RICOH

RICOH ProcessDirector™

Installing Document Processing Features

Version 3.11.2

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Accessibility	

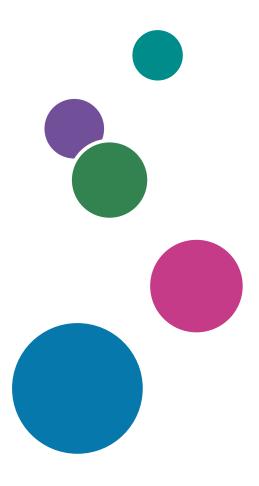For information not in this manual, refer to the Help System in your product.

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Introduction

Important

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this product, losses of documents or data, or the use or non-use of this product and operation manuals provided with it.

Make sure that you always copy or have backups of important documents or data. Documents or data might be erased due to your operational errors or malfunctions of the software. Also, you are responsible for taking protective measures against computer viruses, worms, and other harmful software.

In no event will the manufacturer be responsible for any documents created by you using this product or any results from the data executed by you.

Cautions regarding this guide

- Some illustrations or explanations in this guide could differ from your product due to improvement or change in the product.

- The contents of this document are subject to change without notice.

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- Throughout this publication, references to directory paths indicate the default paths only. If you install RICOH ProcessDirector or RICOH ProcessDirector Plug-in for Adobe Acrobat in a different location, including a different drive, you must adjust the paths accordingly.

  For example, if you install RICOH ProcessDirector Plug-in for Adobe Acrobat on the `D:` drive of a computer running a Windows operating system, replace `C:` with `D:` in the directory paths.

Publications for this product

The following publications are available for RICOH ProcessDirector document processing features.

Instruction manuals

These instruction manuals are included:

- *RICOH ProcessDirector: Integrating with Other Applications*

  This guide provides technical information about the ways that you can configure RICOH ProcessDirector to exchange data with other applications.

- *RICOH ProcessDirector for AIX, Linux, or Windows: Planning and Installing*

  This guide explains planning and installation procedures for RICOH ProcessDirector on your operating system. The publications CD includes the version of this manual for your operating system: AIX, Linux, or Windows.

- *RICOH ProcessDirector: Installing Document Processing Features* (this publication)

This guide explains how to install RICOH ProcessDirector features that control and track both jobs and the individual documents in jobs.

- *RICOH ProcessDirector: Using RICOH ProcessDirector Plug-in for Adobe Acrobat*

  This guide explains how to use RICOH ProcessDirector Plug-in for Adobe Acrobat. You can use the Adobe Acrobat plug-in to define text, barcodes, images, and other enhancements in a PDF file. After you save your enhancements in a control file, RICOH ProcessDirector workflows can use the control file to make similar enhancements to PDF files.

- *Font Summary*

  This guide explains font concepts and the different types of fonts in the InfoPrint Font Collection. The *Font Summary* is available only in English.

- *White Paper–Using the Enhance AFP Function*

  This guide explains how to configure and use Enhance AFP control files. The guide is available only in English.

- The RICOH ProcessDirector readme file (`readme.html`)

  This file tells you how to access the other publications. The readme file is available only in English.

- The RICOH ProcessDirector release notes

  These release notes provide information about the RICOH ProcessDirector release, including new functions and updates; known limitations, problems, and workarounds; and code change requests. The release notes are available only in English.

You can download English publications in PDF format from the RICOH Software Information Center (https://help.ricohsoftware.com/swinfocenter/

RICOH ProcessDirector Information Center

The RICOH ProcessDirector Information Center contains topics that help administrators, supervisors, and operators learn about and use RICOH ProcessDirector document features. The Information Center is available from the RICOH ProcessDirector user interface and provides quick navigation and search features.

RICOH ProcessDirector Help

Field help is available on many screens for RICOH ProcessDirector document processing features to provide information for specific tasks and settings.

How to read the documentation

Before installing a document processing feature

This manual contains instructions and cautions for correct installation of document processing features. Before installing a document processing feature, read this manual thoroughly and completely. Keep this manual handy for future reference.

How to use the manuals

Use the instruction manuals according to your needs.

