Selecting this option specifies that PaperVision Capture will not automatically apply formatting to imported fields.

## Map Forms Magic Detail Sets and Fields

The **Detail Set Mapping** and **Field Mapping** properties let you map index values from Forms Magic to index value in PaperVision Capture.




### NOTE

All **Forms Index Mapping** step properties are removed when the step is copied to a new job.


---

### To set the Detail Set Mapping and Field Mapping properties

1. On the workspace of the **Job Definitions** window, double-click the **Forms Index Mapping** step. (See "To configure a Forms Index Mapping step" on page 622 if you need help adding a **Forms Index Mapping** step.)
2. On the **Properties** tab, if necessary, expand **Forms Index Mapping**.
3. Click **Detail Set Mapping** or **Field Mapping**, and then click the ellipsis button.
4. Click  to open the **Map FM Fields to Capture Indexes** dialog box.
5. (Optional) Under **Filter FM Fields**, you can choose the following options:
  - **by Form Type** - Select this check box to filter Forms Magic fields by form type. After you select this option, you can select the form type from the associated list.
  - **by Form** - This check box is available only when **by Form Type** is selected. Select this check box to filter Forms Magic fields by forms within a form type. You can select the form from the associated list.
6. (Optional) If you have Forms Magic fields and Capture indexes that have identical names, you can click **Auto Match** to automatically map these values. (For example, a Forms Magic **Quantity** field would automatically be mapped to a Capture **Quantity** index.) You must manually map any values that do not have identical names.
7. In the **FM Fields** list, select the Forms Magic field that you want to map.
8. In the **Capture Indexes** list, select the PaperVision Capture index to which you want to map the field you selected in the previous step.
9. In the corresponding **Minimum Confidence (0-100)** box, type or select a value between zero and 100.
 

This value defines the minimum level of confidence that the incoming value was read correctly by the OCR engine. A confidence level equal to or above this value causes the value to be automatically imported. If the confidence level is less than this value, then the action you specify in the next step is taken.
10. Click the **No Confidence Action** list, and then select one of the following actions to be taken if the specified minimum confidence value is not met.
  - **Do Nothing** - This option causes the index value to not be imported.
  - **Set Blank** - This option sets the index field to blank.



- **Copy Value and Tag Index** - This option copies the value and tags the index for QC or other purposes.
  - **Copy Value and Tag Document** - This option copies the value and tags the document for QC or other purposes.
  - **Copy Value and Tag both Index and Document** - This option copies the value and tags the index and document for QC or other purposes.
  - **Set Blank and Clear FM Confidence** - This option sets the index field to blank and removes the Forms Magic confidence level from the field. The confidence level determines what field appears when a user clicks **Next FM Field** on the **Index Manager** to move through index fields in the Operator Console. Removing the confidence level allows operators to skip the review of any fields that weren't properly read during the Forms Magic OCR process. This option is used only when the **Forms Magic QC** property is enabled in an indexing step. (See "To set the Forms Magic QC property" on page 163 for instructions to set this property.)
11. Click **Apply**.
  12. To map multiple values, repeat the previous five steps until you have mapped all values.
  13. After you are finished mapping values, click **Done**.
  14. (Optional) For a mapped value that appears in the list, you can select it, and then click the up and down arrows to move it, or click  to delete it.
  15. Click **OK**, and then on the toolbar, click **Save Job** to save your settings.

**N O T E**

If you plan to perform a match and merge using detail fields that contain Forms Magic data, be aware that after the match and merge process is complete, all Forms Magic detail set data is removed.

---

## Disable Forms Magic Tagging

The **Disable Forms Magic Tagging** property lets you specify whether you want Forms Magic to tag documents with extraction and classification errors. This is useful when you map PaperVision Capture index values to Forms Magic index values that are populated in another step.

### To set the Disable Forms Magic Tagging property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Index Mapping** step. (See "To configure a Forms Index Mapping step" on page 622 if you need help adding a **Forms Index Mapping** step.)
2. On the **Properties** tab, if necessary, expand **Forms Index Mapping**.
3. Click **Disable Forms Magic Tagging**, and then click the down arrow to select one of the following options:
  - **True** - .Selecting this option will stop Forms Magic from tagging documents.
  - **False** - .Selecting this option (the default setting) allows Forms Magic to tag documents.

## Forms Magic Project

The **Forms Magic Project** property lets you select the Forms Magic project you want to use as the source of the indexes you want to map. Before you can set this property, you must create a Forms Magic Project. (See "Forms Magic Configuration Overview" on page 574 to get started with the required Forms Magic configuration tasks.)



### NOTE

All **Forms Index Mapping** step properties are removed when the step is copied to a new job.

---

### To set the Forms Magic Project property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Index Mapping** step. (See "To configure a Forms Index Mapping step" on page 622 if you need help adding a **Forms Index Mapping** step.)
2. On the **Properties** tab, if necessary, expand **Forms Index Mapping**.
3. Click **Forms Magic Project**, and then click the down arrow to select the project you want to use.

# CHAPTER 22

## Forms Designer Step

---

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## Forms Designer Step Overview

The manual **Forms Designer** step allows users to configure Forms Magic to automate document classification and index field value extraction for use in other job steps. Users can import images for classification, assign forms to form types, create new form types, configure Forms Magic indexes and detail fields, create color dropout filters, and test the classification and extraction process.

This content describes how to configure properties that apply to the **Forms Designer** step. See "Job Tasks" on page 102 for information about job configuration. See "Job Step Tasks" on page 82 and "Set Common Properties for Job Steps" on page 88 for information about the tasks and properties that apply to all job steps.

### To configure a Forms Designer step



1. Open the **Job Definitions** window. (See "Job Definitions Window Overview" on page 80 if you need help.)
2. If necessary, on the toolbar, click **Check Out Job** so you can edit it.
3. On the **Job Definitions** window, click the **Job Step Toolbox** tab.
4. If necessary, add the **Forms Designer** step to the workspace using one of the following methods.
  - Select the step that you want **Forms Designer** to follow. On the **Job Step Toolbox** tab, double-click **Forms Designer**.
  - On the **Job Step Toolbox** tab, drag **Forms Designer** on to the workspace.
  - On the workspace, right-click, point to **Insert Job Step**, and then select **Forms Designer**.
5. Double-click the **Forms Designer** step to display the **Properties** tab on the left pane.
6. On the **Properties** tab, you can expand a category, and then click the property you want to set. If a down arrow  or an ellipsis button  appears in the column next to the selected property, click it to access available options.



#### T I P

To clear a value that was set by clicking the ellipsis button, right-click the button, and then click **Reset**.

---

7. (Optional) To sort the properties do one of the following:
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
8. For instructions to set **Forms Designer** step properties, see the following:
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **Appearance** category.
  - See "Forms Designer Step Properties" on the facing page for instructions to set properties under the **Forms Designer** category.
  - See "Set Common Properties for Job Steps" on page 88 for instructions to set properties under the **General** category.

- See "Configure Indexes" on page 138 for instructions to add indexes using the **Indexes** property.

## Forms Designer Step Properties

Under the **Forms Designer** category, you can set the following properties.

- See "Forms Magic Project" below for instructions to set this property.
- See "Languages" below for instructions to set this property.

### Forms Magic Project

The **Forms Magic Project** property lets you select the Forms Magic project you want to this job step to use. Before you can set this property, you must create a Forms Magic Project. (See "Forms Magic Configuration Overview" on page 574 to get started with the required Forms Magic configuration tasks.)

#### To set the Forms Magic Project property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Designer** step. (See "To configure a Forms Designer step" on the previous page if you need help adding a **Forms Designer** step.)
2. On the **Properties** tab, if necessary, expand **Forms Designer**.
3. Click **Forms Magic Project**, and then click the down arrow to select the project you want to use.

### Languages

The **Languages** property lets you select other languages for which you want to include characters.

#### To set the Languages property

1. On the workspace of the **Job Definitions** window, double-click the **Forms Designer** step. (See "To configure a Forms Designer step" on the previous page if you need help adding a **Forms Designer** step.)
2. On the **Properties** tab, if necessary, expand **Forms Classification and Extraction**.
3. Click **Languages**, and then click the ellipsis button to open the **Select Languages and /or Countries** dialog box.
4. Do one of the following:
  - In the **Available** list, double-click each item you want to include.
  - In the **Available** list, select the item(s) you want to include (hold down the Ctrl key to select multiple items), and then, click the right arrow.
5. (Optional) To remove items from the **Select** list, do one of the following:
  - In the **Select** list, double-click each item you want to remove.
  - In the **Select** list, select the item(s) you want to remove (hold down the Ctrl key to select multiple items), and then click the left arrow.
  - To remove all items, select the **Select All** check box, and then click the left arrow.