To learn how to install a document processing feature:

See *RICOH ProcessDirector: Installing Document Processing Features*.

To learn how to use the functions and operations of a document processing feature:

See the RICOH ProcessDirector Information Center.

To learn how to use the functions and operations of RICOH ProcessDirector Plug-in for Adobe Acrobat:

See *RICOH ProcessDirector: Using RICOH ProcessDirector Plug-in for Adobe Acrobat*. This information is also available in the Acrobat plug-in help system and the RICOH ProcessDirector Information Center.

Displaying the publications

RICOH ProcessDirector: Installing Document Processing Features and other publications are available on the RICOH ProcessDirector publications CD, so you can access them before you install the application.

⬇ Note

- A PDF viewer, such as Adobe Acrobat Reader, is required to view the publications.

To access the RICOH ProcessDirector publications CD on Windows:

1. Insert the CD in the CD drive.
   If the Windows system is configured to autorun CDs, Windows Explorer opens automatically to show the contents of the CD.

2. If Windows Explorer does not start automatically, open it and display the contents of the CD drive.

3. Open the `readme.txt` file for information about the contents of the CD, including instructions for launching the RICOH ProcessDirector Information Center from the CD.

Some of these publications are also available from RICOH ProcessDirector user interface.

⬇ Note

- You must log in to the RICOH ProcessDirector user interface to view the publications.

On the top menu bar of the RICOH ProcessDirector user interface, click the [?▾] button and select one of the following publications to download:

- *RICOH ProcessDirector: Integrating with Other Applications*

- *RICOH ProcessDirector: Installing Document Processing Features*

- *RICOH ProcessDirector: Using RICOH ProcessDirector Plug-in for Adobe Acrobat*

- *RICOH ProcessDirector: Release Notes*

Displaying the RICOH ProcessDirector Information Center

The RICOH ProcessDirector Information Center is available from the RICOH ProcessDirector user interface.

- To display the Information Center:

  - On the top menu bar of the RICOH ProcessDirector user interface, click the [?▾] button and select **Help**.

– If you are not logged in to RICOH ProcessDirector, enter this URL in the address bar of your browser:

    `http://hostname:15080/pdhelp/index.jsp`

In the URL, `hostname` is the host name or IP address of the computer where RICOH ProcessDirector is installed.

In addition, you can bookmark the location of the Information Center in your browser and open it at any time outside of RICOH ProcessDirector.

Information about use the functions and operations of features are available only when the features are installed in the system.

Related information

For information about our products, see:

* Ricoh web site (https://ricohsoftware.com)

* RICOH Software Information Center (https://help.ricohsoftware.com/swinfocenter/)

Symbols

The following symbols are used in this manual to help you to identify content quickly.

⭐ Important

* This symbol indicates points to pay attention to when using the product. Be sure to read these explanations.

⬇ Note

* This symbol indicates helpful supplementary information that is not essential to completing a task.

Bold

    Bold type indicates the names of dialogs, menus, menu items, settings, field labels, buttons, and keys.

Italic

    Italic type indicates the titles of manuals and variables that you must replace with your own information.

`Monospace`

    `Monospace type` indicates computer input and output.

Abbreviations

AFP

    Advanced Function Presentation

CSV

Comma-Separated Values

HTTP

Hyper Text Transfer Protocol

IP

Internet Protocol

PDF

Portable Document Format

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```

The proper names of the Windows operating systems are as follows:

- The product names of Windows 7 are as follows:

    Microsoft Windows 7 Professional

    Microsoft Windows 7 Ultimate

    Microsoft Windows 7 Enterprise

- The product names of Windows 10 are as follows:

  Microsoft Windows 10 Pro

  Microsoft Windows 10 Enterprise

- The product name of Windows 11 is:

  Microsoft Windows 11 Pro

- The product names of Windows Server 2016 are as follows:

  Microsoft Windows Server 2016 Standard

- Windows Server 2019:

  Microsoft Windows Server 2019 Standard

- The product name of Windows Server 2022 is:

  Microsoft Windows Server 2022 Standard

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1. Overview

- **Documents**
- **Document properties file**
- **Document database**

Document processing features expand the concept of controlling and tracking print jobs to controlling and tracking individual documents in a print job. Additional installation tasks are required to install these features.