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# CHAPTER 23

## Capture Batches

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## Capture Batches Overview

In PaperVision Capture, a batch is a collection of documents and their associated index name-value pairs and statistics that are moved as a logical unit of work through a job. Under **Capture Batches**, you can access functions to assist you with managing batches and using batch statistics. To perform these tasks, you must be logged in to the Administration Console as a global or system administrator. (See "Logging In to the Administration Console" on page 33 if you need help.)

### To access Capture batch functions

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**. For information about the items under **Capture Batches**, see the following:
  - See "Batch Management" below for information about the batch-related tasks you can perform.
  - See "Batch Statistics" on page 641 for a description of how batch statistics work and the related tasks you can perform.

## Batch Management

**Batch Management** automatically tracks batches created in the Operator Console and displays user and job data specific to each batch. To perform batch-management tasks, you must be logged in to the Administration Console. (See "Logging In to the Administration Console" on page 33 if you need help.)

### To access batch information

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.

The right pane shows for each batch the following information.

- **Batch ID** - shows the unique identifier for the batch in the database.
- **Name** - shows the batch name that was specified by the user.
- **Status** - shows the current status of the batch, which can be one of the following:
  - **Owned** - shows that a user has assumed ownership of the batch in the Operator Console.
  - **Not Owned** - shows that a user has not assumed ownership of the batch in the Operator Console.
  - **In Transmission** - shows that the batch is moving from the temporary local batch repository to the master batch repository.
  - **Automated Processing** - shows that the automation service is currently processing the batch.
- **Created** - shows the date and time when the batch was created.
- **Last Update** - shows the most recent date and time when the batch record was updated in the database.
- **Job** - shows the name of the job to which the batch is assigned.
- **Step** - shows the name of the job step in which the batch is currently processing or waiting.



- **Step Start** - shows the date and time when the batch entered the job step.
- **Owned By User** - shows the user who currently owns the batch.
- **Owned By Workstation** - shows the workstation where the batch is currently owned.

**T I P**

You can rest the pointer on a batch row to view a summary of batch information. You can also click column headers to sort each column in ascending or descending order.

---

### To refresh batch information

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. Do one of the following:
  - On the **Action** menu, click **Refresh**.
  - On the toolbar, click **Refresh**.
  - Right-click on the right pane, and then click **Refresh**.

For information about the tasks you can perform from the **Batch Management** area, see the following:

- See "Batch Properties" below for instructions to access and use them.
- See "Batch History" on page 635 for instructions to view operations performed on a batch.
- See "Filter Batches" on page 636 for instructions to apply a filter to the batches listed on the right pane.
- See "Set Batch Destruction Date" on page 637 for instructions to set a date after which the batch(es) you specify are deleted.
- See "Change Batch Status to Not Owned" on page 638 for instructions to complete this task.
- See "Change Batch Job Step" on page 639 for instructions to complete this task.
- See "Export Batch Metadata" on page 640 for instructions to complete this task.
- See "Open Batch Path" on page 640 for instructions to complete this task.



## Batch Properties

Batch properties provide a summary of batch information. You can modify some properties to perform a task for the batch, for example, you can move the batch to a different job step or set a date for the batch to be deleted. The properties you can modify depend on whether the batch is owned or not owned. If a batch is not owned, you can modify the following properties:

- |                                  |                                |
|----------------------------------|--------------------------------|
| ■ <b>Name</b>                    | ■ <b>Batch Path</b>            |
| ■ <b>Description</b>             | ■ <b>Step</b>                  |
| ■ <b>Date/Time</b>               | ■ <b>Scheduled Destruction</b> |
| ■ <b>Administrative Priority</b> | ■ <b>Retain Statistics</b>     |

If a batch is owned or awaiting automated processing, you can change its **Status** property to **Not Owned**, so you can edit the properties listed above. The values for read-only properties appear with gray text. The values for properties you can edit appear with black text. Each property is described in the following procedure.

### To access batch properties

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch you want to work with, and then do one of the following:
  - Double-click the selected item.
  - On the **Action** menu, click **Properties**.
  - On the toolbar, click **Properties**.
  - Right-click the selected item, and then click **Properties**.
5. (Optional) In the **Batch Properties** dialog box, you can sort the properties for the batch.
  - To sort the properties by category, at the top of the **Properties** tab, click **Categorized** .
  - To alphabetically sort the properties without any categories, click **Alphabetical** .
6. You can view all and set some of the following properties.



#### N O T E

The values for read-only properties appear with gray text. The values for properties you can edit appear with black text.

---

- **Batch ID** - shows the unique identifier for the batch in the database.
- **Internal Name** - shows the unique name assigned and used by the system to store batch-related files and metadata.
- **Name** - shows the batch name that was specified by the user.
- **Description** - shows the description that the user assigned to the batch.
- **Date/Time** - shows the date and time the user assigned to the batch.
- **Status** - shows the current status of the batch, which can be one of the following:
  - **Owned** - shows that a user has assumed ownership of the batch in the Operator Console.
  - **Not Owned** - shows that a user has not assumed ownership of the batch in the Operator Console.
  - **In Transmission** - shows that the batch is moving from the temporary local batch repository to the master batch repository.
  - **Automated Processing** - shows that the automation service is currently processing the batch.

- **Created** - shows the date and time when the batch was created.
- **Last Update** - shows the most recent date and time when the batch record was updated in the database.
- **Administrative Priority** - shows the priority for the batch that was assigned by the administrator. This value can range from 1 through 999,999. The higher the number, the higher the priority. (See "Batch Priority" on page 26 for information about how the priority of batches is determined.)
- **Batch Path** - shows the path in the master batch repository where the batch files reside.

**I M P O R T A N T**

Modifying the **Batch Path** property for a batch does not automatically move the batch to the new location.

---

- **Job** - shows the name of the job to which the batch is assigned.
- **Step** - shows the name of the job step in which the batch is currently processing or waiting.

**T I P**

To move a batch to the end of the job (and skip all remaining steps), select the blank line at the bottom of the **Step** list. No further processing of the batch will occur.

---

- **Step Start** - shows the date and time when the batch entered the job step.
- **Owned Date/Time** - shows the date and time when ownership of the batch was last taken.
- **Owned By User** - shows the user who currently owns the batch.
- **Owned By Workstation** - shows the workstation where the batch is currently owned.
- **Destroyed** - shows whether the batch has been destroyed. The property value is either **True** or **False**.
- **Scheduled Destruction** - shows the date and time after which the batch is to be deleted.
- **Retain Statistics** - shows whether statistics for the batch will be retained when the batch is deleted. The property value is either **True** or **False**.
- **Size** - shows the current size of the batch in the most appropriate unit of measure, which can be bytes, kilobytes, megabytes, or gigabytes.
- **Document Count** - shows the current number of documents in the batch.
- **Page Count** - shows the current number of total pages in the batch.
- **Image Count** - shows the current number of total images in the batch.

## Batch History

You can view the operations performed on a batch by viewing its history.

### To view batch history

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.

3. Click **Batch Management**.
4. On the right pane, select the batch you want to work with, and then do one of the following:
  - On the **Action** menu, click **History**.
  - On the toolbar, click **History**.
  - Right-click the selected item, and then click **History**.
5. In the **Batch History** dialog box, you can view the following information for the batch.
  - **Entry** - shows a description of an event that has occurred for the batch. For example, an entry is made when a batch is submitted, and another entry is made when a document is deleted from the batch.
  - **Date** - shows the date and time that the event in the **Entry** column occurred.
  - **User** - shows the user who performed the event in the **Entry** column.
  - **Workstation** - shows the user who performed the event in the **Entry** column.

## Filter Batches

To locate specific batches, you can apply a filter. For example, to locate all batches that were created last week, type a date range that spans last week in the **Created** box. The following procedure describes the criteria by which you can filter batches.

### To filter batches

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. Do one of the following:
  - On the **Action** menu, click **Filter**.
  - On the toolbar, click **Filter**.
  - Right-click on the right pane, and then click **Filter**.
5. In the **Batch Filter** dialog box, you can specify the following items by which you want to filter batches.
  - **Batch ID** - Type the unique identifier for the batch in the database.
  - **Internal Name** - Type the unique name assigned and used by the system to store batch-related files and metadata.
  - **Name** - Type the batch name that was specified by the user.
  - **User Date** - Type a date range that was entered by the user.
  - **Created** - Type a date range during which the batches were created.
  - **Job** - From this list, you can select the specific job to which the batches are assigned.
  - **Step** - From this list, you can select the specific step in which the batches are currently processing or waiting.
  - **Step Start** - Type a time and date range during which the batches entered their current job step.

- **Owned by User** - From this list, you can select an owner of the batches. The list includes active and inactive users.
- **Status** - From this list you can select a status for the batch, which can be one of the following:
  - **Owned** - filters for batches that a user has assumed ownership of in the Operator Console.
  - **Not Owned** - filters for batches that a user has not assumed ownership of in the Operator Console.
  - **In Transmission** - filters for batches that are moving from the temporary local batch repository to the master batch repository.
  - **Automated Processing** - filters for batches that the automation service is currently processing.
- **Scheduled Destruction** - Type a date range during which the batches were scheduled to be deleted.
- **Query Type** - From this list, you can select the type of query to run. If you select **AND**, every specified criteria is included in the search. If you select **OR**, any specified criteria is included in the search.
- **Maximum Record Count** - Type the maximum number of batch records to display per page of search results.
- **Show Destroyed** - Select this check box if you want to include destroyed batches.

**T I P**

To remove all the filter criteria, click **Clear All**.

---

6. Click **OK** to initiate the search.

The batch listing on the right pane is filtered according to your criteria.

**N O T E**

Your most recent settings in the **Batch Filter** dialog box are retained the next time you access **Batch Management**. To see an unfiltered listing of batches, click **Filter**. In the **Batch Filter** dialog box, click **Clear All**, and then click **OK**.

---

## Set Batch Destruction Date

You can set a date for the destruction of specific batches. After the date and time you specify occurs, the batches are deleted. You can set a destruction date only for batches that have a **Status of Not Owned** and have not been deleted previously. (If you need to change the status of a batch, see "Change Batch Status to Not Owned" on the next page for instructions.) Setting the batch destruction date does not directly delete a batch; rather, the automation service deletes the batch. When a batch is deleted, the image files are removed, but the batch's database record (and the statistics if you specify such) remain in the database.

**T I P**

To prevent deleted batches from appearing on the **Batch Management** list, click **Filter**. At the bottom of the **Batch Filter** dialog box, clear the **Show Destroyed** check box, and then click **OK**.

---

### To set the batch destruction date

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch(es) you want to work with, and then do one of the following:
  - On the **Action** menu, click **Set Destruction Date**.
  - On the toolbar, click **Set Destruction Date**.
  - Right-click the selected item(s), and then click **Set Destruction Date**.
5. In the **Scheduled Destruction** box, type or select the date and time after which you want the batch deleted.
 

By default, this box displays the date and time when you clicked **Set Destruction Date**.
6. To retain statistics for the batch, ensure that the **Retain Statistics** check box is selected. If you don't want to retain statistics for the batch, clear the **Retain Statistics** check box.
7. Click **OK** to save your settings and close the dialog box.

## Change Batch Status to Not Owned

You must change the status of a batch to **Not Owned** to perform any of the following tasks on the batch:

- Modify batch properties (See "Batch Properties" on page 633 for more information.)
- Set a batch destruction date (See "Set Batch Destruction Date" on the previous page for more information.)
- Change the job step (See "Change Batch Job Step" on the facing page for more information.)
- Change the batch path (See "Change Batch Path" on the facing page for more information.)

**C A U T I O N**

If you change the batch status to **Not Owned** while an operator is working on a batch, the operator's changes are lost.

---

### To change the batch status to not owned

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch(es) you want to work with, and then do one of the following:

- On the **Action** menu, click **Change Status to 'Not Owned'**.
  - On the toolbar, click **Change Status to 'Not Owned'**.
  - Right-click the selected item(s), and then click **Change Status to 'Not Owned'**.
5. Click **Yes** in the confirmation message.

## Change Batch Job Step

You can move one or more batches to a different job step within the same job. To move multiple batches, all of the batches must have the same job assigned and have a status of **Not Owned**. (See "Change Batch Status to Not Owned" on the previous page for instructions.)



### CAUTION

Manually moving a batch to another job step may result in a loss of batch image and/or index data. Use the following procedure only as a last resort. Before proceeding, you may want to consult with the Digitech Systems support team.

---

### To change the batch job step

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch(es) you want to work with, and then do one of the following:
  - On the **Action** menu, click **Change Job Step**.
  - On the toolbar, click **Change Job Step**.
  - Right-click the selected item(s), and then click **Change Job Step**.
5. In the **Target Step** list, select the step to which you want to move the batch(es).



### TIP

To move the batch(es) to the end of the job (and skip all remaining steps), select the blank line at the bottom of the **Target Step** list. No further processing of the batch will occur.

---

6. Click **OK**.

## Change Batch Path

The batch path defines the path in the master batch repository where the batch files reside. You can change this path for batch(es) that have a status of **Not Owned**. (See "Change Batch Status to Not Owned" on the previous page for instructions.)



### IMPORTANT

This operation does not physically move batches; rather, the pointer in the database to the batch's location is updated.

---

### To change the batch path

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch(es) you want to work with, and then do one of the following:
  - On the **Action** menu, click **Change Batch Path**.
  - On the toolbar, click **Change Batch Path**.
  - Right-click the selected item(s), and then click **Change Batch Path**.
5. In the **Batch Path** box, you can type the path, or click the ellipsis button to browse to, and then select the location.
6. Click **OK**.

## Export Batch Metadata

You can export the metadata for batches to an XML file. The **Export** command does not export documents, images, and associated index values.

### To export batch metadata

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch(es) you want to work with, and then do one of the following:
  - On the **Action** menu, click **Export**.
  - On the toolbar, click **Export**.
  - Right-click on the right pane, and then click **Export**.
5. In the **Save as** dialog box, specify the location and name for the XML file, and then click **Save**.

## Open Batch Path

You can open the batch repository where batches are stored.

### To open the batch path

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Management**.
4. On the right pane, select the batch(es) you want to work with, and then do one of the following:
  - On the **Action** menu, click **Open Batch Path**.
  - On the toolbar, click **Open Batch Path**
  - Right-click on the right pane, and then click **Open Batch Path**.
5. The folder containing the selected batch opens. If you selected multiple batches, the last selected batch path opens.



## Batch Statistics

Batch statistics are updated as operators submit batches in the Operator Console and as batches are processed by the automation service. (See "Configure Automation Service Scheduling" on page 54 for more information.) You can view each set of statistics per job, step, operator, or batch. Totals for all jobs, job steps, operators, and batches are also included for your reference. Additionally, you can print, filter, and export statistics.

This content describes the tasks you can perform from the **Batch Statistics** area. To perform these tasks, you must be logged in to the Administration Console. (See "Logging In to the Administration Console" on page 33 if you need help.)

### To view batch statistics

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Statistics**.
4. On the right pane, expand the category for which you want to view statistics: **Job**, **Step**, **Operator**, or **Batch**.
5. Expand the specific job, step, or operator for which you want to view statistics.
6. If you need more information about a statistic, see "Batch Statistic Descriptions" on page 643 for a description of each statistic and its database statistic type.

If you need more information about QC statistics, see "QC Batch Statistic Descriptions" on page 648 for a description of each statistic and its database statistic type.

### To print batch statistics

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Statistics**.
4. On the right pane, expand the category for which you want to print statistics: **Job**, **Step**, **Operator**, or **Batch**.
5. Expand the specific job, step, or operator for which you want to print statistics.
6. Do one of the following:
  - On the **Action** menu, click **Print**.
  - On the toolbar, click **Print**.
  - Right-click the selected item, and then click **Print**.
7. In the **Print** dialog box, set the print options, and then click **OK**.

### To filter batch statistics

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Statistics**.
4. Do one of the following:

- On the **Action** menu, click **Filter**.
  - On the toolbar, click **Filter**.
  - Right-click on the right pane, and then click **Filter**.
5. In the **Statistic Filter** dialog box, you can specify the following items by which you want to filter batch statistics.
- **Batch ID** - Type the unique database identifier for the batch.
  - **Statistic** - From this list, you can select a specific statistic. (See "Batch Statistic Descriptions" on the facing page and "QC Batch Statistic Descriptions" on page 648 for descriptions of each statistic.)
  - **Batch Created** - Type a date range during which the batches were created.
  - **Job** - From this list, you can select the specific job to which the batch is assigned.
  - **Step** - From this list, you can select the specific step in which the batch is currently processing or waiting.
  - **Step Start** - Type a time and date range during which the batch entered its current job step.



### NOTE

This is a batch-level filter, so for any batches that fulfill this criterion, all unfiltered statistics for those batches will be displayed.

---

- **Operator** - From this list, you can select a specific user. This list includes active and inactive users, and the automation service.
- **Include Deleted Batch Document, Page, and Image Counts** - When selected, deleted documents, pages, and images are included in the batch count statistics.
- **Query Type** - From this list, you can select the type of query to run. If you select **AND**, every specified criteria is included in the search. If you select **OR**, any specified criteria is included in the search.