Two features add basic functions and objects for processing documents. Installing one of these features is a prerequisite for installing the other document processing features:

- PDF Document Support adds functions and objects for processing documents in PDF jobs. This no-charge feature is provided with the base product but is not installed by default.

- AFP Support adds functions and objects for processing documents in AFP jobs.

The other document processing features add functions and objects for specialized needs such as archiving document information in a repository or inserting documents into envelopes. Before installing these features, you install PDF Document Support, AFP Support, or both. If you install PDF Document Support, the other document processing features work with PDF files. If you install AFP Support, they work with AFP files. If you install both, they work with both types of files. Examples of these document processing features are:

- Archive

- Automated Verification

- Electronic Presentment

- Inserter

- Postal Enablement

- Preference Management

Installing a document processing feature involves:

- Planning for the installation

- Installing the feature

- Defining custom document properties

- Updating custom document properties

Installing the PDF Document Support feature also involves:

- Installing RICOH ProcessDirector Plug-in for Adobe Acrobat for PDF document processing

- Loading RICOH ProcessDirector document properties

- Loading RICOH ProcessDirector media objects for PDF document processing

⭐ Important

Examples, lists of step templates, and lists of properties sometimes refer to objects in specific document processing features. If you do not have these features installed, the objects do not exist on your system.

Documents

A document is the smallest unit that can be tracked by a workflow. For example, a document can be a set of pages that make up one bill, one statement, or one mailpiece.

A print file can contain thousands of documents. If the print file is in AFP format, each document is bounded by the Begin Page Group and End Page Group AFP structured fields.

Document properties file

The document properties file (DPF) can contain properties of documents in a job. The file is stored in the spool directory for the job.

The document properties file is created automatically by the step templates **IdentifyPDFDocuments**, **IdentifyDocuments**, **ReadDocumentsFromDatabase**, **CreateJobsFromDocuments**, and **CreateAFPJobsFromDocuments**. The file is structured like a table; the first line identifies the properties that are in the file, and each additional line contains the property values for each document. RICOH ProcessDirector uses the information in the document properties file to keep track of the documents associated with each job.

Document database

The document database is an internally managed database that stores and manages the properties of individual documents in the system. You do not do actions directly on the document database, but on the documents that it contains.

During the configuration process, you work with your Ricoh support representative to decide whether to define document properties as database properties or as limited properties.

2. Planning for installation

- Planning to install document processing features
- Hardware and software requirements for RICOH ProcessDirector Plug-in for Adobe Acrobat
- Migrating from Adobe Acrobat Professional version X or XI to version DC

When you install RICOH ProcessDirector document processing features, you install the RICOH ProcessDirector components on the primary server. If you install the PDF Document Support feature, you also install RICOH ProcessDirector Plug-in for Adobe Acrobat onto a computer with a Windows operating system and Adobe Acrobat Professional.

Planning to install document processing features

All document processing features include RICOH ProcessDirector components that you install on an existing RICOH ProcessDirector server. Before installing a feature, make sure your system meets the following requirements.

Software requirements

Make sure that your system has the required software before installing any document processing features. In addition to the required software described in this section, we recommend that you use an XML editor to edit the required XML configuration files. The installer does a schema-based validation of XML files but does not validate all syntax.

IBM C++ Runtime and Utilities Components

This section applies only to features installed with RICOH ProcessDirector for AIX.

Document processing features installed with RICOH ProcessDirector for AIX require the IBM XL C/C++ Enterprise Edition for AIX, V9.0, Runtime Environment and Utilities packages.

Make sure you download both the Runtime Environment package and the Utilities package.

You can download them from this Web site:

http://www-01.ibm.com/support/docview.wss?rs=2030&context=SSJT9L&uid=swg24015997&loc=en_US&cs=utf-8&lang=en

Follow the installation instructions on the site.

Gathering your document requirements

Determine what document properties are relevant for the workflows that you want to create.

Think about what properties you might want to use to sort or group documents in a job.