### TIP

To remove all the filter criteria, click **Clear All**.

---

6. Click **OK** to initiate the search.

The batch statistics on the right pane are filtered according to your criteria.



### NOTE

Your most recent settings in the **Statistic Filter** dialog box are retained the next time you access **Batch Statistics**. To see unfiltered statistics, click **Filter**. In the **Statistic Filter** dialog box, click **Clear All**, and then click **OK**.

---

### To export batch statistics

1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.

3. Click **Batch Statistics**.
4. Do one of the following:
  - On the **Action** menu, click **Export**.
  - On the toolbar, click **Export**.
  - Right-click on the right pane, and then click **Export**.
5. In the **Save as** dialog box, specify the location and name for the XML file, and then click **Save**.

### To refresh batch statistics


1. After you have logged in to the Administration Console, on the left pane, expand **Entities**.
2. Expand the appropriate entity, and then expand **Capture Batches**.
3. Click **Batch Statistics**.
4. Do one of the following:
  - On the **Action** menu, click **Refresh**.
  - On the toolbar, click **Refresh**.
  - Right-click on the right pane, and then click **Refresh**.




## Batch Statistic Descriptions

See "Batch Statistics" on page 641 for instructions to access and work with batch statistics.



The following table summarizes each statistic and shows the value for each **STATISTICTYPE** column in the **PVCAP\_BATCHSTATISTIC** database table.

| Batch Statistic                                                                                                                                                                                                          | Database Statistic Type      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <p><b>Characters Saved</b></p> <p>This is the total number of characters the operator has entered upon saving index values. This statistic only applies to the manual Capture and Indexing steps.</p>                    | PVCAP_CharactersSaved        |
| <p><b>Characters Saved (Automated Match and Merge)</b></p> <p>This value is the total number of characters populated (upon index values being saved) only via Match and Merge.</p>                                       | PVCAP_CharactersSaved_AutoMM |
| <p><b>Characters Saved (Excluding Match and Merge)</b></p> <p>This is the total number of characters the operator has entered upon saving index values. The value excludes characters populated via Match and Merge.</p> | PVCAP_CharactersSaved_NoMM   |
| <p><b>Document Count</b></p> <p>This is the total number of documents contained in all batches.</p>                                                                                                                      | PVCAP_DocumentCount          |

| Batch Statistic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Database Statistic Type              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| <p><b>Documents Deleted</b></p> <p>This statistic is the total number of documents deleted in a manual step.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                           | PVCAP_DocumentsDeleted               |
| <p><b>Documents Marked</b></p> <p>This value increments each time the operator completes any of the following:</p> <ul style="list-style-type: none"> <li>■ Copy Document</li> <li>■ Insert Document Break</li> <li>■ Mark New Document</li> </ul> <hr/> <p> <b>NOTE</b></p> <p>This value also increments each time a new document is marked through the Automated Barcode step, but does not increment when a new document is marked through Custom Code execution.</p> | PVCAP_DocumentsMarked                |
| <p><b>Documents OCRred - Full Text (Success)</b></p> <p>This statistic provides a count of documents that have been successfully OCRred (full-text).</p>                                                                                                                                                                                                                                                                                                                                                                                                   | PVCAP_DocumentsOCRredFullTextSuccess |
| <p><b>Image Count</b></p> <p>This is the total number of images contained in all batches.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PVCAP_ImageCount                     |
| <p><b>Index Verification Errors</b></p> <p>This number increments each time an error is found during the index verification process.</p>                                                                                                                                                                                                                                                                                                                                                                                                                   | PVCAP_IndexVerificationErrors        |
| <p><b>Indexed Documents</b></p> <p>This statistic is the total number of documents indexed in a manual step.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                           | PVCAP_IndexedDocuments               |
| <p><b>Indexed Documents (Match and Merge)</b></p> <p>This statistic is the count of documents for which one or more index values have been successfully populated via match and merge in a manual step.</p>                                                                                                                                                                                                                                                                                                                                                | PVCAP_IndexedDocumentsMM             |

| Batch Statistic                                                                                                                                                                                                                                                                                                                                                   | Database Statistic Type      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <p><b>Indices Barcoded (Failed)</b></p> <p>This value increments each time a barcode does not successfully populate an index field.</p> <hr/> <p> <b>NOTE</b></p> <p>This statistic does not include the number of auto document breaks inserted with each barcode.</p> <hr/>    | PVCAP_IndicesBarcodedFailed  |
| <p><b>Indices Barcoded (Success)</b></p> <p>This value increments each time a barcode successfully populates an index field.</p> <hr/> <p> <b>NOTE</b></p> <p>This statistic does not include the number of auto document breaks inserted with each barcode.</p> <hr/>           | PVCAP_IndicesBarcodedSuccess |
| <p><b>Indices OCRRed (Failed)</b></p> <p>This value increments each time the OCR engine does not successfully populate an index field.</p>                                                                                                                                                                                                                        | PVCAP_IndicesOCRRedFailed    |
| <p><b>Indices OCRRed (Success)</b></p> <p>This value increments each time the OCR engine successfully populates an index field.</p>                                                                                                                                                                                                                               | PVCAP_IndicesOCRRedSuccess   |
| <p><b>Indices Saved</b></p> <p>This value is the total number of populated indices saved by the operator. This statistic only applies to the manual Capture and Indexing steps.</p> <hr/> <p> <b>NOTE</b></p> <p>This statistic does not include blank index fields.</p> <hr/> | PVCAP_IndicesSaved           |
| <p><b>Indices Saved (Automated Match and Merge)</b></p> <p>This value is the total number of populated indices saved and increments only when indices are populated via Match and Merge.</p>                                                                                                                                                                      | PVCAP_IndicesSaved_AutoMM    |

| Batch Statistic                                                                                                                                                                                                                                                                                                                                                                   | Database Statistic Type                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <p><b>Indices Saved (Excluding Match and Merge)</b></p> <p>This value is the total number of populated indices saved by the operator. The value excludes indices populated via Match and Merge.</p>                                                                                                                                                                               | PVCAP_IndicesSaved_NoMM                |
| <p><b>Nuance OCR Characters</b></p> <p>This is the total number of characters detected by the OCR engine.</p>                                                                                                                                                                                                                                                                     | PVCAP_OCREngineCharacters              |
| <p><b>Nuance OCR Decomposition Time</b></p> <p>This is the total amount of time the OCR engine spent on the image's page-layout composition (i.e., auto-zoning).</p>                                                                                                                                                                                                              | PVCAP_<br>OCREngineDecompositionTime   |
| <p><b>Nuance OCR Full Recognition Time</b></p> <p>This is the total amount of time the OCR engine spent processing the image, including the time spent processing the image through all recognition modules and in the checking subsystem. Additionally, this statistic includes the time spent to recognize the zones (writing recognition result to recognition data file).</p> | PVCAP_<br>OCREngineFullRecognitionTime |
| <p><b>Nuance OCR Rejected Characters</b></p> <p>This is the total number of characters the OCR engine failed to recognize.</p>                                                                                                                                                                                                                                                    | PVCAP_<br>OCREngineCharactersRejected  |
| <p><b>Nuance OCR Suspect Words</b></p> <p>This is the total number of suspect words that the OCR engine found in the image. Suspect words must contain at least one character that was not recognized during OCR processing.</p>                                                                                                                                                  | PVCAP_OCREngineWordsSuspect            |
| <p><b>Nuance OCR Words</b></p> <p>This is the total number of words detected by the OCR engine.</p>                                                                                                                                                                                                                                                                               | PVCAP_OCREngineWords                   |
| <p><b>Page Count</b></p> <p>This is the total number of pages contained in all batches.</p>                                                                                                                                                                                                                                                                                       | PVCAP_PageCount                        |
| <p><b>Pages Barcoded</b></p> <p>This statistic displays the count of pages from which one or more barcodes are read in manual and automated steps.</p>                                                                                                                                                                                                                            | PVCAP_PagesBarcoded                    |