To gather your document requirements:

1. Ask yourself questions like these:

2

- What document properties will you use to distinguish your documents? (What makes one document different from another?)

- What document properties do you need to identify to make use of data defined in the document properties in your PDF file?

- What document properties do you need to identify to make use of data defined in the index tags (also called Tagged Logical Elements (TLEs)) in your Advanced Function Presentation (AFP) file?

- What properties do you want to use as criteria for tracking documents? For example, you could define a property called "account number" so that you can track documents according to account number.

- If you have a feature that includes the InsertJobs step template, what information do you want to include in inserter barcodes or in inserter control files? For example, to include the document's ZIP code in the inserter control file, you could define a document property called "ZIP code".

- If you have a feature used for postal processing, what information does your postal software require about each document?

- If you have a feature that is used to add barcodes, what document properties do you need to include in the barcode data?

- If you have the Archive feature, what document properties do you want to use to retrieve documents from the repository where they are stored?

- If you have the Preference Management feature, what document properties do you need to define to handle preference information in RICOH ProcessDirector?

2. From your answers, decide what properties to define. Some properties that you might want to define are:

- Account number

- Address line

- Postal keyline

- Data that you want to put into a barcode that is unique for each document

- ZIP code

- Dispatch type, such as express or regular mail

- Encloser type, such as flat or fold

Performance and capacity considerations with document processing features

Keep these performance and system capacity considerations in mind as you configure and use document processing features, such as Archive, Postal Enablement, Inserter support, and the Advanced Document Pool extended feature.

Document properties and document management

Use these document management tips to help you optimize system performance.

Carefully assess your document management needs before you define document properties. Not only must you control the number of properties, but also consider their size. A 1024-character property uses more storage space than a 32-character property.

Limited document properties do not need database table space; however, they occupy space for each document in each document properties file that contains the property.

Using database document properties lets you display document information in the user interface and lets you process documents globally (without knowing which job contains each document), but putting document information in the database has a performance cost. Document properties in the database use space in the database tables. Updates to properties increase logging activity and create possible database contention. The database caches information in memory. With fewer and smaller-sized properties, the database can cache more records in memory and provide better system performance.

Several steps and actions process documents in the database. The database system locks database rows during processing. As more document processing occurs, the impact on system resources increases. You can tune your step templates to limit the number of concurrent steps that process documents in the database.

These steps and actions cause updates to the database:

- **WriteDocumentsToDatabase** adds entries for each document to the database and assigns each such entry a document identifier.

- **ReadDocumentsFromDatabase** retrieves document information from the database and stores it in a document properties file. No updates are done on the database.

- **CompleteDocuments** changes the state of all documents in the job to Complete.

- **CreateJobsFromDocuments** and **CreateAFPJobsFromDocuments** create a new association between documents and the child jobs that are created.

- **RemoveJobs** notifies RICOH ProcessDirector when jobs are deleted. When RICOH ProcessDirector deletes a job that has documents in the database, it deletes the documents from the database.

- **UpdateDocumentsInDatabase** updates the document properties in the database using the values from the document properties file.

- The **Process Again** action requires approval from document processing features. Document processing features do not let RICOH ProcessDirector process an original job again if the documents for that job are also associated with other jobs.

- Opening the Document properties notebook from the Documents portlet retrieves document property values from the database. Only properties that are stored in the database appear in the property notebook.

This list shows steps and actions in order according to how many database resources they use. The most resource-intensive items are at the top.

1. RemoveJobs

2. CompleteDocuments

3. WriteDocumentsToDatabase

4. CreateJobsFromDocuments or CreateAFPJobsFromDocuments

5. Displaying the Documents table in the user interface

6. ReadDocumentsFromDatabase

7. **Process Again**

8. Opening the Documents property notebook from the Documents table

Memory usage

Keep these memory usage considerations in mind as you configure and use document processing features.

Note

- Your installation might not include all of the step templates discussed in this section.

Some steps might need a lot of memory to process a job.

For example, steps based on the CreateJobsFromDocuments, CreateAFPJobsFromDocuments, BuildPDFFromDocuments, BuildAFPFromDocuments, IdentifyPDFDocuments, and IdentifyDocuments step templates read information into memory to do their processing. The system keeps a record for each document in memory.

Steps based on the GroupDocuments, SortDocuments, and SplitDocuments step templates also read information into memory to do their processing. The system keeps a record for each document in memory. The amount of memory needed by GroupDocuments and SortDocuments varies depending on which properties you use for grouping and sorting. When more data exists for those properties, the system uses more memory.

Note

- If you process jobs using any of these step templates, increase the amount of memory that the Java Virtual Machine (JVM) can use for RICOH ProcessDirector steps to at least 8 GB of memory:
    - BuildAFPFromDocuments
    - BuildPDFFromDocuments
    - BuildPDFFromZip
    - CreateAFPJobsFromDocuments
    - CreateJobsFromDocuments
    - GroupDocuments
    - IdentifyDocuments
    - IdentifyPDFDocuments
    - SortDocuments
    - SplitDocuments
    - ReadDocumentsFromDatabase
    - RemoveDocumentsFromDatabase
    - UpdateDocumentsInDatabase
    - WriteDocumentsToDatabase

    See for additional information.

By default, steps are tuned to run on the primary computer, which uses up to 2000 MB of memory when it runs. The primary computer uses the memory for system management, user interface and Web service requests, printer management, input device management, and running steps. Jobs with many documents that sort or group using many properties can use a significant amount of memory.

You can optimize step tuning to minimize memory usage:

1. Define one or more RICOH ProcessDirector secondary servers on the primary server. The secondary servers should not be in the general server pool. The servers should allow only one step to run at a time.

2. Change the tuning of these step templates to run only on the secondary servers:

    *   BuildAFPFromDocuments

    *   BuildPDFFromDocuments

    *   CreateAFPJobsFromDocuments

    *   CreateJobsFromDocuments

    *   GroupDocuments

    *   IdentifyDocuments

    *   IdentifyPDFDocuments

    *   SortDocuments

    *   SplitDocuments

Setting the maximum number of open files (optional)

This section is not applicable to Windows. The system setting for the maximum number of open files prevents an uncontrolled process from taking over your system, but you might need a higher limit than the default if you are processing jobs with many files. Changing the open file limit lets your document processing feature use more system resources. This task is optional, but if File Not Found errors frequently appear in the job log during job processing, you should do this task.

To set the open file limit:

1. Log in to your system as the root user, or use **sudo** or the **su** command to become the root user.

2. On AIX: Open the file `/etc/security/limits`.

3. On Linux: Open the file `/etc/security/limits.conf`.

4. Find the line in the file that sets the open file limit. For example, on a Linux system it might look like this: `aiw1 - nofile 4096`.

    If the line does not exist, add it in the next step.

5. Edit the line, or add a new line if needed, to set a higher limit for the RICOH ProcessDirector system user (**aiw1** is the default).

    This example sets the limit to 15,000 on Linux: `aiw1 - nofile 15000`

    This example sets the limit to 15,000 on AIX: `aiw1 - nofiles 15000`

    Check with your system administrator to determine a reasonable upper limit for the number of open files.

6. Log out as root and log in to make the change take effect.

Defining the JVM memory pool allocation

Depending on the size of your production files, processing a workflow can involve several memory-intensive operations. If you do not allocate enough memory to these processes in RICOH ProcessDirector, you might encounter processing errors or slow processing.

You can configure the Java Virtual Machine memory pool allocation by editing the /aiw/aiw1/config/jvmsettings.cfg (UNIX-based operating systems) or C:\aiw\aiw1\config\jvmsettings.cfg (Windows) file. If you change the settings in this configuration file, you need to reset the system using the stopaiw and startaiw commands for the change to take effect.

The primary setting defines the maximum amount of memory allocated to a Java Virtual Machine process. You can change that setting to match your memory usage needs. The default is 2 GB, and you want to allocate at least 6 GB. In the jvmsettings.cfg file you change:

```
primary=-Xmx2048m
```

to

```
primary=-Xmx6144m
```

Note

- You change the RICOH ProcessDirector Plug-in for Adobe Acrobat JVM memory allocation by clicking **Ricoh** → **Preferences** from the Adobe Acrobat menu bar.