| Batch Statistic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Database Statistic Type                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <p><b>Pages Barcoded as Document Breaks</b></p> <p>This statistic displays the count of pages barcoded as document break sheets in manual and automated steps.</p>                                                                                                                                                                                                                                                                                                                                                                                                        | <p>PVCAP_<br/>PagesBarcodedDocumentBreaks</p> |
| <p><b>Pages Barcoded for Indices</b></p> <p>This statistic displays the count of pages barcoded to populate one or more indices in manual and automated steps.</p>                                                                                                                                                                                                                                                                                                                                                                                                        | <p>PVCAP_PagesBarcodedIndices</p>             |
| <p><b>Pages Captured</b></p> <p>This is the total number of pages captured per job, step, and operator. The counter increments each time the operator imports a batch, imports an image, scans an image into the batch, and extracts and copies a region.</p> <hr/> <p> <b>NOTE</b></p> <p>This statistic only counts pages that are added to the batch. However, this statistic does not include when the operator re-scans an image (uses the <b>Re-Scan Pages</b> command).</p> <hr/> | <p>PVCAP_PagesCaptured</p>                    |
| <p><b>Pages OCR'd - Full Text (Success)</b></p> <p>This statistic provides a count of pages that have been successfully OCR'd (full-text).</p>                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>PVCAP_<br/>PagesOCR'dFullTextSuccess</p>   |
| <p><b>Pages Re-scanned</b></p> <p>This is the total number of pages the operator re-scans (performs the Re-Scan Pages command).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>PVCAP_PagesRescanned</p>                   |
| <p><b>Pages Scanned</b></p> <p>This statistic tracks the total number of pages scanned. The counter increments each time a page is scanned, regardless of whether the page is added to the batch.</p> <hr/> <p> <b>NOTE</b></p> <p>Some scanned pages are not added to the batch because of blank page deletion or because they are break pages that are deleted.</p> <hr/>                                                                                                            | <p>PVCAP_PagesScanned</p>                     |

| Batch Statistic                                                                                                                                                                        | Database Statistic Type |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <p><b>Step Start-Stop Duration</b></p> <p>This is the total amount of time that the operator worked on a job step in the Operator Console.</p>                                         | PVCAP_StepStartStop     |
| <p><b>Step Take-Submit Duration</b></p> <p>This is the total amount of time that elapsed since the operator assumed ownership of the batch until the operator submitted the batch.</p> | PVCAP_StepTakeSubmit    |

## QC Batch Statistic Descriptions

See "Batch Statistics" on page 641 for instructions to access and work with batch statistics.

QC batch statistics are recorded for **Manual QC** and **Automated QC** steps. The automated statistics are recorded by the automation service when the **Automated QC** step is run. The following table summarizes each QC batch statistic and shows the value for each **STATISTICTYPE** column in the **PVCAP\_BATCHSTATISTIC** database table.

| QC Batch Statistic                                                                                                                           | Database Statistic Type                       |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <p><b>Tags Added - Batch Document Count</b></p> <p>This value is the total number of batch document count tags added to the batch.</p>       | PVCAP_QCTAG-<br>BatchDocumentCountTags        |
| <p><b>Tags Removed - Batch Document Count</b></p> <p>This value is the total number of batch document count tags removed from the batch.</p> | PVCAP_QCTAG-<br>BatchDocumentCountTagsRemoved |
| <p><b>Tags Added – Batch Index Sequence</b></p> <p>This value is the total number of batch index sequence tags added to the batch.</p>       | PVCAP_QCTAG-<br>BatchIndexSequenceTags        |
| <p><b>Tags Removed – Batch Index Sequence</b></p> <p>This value is the total number of batch index sequence tags removed from the batch.</p> | PVCAP_QCTAG-<br>BatchIndexSequenceTagsRemoved |
| <p><b>Tags Added – Document Page Count</b></p> <p>This value is the total number of document page count tags added to the batch.</p>         | PVCAP_QCTAG-<br>DocumentPageCountTags         |
| <p><b>Tags Removed – Document Page Count</b></p> <p>This value is the total number of document page count tags removed from the batch.</p>   | PVCAP_QCTAG-<br>DocumentPageCountTagsRemoved  |



| QC Batch Statistic                                                                                                                             | Database Statistic Type               |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <p><b>Tags Added – Document Re-Scan</b></p> <p>This statistic provides a count of documents that have been successfully OCRed (full-text).</p> | PVCAP_QCTAG-DocumentRescanTags        |
| <p><b>Tags Removed – Document Re-Scan</b></p> <p>This value is the total number of document re-scan tags removed from the batch.</p>           | PVCAP_QCTAG-DocumentRescanTagsRemoved |
| <p><b>Tags Added - Documents</b></p> <p>This value is the total number of document tags added to the batch.</p>                                | PVCAP_QCTAG-DocumentsTagged           |
| <p><b>Tags Removed - Documents</b></p> <p>This value is the total number of document tags removed from the batch.</p>                          | PVCAP_QCTAG-DocumentTagsRemoved       |
| <p><b>Tags Added – Index Errors</b></p> <p>This value is the total number of index error tags added to the batch.</p>                          | PVCAP_QCTAG-IndexErrorTags            |
| <p><b>Tags Removed – Index Errors</b></p> <p>This value is the total number of index error tags removed from the batch.</p>                    | PVCAP_QCTAG-IndexErrorTagsRemoved     |
| <p><b>Tags Added – Index Re-Index</b></p> <p>This value is the total number of index (re-index) tags added to the batch.</p>                   | PVCAP_QCTAG-IndexReindexTags          |
| <p><b>Tags Removed – Index Re-Index</b></p> <p>This value is the total number of index (re-index) tags removed from the batch.</p>             | PVCAP_QCTAG-IndexReindexTagsRemoved   |
| <p><b>Tags Added – Index Values</b></p> <p>This value is the total number of index value tags added to the batch.</p>                          | PVCAP_QCTAG-IndexValuesTagged         |
| <p><b>Tags Removed – Index Values</b></p> <p>This value is the total number of index value tags removed from the batch.</p>                    | PVCAP_QCTAG-IndexValueTagsRemoved     |
| <p><b>Tags Added – Page Bad Image Path</b></p> <p>This value is the total number of page (bad image path) tags added to the batch.</p>         | PVCAP_QCTAG-PageBadImagePathTags      |

| QC Batch Statistic                                                                                                                               | Database Statistic Type                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <p><b>Tags Removed – Page Bad Image Path</b></p> <p>This value is the total number of page (bad image path) tags removed from the batch.</p>     | PVCAP_QCTAG-PageBadImagePathTagsRemoved    |
| <p><b>Tags Added – Page Image Bad</b></p> <p>This value is the total number of page (image bad) tags added to the batch.</p>                     | PVCAP_QCTAG-PageImageBadTags               |
| <p><b>Tags Removed – Page Image Bad</b></p> <p>This value is the total number of page (image bad) tags removed from the batch.</p>               | PVCAP_QCTAG-PageImageBadTagsRemoved        |
| <p><b>Tags Added – Page Image Dimensions</b></p> <p>This value is the total number of page (image dimensions) tags added to the batch.</p>       | PVCAP_QCTAG-PageImageDimensionsTags        |
| <p><b>Tags Removed – Page Image Dimensions</b></p> <p>This value is the total number of page (image dimensions) tags removed from the batch.</p> | PVCAP_QCTAG-PageImageDimensionsTagsRemoved |
| <p><b>Tags Added – Page Image File Size</b></p> <p>This value is the total number of page (image file size) tags added to the batch.</p>         | PVCAP_QCTAG-PageImageFileSizeTags          |
| <p><b>Tags Removed – Page Image File Size</b></p> <p>This value is the total number of page (image file size) tags removed from the batch.</p>   | PVCAP_QCTAG-PageImageFileSizeTagsRemoved   |
| <p><b>Tags Added – Page Re-Scan</b></p> <p>This value is the total number of page re-scan tags added to the batch.</p>                           | PVCAP_QCTAG-PageRescanTags                 |
| <p><b>Tags Removed – Page Re-Scan</b></p> <p>This value is the total number of page re-scan tags removed from the batch.</p>                     | PVCAP_QCTAG-PageRescanTagsRemoved          |
| <p><b>Tags Added – Pages</b></p> <p>This value is the total number of page tags added to the batch.</p>                                          | PVCAP_QCTAG-PagesTagged                    |
| <p><b>Tags Removed – Pages</b></p> <p>This value is the total number of page tags removed from the batch.</p>                                    | PVCAP_QCTAG-PageTagsRemoved                |

| QC Batch Statistic                                                                               | Database Statistic Type      |
|--------------------------------------------------------------------------------------------------|------------------------------|
| <b>Tags Added – Total</b><br>This value is the total number of QC tags added to the batch.       | PVCAP_QCTAG-TotalTags        |
| <b>Tags Removed – Total</b><br>This value is the total number of QC tags removed from the batch. | PVCAP_QCTAG-TotalTagsRemoved |

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# CHAPTER 24

## Advanced Features

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| Digitech Logging Utility .....           | 654 |
| Modify the Process Batch Operation ..... | 659 |
| Configure Terminal Services .....        | 661 |