Hardware and software requirements for RICOH ProcessDirector Plug-in for Adobe Acrobat

This section describes the hardware and software requirements for the computer that you install RICOH ProcessDirector Plug-in for Adobe Acrobat on. The plug-in is included with the PDF Document Support feature.

Hardware requirements

The system hardware requirements for the computer that RICOH ProcessDirector Plug-in for Adobe Acrobat is installed on are:

- Monitor resolution of 1024 by 768 pixels or higher
- A minimum of 2 GB RAM

Depending on the number of documents you process, additional free hard-drive space and memory might be required.

Operating system and software requirements

RICOH ProcessDirector Plug-in for Adobe Acrobat requires one of these operating systems:

- Windows 10
- Windows 11 Pro
- Windows Server 2016

- Windows Server 2019
- Windows Server 2022

RICOH ProcessDirector Plug-in for Adobe Acrobat requires this software:

- Java Runtime Environment (JRE) 1.8 (Java Version 8)

    – You must install the JRE, not the Java Development Kit (JDK).

    – We strongly recommend using the 64-bit version of the JRE you choose.

    – RICOH ProcessDirector Plug-in for Adobe Acrobat supports both the Oracle Java and OpenJDK (Hotspot) JREs at Version 8.

    ⬇️ Note

    Neither RICOH ProcessDirector nor the Plug-in install Java on your system. You must install a supported Java version for the Plug-in to use.

    If you install the OpenJDK JRE (Hotspot), you must choose the option to install with a custom setup, not the default setup. In the list of features to install, find **JavaSoft (Oracle) registry keys** and select the option to install that feature on the local hard drive.

- Adobe Acrobat Pro 2020 or Pro DC

    ⬇️ Note

    – Acrobat cannot be installed in a directory path that contains non-English Unicode characters.

Migrating from Adobe Acrobat Professional version X or XI to version DC

If you have installed RICOH ProcessDirector Plug-in for Adobe Acrobat on Adobe Acrobat X or XI Professional, follow this process to install RICOH ProcessDirector Plug-in for Adobe Acrobat on Adobe Acrobat DC Professional.

To migrate to Adobe Acrobat DC Professional:

1. Uninstall RICOH ProcessDirector Plug-in for Adobe Acrobat from Adobe Acrobat X or XI Professional.

    See Uninstalling RICOH ProcessDirector Plug-in for Adobe Acrobat, p. 32 for more information.

2. Install RICOH ProcessDirector Plug-in for Adobe Acrobat on Adobe Acrobat DC Professional.

    See Installing RICOH ProcessDirector Plug-in for Adobe Acrobat, p. 29 for more information. Your plug-in settings for Adobe Acrobat Professional version X or XI are retained on version DC.

3. Installing features

- Installing the feature on the RICOH ProcessDirector primary computer
- Installing RICOH ProcessDirector Plug-in for Adobe Acrobat

To install document processing features, you install RICOH ProcessDirector components, including workflows and step templates. If you have the PDF Document Support feature, you also install RICOH ProcessDirector Plug-in for Adobe Acrobat.

Installing the feature on the RICOH ProcessDirector primary computer

You install the document processing feature on a server on which you have already installed the RICOH ProcessDirector base product.

Installing document processing features using Feature Manager

Follow these steps to install document processing features using the RICOH ProcessDirector Feature Manager.

⬇ Note

- Features are installed in trial mode. After the features are installed in trial mode, you can download and install license keys for them using the instructions in the *RICOH ProcessDirector: Planning and Installing* guide.

- To see whether a feature is running in trial mode, choose **Administration** → **Licenses** and look at the **License State** column. To see how many days remain for the feature in trial mode, select ⚙**View log** in the RICOH ProcessDirector System Summary portlet to open the system log.

To install one or more document processing features:

1. If you use RICOH ProcessDirector for Linux or AIX and have one or more secondary servers defined and started, stop all of the secondary servers.

2. Log in to RICOH ProcessDirector as a user authorized to use Feature Manager.

3. Click the **Administration** tab.

4. In the left pane, choose **Utilities** → **Features**.

   If you see an error message, you must start Feature Manager manually:

   1. Log in to the primary computer. On AIX or Linux, log in as the RICOH ProcessDirector system user (aiw1 is the default). On Windows, log in as an administrator.

   2. On AIX or Linux, open a command prompt and type: `startaiw -f`

   3. On Windows, click the Windows Start button, type `services` to search for the Services App, and click the Services App. Then, right-click the Feature Manager Service and select **Restart**.

   4. Reload the Feature Manager web page.

5. If the feature that you want to install is not listed, you must import it. See *Adding or upgrading a feature using Import Package* in the RICOH ProcessDirector Information Center for details about importing the feature package.

6. If the feature that you want to install is in the list, select the check box next to it.

7. In the **Available versions** column for each feature, select the version of the feature you want to install.

8. Click **Install**.

9. Review the information in the confirmation window, then click **OK** to continue.
   The features are installed, then RICOH ProcessDirector is restarted to finish the install process.

10. Click **DISMISS** to close the Feature Manager browser tab.

11. To complete the process, clear your browser cache.

    Information that is stored in the browser cache can cause errors when you try to use the newer level. Clearing the cache prevents those errors.

12. Log in again.

13. Restart any secondary servers that you stopped in step 1.

The feature or features are installed and RICOH ProcessDirector is restarted to finish the install process.

Note

- If you see error messages during the installation process, you can review the logs located in */path/* extensions/doc1 (AIX and Linux) or *path*\extensions\doc1 (Windows). For example, on AIX or Linux, the *path* is /opt/infoprint/ippd. On Windows, the *path* is C:\Program Files \Ricoh\ProcessDirector.

Defining custom document properties

You use custom document properties to extract data from each document in a job. First you define the custom document properties in RICOH ProcessDirector, and then you map data in the documents to the document properties. As a job goes through the workflow, the **IdentifyPDFDocuments** step (PDF files) or **IdentifyDocuments** step (AFP files) extracts the data.

Identify data that you want to extract from documents. If RICOH ProcessDirector supplies an appropriate document property, use it instead of defining a custom document property.

For example, you want to extract account number, customer name, email address, and statement date from each document in a job. RICOH ProcessDirector supplies a document property, **Email address**, for extracting email addresses. You define custom document properties for account number, customer name, and statement date.

Note

- If you use custom document properties, starting with Version 3.11.2, you can create them on the **Administration** tab, using **Objects → Custom Properties**.

  You can choose the database name and the label that displays in property notebooks and column headings. You can also choose what kind of data to store in the property, and the default access that the different user groups have for the property, without adding them to the `docCustomDefinitions.xml` file.

  For more information, see the topics Custom job and document properties, p.   and Creating and activating custom properties, p.   .

- If you already have custom document properties defined in a `docCustomDefinitions.xml` file, you can continue to use them. Do not re-create them from the **Administration** tab. Only use that tab to create new job or document properties.

- If you want to use the new made available in RICOH ProcessDirector in Version 3.11.2 to create a custom property:

  – Plan the properties as mentioned in steps 1-5 mentioned below.

  – Continue with the step defined in Creating and activating custom properties, p.   .

To define custom document properties:

1. Choose the type of custom document property:

   - Database property

   - Limited property

   For more information about the `docCustomDefinitions.xml` file, see docCustomDefinitions.xml file, p. 34.

2. Choose a database (internal) name for the custom document property.

   For example, define a custom document property with the database name **Doc.Custom. AccountNumber**.

   Note

   - We recommend that the database names of your custom document properties start with **Doc. Custom**. If you do not use this naming convention, verify that none of your custom document properties have the same database name as a document property supplied with RICOH ProcessDirector.

   - Do not use a number immediately after the period (.) in the database name. For example, the database name `Doc.3rdLineAddress` is not valid.

   - Do not delete custom document properties after you add them to the `docCustomDefinitions.xml` file.

   - Do not change the `name` (database name), `dataType`, or `dbType` of a custom document property. The system lets you change `caption` (user interface name), `shortCaption`, `description`, and `access`.