## Digitech Logging Utility

For your convenience, the Digitech Logging Utility is provided so that you can easily change some logging aspects without having to manually edit the XML configuration files. You can use the logging utility to modify configuration files for any Digitech Systems' product. The Digitech Logging Utility lets you specify:

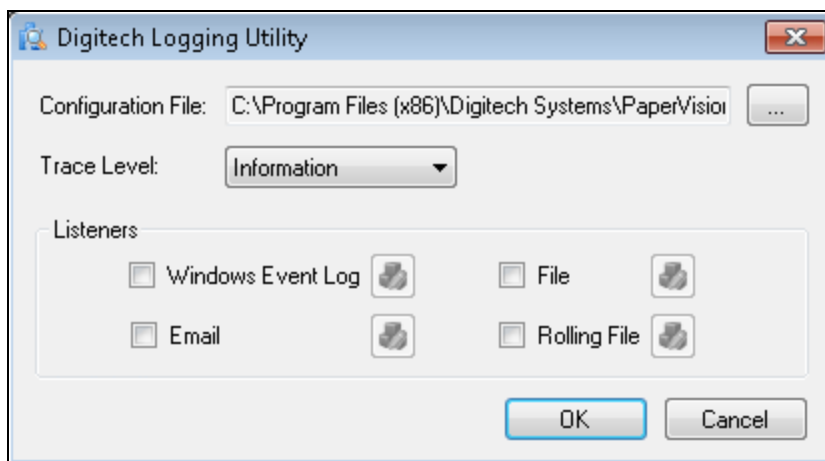
- which configuration file to modify,
- the level of detail for the logs,
- where the log information is sent and/or stored,
- and the appearance of the content.


## Configure the Digitech Logging Utility

For all Digitech Systems software, logging settings are stored in the application's configuration file. If the executable file for your application were named **DigitechApp.exe**, then the name of the corresponding configuration file would be **DigitechApp.exe.config**, and it would be located in the same directory as the executable file. Configuration files are XML files that you can open and edit using any text editor, including Windows Notepad.

### To configure the Digitech Logging Utility

1. Click **Start**, and then click **All Programs**.
2. Click the **Digitech Systems** folder, and then click **PaperVision Logging Utility** to open the **Digitech Logging Utility** dialog box.



3. Next to the **Configuration File** box, click the ellipsis button  to open the **Select Config File** dialog box.
4. Click the **Look in** list to locate the directory where the configuration files are stored (typically, `Program Files\Digitech Systems\PaperVision Capture`).
5. Click the configuration file for which you want to specify logging properties.
6. Click the **Trace Level** list, and then select one of the following options:

- **Error** - This option specifies that recoverable errors are logged.
- **Warning** - This option specifies that non-critical problems are logged.
- **Information** - This option specifies that informational messages are logged.
- **Verbose** - This option specifies that debugging trace information is logged.
- **All** - This option specifies that all possible logging information is included.

**N O T E**

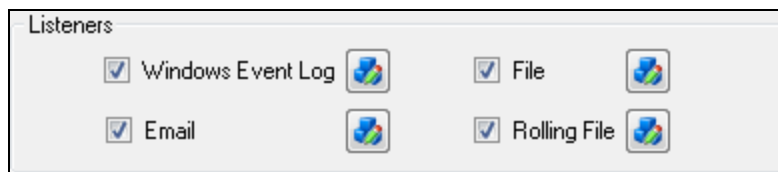
If you select **Verbose** or **All**, you are requesting the most possible output. These settings can generate a significant amount of output that requires extra processing which could slow application performance.

---

7. Go to "Configure Listeners" below to specify where you want the log information to be sent and/or stored.

## Configure Listeners


After you complete the procedure under "To configure the Digitech Logging Utility" on the previous page you must specify where you want the log information to be sent and/or stored. You do this in the **Listeners** area in the **Digitech Logging Utility** dialog box.



The following procedures describe how to configure each type of listener.

### To Configure the Windows Event Log Listener


When you select **Windows Event Log**, it specifies that you want the log output to appear in the Windows **Event Viewer**. To access the **Event Viewer**, type `eventvwr` at the command prompt, and then press Enter.

1. If you haven't already done so, complete the procedure under "To configure the Digitech Logging Utility" on the previous page.
2. In the **Listeners** area, select **Windows Event Log**, and then click  to open the **Windows Event Log Settings** dialog box.
3. In the **Source Name** box, type the name that you want to appear in the **Source** column of the **Event Viewer**, and then click **OK**.
4. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

### To configure the Email Listener

When you select **Email**, it specifies that you want the log output to be sent to an email address.


1. If you haven't already done so, complete the procedure under "To configure the Digitech Logging Utility" on the previous page.

2. In the **Listeners** area, select **Email**, and then click  to open the **Email Settings** dialog box.
3. In the **SMTP Server** box, type the IP address or server name of the SMTP server.
4. In the **SMTP Port** box, type the applicable port number.
5. In the **To Address** box, type the email address to which the log information will be sent.
6. In the **From Address** box, type the email address from which the log information will be sent.
7. In the **Subject Line Starter (Optional)** box, type the subject you want to appear in the email notifications.
8. Click **OK**.
9. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

### To configure the File Listener

When you select **File**, it specifies that you want the log output to go to a file. So that you can easily locate the log file, you can specify the path and file name. The path you specify can contain any environment variable. The variable is resolved when the log is written. (To see a list of all the environment variables configured on your machine, go to a command prompt, type **set**, and then press Enter.)

If you specify a directory with the file name, and that directory does not exist, the logging utility will create it. For example, if you type **C:\temp\logs\dsi.log** for the file name, the logging utility will create the **C:\temp\logs** directory if it does not already exist. When using the **File** option, log entries continue to accumulate in the same file which can cause the file to become very large. If you do not want to manually maintain this file, consider using the **Rolling File** option. (See "To configure the Rolling File Listener" on the facing page for more information.)

1. If you haven't already done so, complete the procedure under "To configure the Digitech Logging Utility" on page 654.
2. In the **Listeners** area, select **File**, and then click  to open the **File Settings** dialog box.
3. In the **File Name** box, type the path and/or file name for the log. If you do not include a path, the file you specify will be written to the Digitech installation directory.
4. (Optional) In the **Header** box, type a header that you want to appear at the beginning of each log entry in the file.
5. (Optional) In the **Footer** box, type a footer that you want to appear at the end of each log entry in the file.
6. Click **OK**.
7. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.



**E X A M P L E**

If your entries look like this,

The screenshot shows a 'File Settings' dialog box with the following fields:

- File Name:** CaptureClientApplication.log
- Header (Optional):** -----Start PaperVision Capture Client Entry-----
- Footer (Optional):** -----End PaperVision Capture Client Entry-----

Buttons: OK, Cancel

then the log entry would appear similar to the following.

```

-----Start PaperVision Capture Client Entry-----
Timestamp: 4/7/2014 5:22:02 PM
Message: Accepting connections...
Category: Operational
EventId: 100
Severity: Information
Machine: BOBR-NOTEBOOK
OS Version: Microsoft Windows NT 6.1.7601 Service Pack 1
Application Domain; CaptureClient.exe
Process Id: 10932
Process Name: C:\dsi\bin\CaptureClient.exe
Win32 Thread Id 5332
Thread Name
-----End PaperVision Capture Client Entry-----


```

### To configure the Rolling File Listener

When you select **Rolling File**, it specifies that you want the log output to go to a file, but to prevent the file from becoming too large, a new file is created based on the current date and time and the time interval that you specify. By default, the contents of a rolling file are abbreviated in comparison to the contents of a regular file.

So that you can easily locate the log file, you can specify the path and file name. The path you specify can contain any environment variable. The variable is resolved when the log is written. (To see a list of all the environment variables configured on your machine, go to a command prompt, type **set**, and then press Enter.) Additionally, if you specify a directory with the file name, and that directory does not exist, the logging utility will create it. For example, if you type **C:\temp\logs\dsi.log** for the file name, the logging utility will create the **C:\temp\logs** directory if it does not already exist.

The **Rolling File** option also supports the use of macros that are expanded when the file is written. Supported macros include: **{machineName}**, **{processID}**, **{timeStamp}**, or **{webSiteID}**.

1. If you haven't already done so, complete the procedure under "To configure the Digitech Logging Utility" on page 654.
2. In the **Listeners** area, select **Rolling File**, and then click  to open the **Rolling File Settings** dialog box.
3. In the **File Name** box, type the path and/or file name for the log. If you do not include a path, the file you specify is written to the Digitech installation directory. You can also include macros in this box.



### NOTE

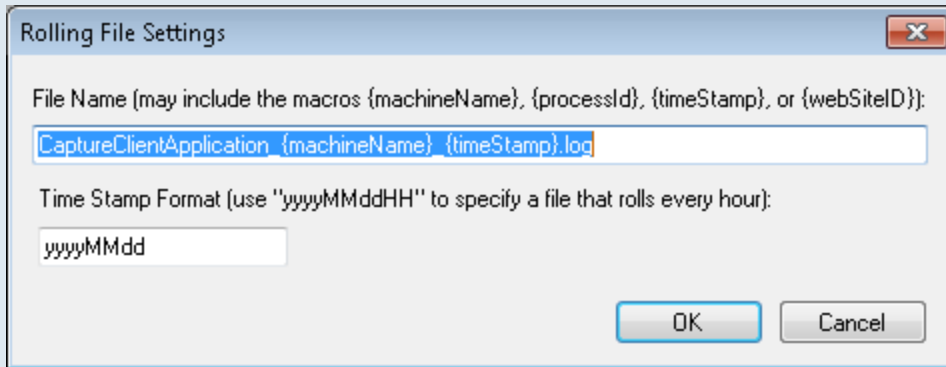
To specify a time interval for the creation of a new file, you must include the **{timeStamp}** macro in the **File Name** box.

---

4. In the **Time Stamp Format** box, specify the time interval for the creation of a new file. Use the **yyyyMMddHH format**, where **yyyy** equals the year, **MM** equals the month, **dd** equals the numerical day, and **HH** equals the hour in a 24-hour format. You control the interval by using only the portion of the format you want. For example, to create a new rolling log file on a daily basis, you would type **yyyyMMdd**. To create a new rolling log file on an hourly basis, type **yyyyMMddHH**.
5. Click **OK**.
6. If you are done configuring listeners, click **OK**. Otherwise, go to the instructions for the next listener you want to configure.

**E X A M P L E**

If your entries looked like this,



The output file would be **CaptureClientApplication\_BOBR-NOTEBOOK\_20140407.log**. The contents of a rolling file are abbreviated similar to the following sample

```

2014-04-07 17:31:23 Accepting connections...
2014-04-07 17:31:23 New incoming connection: 127.0.0.1
2014-04-07 17:31:23 Inside TryCheckSystemVersion_7_062413_
2014-04-07 17:31:23 Login user successfully with user name U and entityId 1
2014-04-07 17:31:23 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:23 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:23 Enabling manual .NET garbage collection every 300 seconds
2014-04-07 17:31:23 New incoming connection: 127.0.0.1
2014-04-07 17:31:23 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:23 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:23 New incoming connection: 127.0.0.1
2014-04-07 17:31:23 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:23 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:25 New incoming connection: 127.0.0.1
2014-04-07 17:31:26 Saved User ID 2 preferences
2014-04-07 17:31:26 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:26 Client 127.0.0.1 disconnected (gracefully)
2014-04-07 17:31:26 New incoming connection: 127.0.0.1
2014-04-07 17:31:26 Command from 127.0.0.1 processed successfully
2014-04-07 17:31:26 Client 127.0.0.1 disconnected (gracefully)

```

## Modify the Process Batch Operation

By default, an automation service that is scheduled to perform the **Process Batch** operation will execute every function associated with this operation, such as custom code, image processing, and OCR. These functions are listed in the **DSI.PVECommon.PVProcWork.exe.config** file under the **batchConfiguration/batchProcessors** element. You can, however, configure an automation service to perform a subset of these functions. For example, full-text OCR can be resource-intensive and time-

consuming, so you could dedicate an automation service to perform full-text OCR to ensure that the throughput of your batches without full-text OCR is not adversely affected.

### To configure one or more automation services to process full-text OCR

1. Install one or more new automation services on dedicated machines with sufficient resources to perform the full-text OCR.
2. In the **DSI.PVECommon.PVProcWork.exe.config** file for each of the new services, modify the batch configuration section such that all batch processing functions except Nuance Full-Text OCR are excluded:

```
<batchConfiguration isLocal="true">
 <batchProcessors>
 <add jobStepType="AutomatedOCRFullText"
assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.OCRFullTextManager"/>
 </batchProcessors>
 <excludedBatchProcessors>
 <add jobStepType="CustomCode"
assembly="DSI.Capture.ScriptingLibrary.dll"
batchProcessorClass="DSI.Capture.ScriptingLibrary.BatchProcessor"/>
 <add jobStepType="AutomatedBarcode"
assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.BarcodeManager"/>
 <add jobStepType="ImageProcessing"
assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.ImgProcessingManager"/>
 <add jobStepType="AutomatedOCR"assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.OCRManager"/>
 </excludedBatchProcessors>
</batchConfiguration>
```

3. For any automation services that should not be executing full-text OCR (i.e., the existing services), change the **DSI.PVECommon.PVProcWork.exe.config** file such that only full-text OCR is excluded:

```
<batchProcessors>
 <add jobStepType="CustomCode"
assembly="DSI.Capture.ScriptingLibrary.dll"
batchProcessorClass="DSI.Capture.ScriptingLibrary.BatchProcessor"/>
 <add jobStepType="AutomatedBarcode"
assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.BarcodeManager"/>
 <add jobStepType="ImageProcessing"
assembly="DSI.Capture.Business.dll"
```

```

batchProcessorClass="DSI.Capture.Business.ImgProcessingManager"/>
 <add jobStepType="AutomatedOCR"assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.OCRManager"/>
</batchProcessors>
<excludedBatchProcessors>
 <add jobStepType="AutomatedOCRFullText"
assembly="DSI.Capture.Business.dll"
batchProcessorClass="DSI.Capture.Business.OCRFullTextManager"/>
</excludedBatchProcessors>
</batchConfiguration>

```

4. In the Administration Console, schedule the new automation services to perform the **Process Batch** operation.

## Configure Terminal Services

You can configure the Operator Console to support a terminal services environment, enabling multiple operators to remotely log into a single workstation to complete tasks. This content describes how to configure PaperVision Capture so multiple users can log into a single installation of the Operator Console.

In a terminal services configuration, the first operator who logs into the Operator Console and creates or opens a batch consumes one or more concurrent licenses, depending on the batch's job configuration. Subsequent operators who log into that same installation of the Operator Console also consume concurrent licenses. If no remaining concurrent licenses are available, the operator will not be able to log into the Operator Console. (See "Licensing" on page 42 for more information about concurrent licensing.)

### To configure the Operator Console to support a terminal services environment

1. Open the **C:\Documents and Settings\All Users\Application Data\Digitech Systems** directory (or other directory as specified during the installation of PaperVision Capture).
2. Right-click the **ClientSettings.xml** file, click **Open with**, and then select **Notepad**.
3. Locate the following line of code:  
`<ALLOWMULTIPLEOPERATORCONSOLES>>false</ALLOWMULTIPLEOPERATORCONSOLES>`
4. Change the variable `false` to `true` so that the line of code reads:  
`<ALLOWMULTIPLEOPERATORCONSOLES>>true</ALLOWMULTIPLEOPERATORCONSOLES>`
5. Click **File**, and then click **Save**.



#### CAUTION

Improperly modifying the contents of a PaperVision Capture configuration file may adversely impact system performance and the overall functionality of PaperVision Capture.

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# APPENDIX A

## Supported OCR Languages

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OpenText Languages .....	671



## Nuance OCR Spelling Languages

This table lists the available Nuance spelling languages.

Languages
Afrikaans - spoken in South Africa
Albanian
Automatic - language selection for spell-checking only
Aymara - spoken in Bolivia and Peru
Basque
Bemba - alternate names are Chibemba, Ichibemba, Wemba, Chiwemba; spoken in Zambia and the Democratic Republic of the Congo
Blackfoot - alternate names are Blackfeet, Siksika, and Pikanii; spoken in Canada and the United States
Brazilia-Portuguese
Breton
Bugotu - spoken in the Solomon Islands
Bulgarian (Cyrillic) - includes the characters of the English language
Byelorussian (Cyrillic) - includes the characters of the English language; other spellings are Belorussian and White Russian
Catalan
Chamorro - spoken in Guam and the Northern Mariana Islands
Chechen (Cyrillic)
Corsican
Croatian
Crow - spoken in the United States
Czech
Danish
Dutch
English
Eskimo



Languages
Esperanto
Estonian
Faroese
Fijian
Finnish
French
Frisian - macrolanguage of three Frisian languages in Germany
Friulian - spoken in Italy
Gaelic Irish
Gaelic Scottish
Ganda (Luganda) - spoken in Uganda
German
Greek - includes the characters of the English language
Guarani - (macrolanguage of the Chiripa and some Guarani languages) spoken in Paraguay, Argentina, Bolivia, and Brazil
Hani - (alternate names are Hanhi, Haw and Hani Proper) spoken in China, Laos, and Vietnam
Hawaiian
Hungarian
Icelandic
Ido - constructed language
Indonesian
Interlingua - constructed language
Italian
Kabardian (Cyrillic) - spoken in Russia, and Turkey (alternate name is Beslenei)
Kasub
Kawa - (alternate names are Wa, Va, Vo, Wa Pwo, and Wakut) spoken in China

## APPENDIX A Supported OCR Languages

Languages
Kikuyu - spoken in Kenya
Kongo - (macrolanguage of Laari and Kongo languages) spoken in the Democratic Republic of the Congo, Angola, and the Republic of the Congo
Kpelle - (macrolanguage of Kpelle languages) spoken in Liberia and Guinea
Kurdish (Latin alphabet only) - macrolanguage of the Kurdish languages
Latin
Latvian
Lithuanian
Luba - (alternate names are Luba-Lulua, Luba-Kasai, Tshiluba, Luva, and Western Luba) spoken in the Democratic Republic of the Congo
Lule Sami
Luxembourgian - (alternate names are Luxembourgeois and Letzбургish) spoken in Luxembourg
Macedonian (Cyrillic) - includes the characters of the English language
Malagasy - (macrolanguage of Malagasy languages) spoken in Madagascar
Malay
Malinke - (alternate names are Western Maninkakan, Malinka, and Maninga) spoken in Senegal, Gambia, and Mali
Maltese
Maori - spoken in New Zealand
Mayan
Miao (Latin alphabet only) - spoken in China, Laos, Thailand, Myanmar, and Vietnam (macrolanguage of Hmong languages and alternate name is Hmong)
Minankabaw
Mohawk - spoken in Canada and the United States
Moldavian (Cyrillic) - includes the characters of the English language
Nahuatl
None (for spell checking only) - this value can be used to specify that the checking module will not use the Language dictionary

Languages
Northern Sami
Norwegian
Nyanja - (alternate names are Chichewa and Chinyanja) spoken in Malawi, Mozambique, Zambia, and Zimbabwe
Occidental - constructed language
Ojibway - (macrolanguage of Ojibwa, Chippewa and Ottawa languages and alternate names are Ojibwa and Ojibwe) spoken in Canada and the United States
Papiamentu - spoken in the Netherlands Antilles, and Aruba
Pigin English - (alternate names are Tok Pisin, Naomalanesian, and New Guinean Pigin English) spoken in Papua New Guinea
Polish
Portuguese
Provençal - (alternate name is Occitan) spoken in France, Italy, and Monaco
Quechua - (macrolanguage of the Quechua languages) spoken in Peru
Rhaetic - (alternate names are Romansch and Rhaeto-Romance) spoken in Switzerland
Romanian
Romany - spoken all over Europe
Ruanda - (alternate names are Kinyarwanda and Rwanda) spoken in Rwanda, the Democratic Republic of the Congo, and Uganda
Rundi - spoken in Burundi and Uganda
Russian (Cyrillic) - includes the characters of the English language
Sami - combination of the Sami language family
Samoan - spoken in Samoa, and American Samoa
Sardinian - macrolanguage of the Sardinian languages
Serbian (Cyrillic)
Serbian (Latin)
Shona - spoken in Zimbabwe, Botswana, and Zambia
Sioux - (alternate name is Dakota) spoken in Canada, and the United States

## APPENDIX A Supported OCR Languages

Languages
Slovakian
Slovenian
Somali
Sorbian (Wend)
Sotho (Suto, or Sesuto) - spoken in Lesotho and South Africa
Southern Sami
Spanish
Sundanese - (alternate names are Sunda and Priangan) spoken in Java, and Bali in Indonesia
Swahili - (macrolanguage of the Swahili languages) spoken in the Democratic Republic of the Congo, Tanzania, Kenya, and Somalia
Swazi - (alternate names are Swati, Siswati, and Tekela) spoken in Swaziland, Lesotho, Mozambique, and South Africa
Swedish
Tagalog - spoken in Philippines
Tahitian
Tinpo
Tongan - (alternate names are Tonga, Siska and Nyasa) spoken in Malawi
Tswana
Tun (Latin alphabet only) - spoken in Chad (alternate names are Tunia and Tunya)
Turkish
Ukrainian (Cyrillic) - includes the characters of the English language
Visayan - consists of Cebuano, Hiligaynon, and Samaran or Waray-waray languages spoken in the Philippines
Welsh
Wolof - spoken in Senegal and Mauritania
Xhosa - spoken in South Africa and Lesotho
Zapotec - (macrolanguage of the Zapotec languages) spoken in Mexico
Zulu - spoken in South Africa, Lesotho, Malawi, Mozambique, and Swaziland

## Nuance Full-Text Code Pages

This table lists the available Nuance code pages.

Code Pages
DOS Maltese
IBM Multi-Lingual
WordPerfect
Portuguese
Mac Central EU
Roman 8
Auto
Russian
Norwegian
Japanese (EUC)
DOS Icelandic
United States IBM
Default
DOS Hungarian/CWI Magyar
Windows 3.1 (Eastern European)
Windows Esperant
Japanese (Shift JIS)
Hebrew
DOS Greek (Memotek)
Traditional Chinese (Big5)
Windows 3.1 (Cyrillic)
Turkish
Korean

## APPENDIX A Supported OCR Languages

Code Pages
1254 Code Page
Mazowia Polish/DOS Polish
DOS Greek (Elot)
Windows OCR/MICR
DOS Hungarian/Magyar Ventura
Arabic (ASMO 708)
Windows 3.1 (US and Western Europe)
Traditional Chinese (HKSCS)
French Canadian
Mac Western
Simplified Chinese (EUC)
Arabic (Transparent Arabic)
UTF 8
Arabic (Transparent ASMO)
None
Czech/Slovakian
Windows ANSI 1252
Japanese
Simplified Chinese (GB18030)
1253 Code Page
Mac INSO Latin 2/MAC CE
Traditional Chinese
MAC Primus CEu/MAC CE
Simplified Chinese
1257 Code Page
Arabic
Arabic ASMO 449+/BCON V4

Code Pages
Sloven/Croat
Arabic (Nafitha Enhanced)
Unicode
Eastern European

## OpenText Languages

This table lists the supported OpenText countries, country groups, languages, language groups, and their associated code pages. If you narrow the search for specific languages or countries, the OpenText OCR engine will process more rapidly.

Country and Language Group	Code Page
Australia	1252
Austria	1252
Azerbaijan	1254
Baltic	1257
Belgium	1252
Brazil	1252
Bulgaria	1251
Canada	1252
Central America	1252
Central Europe	1250
Chinese Simplified	936
Chinese Traditional	950
Croatia	1250
Cyrillic	1251
Czech	1250
Denmark	1252
Estonia	1257

## APPENDIX A Supported OCR Languages

Country and Language Group	Code Page
Finland	1252
France	1252
Germany	1252
Great Britain	1252
Greece	1253
Hungary	1250
Ireland	1252
Italy	1252
Japanese	932
Korean	949
Liechtenstein	1252
Lithuania	1257
Luxembourg	1252
Netherlands	1252
New Zealand	1252
Norway	1252
Poland	1250
Portugal	1252
Romania	1250
Russia	1251
Scandinavia	1252
Slovakia	1250
Slovenia	1250
South Africa	1252
South America	1252
South America Spanish	1252
Spain	1252



Country and Language Group	Code Page
Sweden	1252
Switzerland	1252
Thai	874
Turkey	1254
USA	1252
Western Europe	1252
OCR	0
Afrikaans	1252
Albanian	1250
Azerbaijani Latin	1254
Basque	1252
Bosnian Latin	1250
Bulgarian	1251
Catalan	1252
Croatian	1250
Czech Language	1250
Danish	1252
Dutch	1252
English	1252
Estonian	1257
Faroese	1252
Finnish	1252
French	1252
Frisian	1252
German	1252
Greek	1253
Guarani	1252

## APPENDIX A Supported OCR Languages

Country and Language Group	Code Page
Hani	1252
Hungarian	1250
Icelandic	1252
Indonesian	1252
Irish	1252
Italian	1252
Kirundi	1252
Latin	1252
Latvian	1257
Lithuanian	1257
Luxembourgish	1252
Malay	1252
Norwegian	1252
Polish	1250
Portuguese	1252
Quechua	1252
Rhaeto-Romanic	1252
Romanian	1250
Russian	1251
Rwanda	1252
Serbian Latin	1250
Shona	1252
Slovak	1250
Slovenian	1250
Somali	1252
Sorbian	1250
Spanish	1252

Country and Language Group	Code Page
Swahili	1252
Swedish	1252
Turkish	1254
Wolof	1252
Xhosa	1252
Zulu	1252