3. Choose a user interface name (caption) for the custom document property.

   For example, define a custom document property with the user interface name **Account number**.

↓Note

- We recommend that you do not define a custom document property with the same user interface name as a document property supplied by RICOH ProcessDirector.

4. Choose a datatype (`dataType`) for the custom document property.

   Examples include `String`, `Integer`, `IntegerNonNeg`, and `Timestamp`.

5. For database properties:

   1. Choose a database type (`dbType`).

      For the `String` datatype, database types are `char`, `varchar`, and `long varchar`.

      For the `Integer` datatype, database types are `smallint`, `bigint`, and `integer`.

      For the `Timestamp` datatype, the database type is `Timestamp`.

   2. **Optional:** Choose the level of access that users have to the custom document property:

      - **attrWriteAdmin**

        Members of the Administrator security group have write access. Members of the Monitor, Operator, and Supervisor security groups have read access.

      - **attrWriteAdminSuper**

        Supervisors and Administrators have write access. Monitors and Operators have read access.

      - **attrWriteAdminSuperOper**

        Operators, Supervisors, and Administrators have write access. Monitors have read access.

      If you do not specify an access level, Administrators have write access. Monitors, Operators, and Supervisors have read access.

      ↓Note

      - If you created your own security groups, they receive the same access to custom document properties as the RICOH ProcessDirector security groups that you copied to create your groups.

   3. Choose a short caption.

      The short caption is displayed in table column headings.

      For example, define a custom document property with the short caption **Acct Nmbr**.

   4. Choose a description.

      The user interface displays the description as help for the custom document property.

      For example, define a custom document property with the description **Customer account number**.

6. Edit the document properties configuration file:

   - The first time that you define custom document properties, make a copy of the supplied sample file. Go to this directory:

- /aiw/aiw1/samples/config on AIX and Linux

- C:\aiw\aiw1\samples\config on Windows

- When you define more document properties, make a copy of the active file. Go to this directory:

  - /aiw/aiw1/config on AIX and Linux

  - C:\aiw\aiw1\config on Windows

7. Copy the docCustomDefinitions.xml file to a working directory, and edit the file.

   Keep a backup copy of the edited file for recovery purposes.

   For example, these lines add two database document properties with the database names **Doc. Custom.AccountNumber** and **Doc.Custom.StatementDate** to the file:

```
<docProperty name="Doc.Custom.AccountNumber"
   datatype="String"
   dbType="varchar (32)"
   access="attrWriteAdmin"
   shortCaption="Acount number"
   caption="Account number"
   description="Customer account number"/>

<docProperty name="Doc.Custom.StatementDate"
   datatype="Timestamp"
   dbType="Timestamp"
   access="attrWriteAdmin"
   shortCaption="Statement date"
   caption="Statement date"
   description="The date the statement was created"/>
```

⬇ Note

- The name line defines the database name. The caption line defines the user interface name.

  These lines add two limited document properties with the internal names **Doc.Custom. SSNumber** and **Doc.Custom.CheckAmt** to the file:

```
<limitedProperties>

   <docProperty name="Doc.Custom.SSNumber"
      datatype="String"
      caption="Social Security number"/>

   <docProperty name="Doc.Custom.CheckAmt"
      datatype="String"
      caption="Check total"/>

</limitedProperties>
```

8. Use an XML editor to validate your syntax.

9. Copy the edited file to:

   - /aiw/aiw1/config/docCustomDefinitions.xml (AIX and Linux)

   - C:\aiw\aiw1\config\docCustomDefinitions.xml (Windows)

10. To have any new document properties display correctly on the user interface, edit the `docCustomDefinitions.properties` file for one or more languages. If you do not define labels for the new properties in this file, you will only see database names for the properties on the user interface. See Naming custom document properties in more than one language, p. 24 for the steps to edit the file.

11. Make the custom document properties that you have defined available to RICOH ProcessDirector:

    1. Run the **docCustom** utility.

       The first time that you run the **docCustom** utility, it creates the Custom Document Properties feature and adds it to Feature Manager. When you run the utility again, it adds an updated Custom Document Properties feature to Feature Manager.

    2. Use Feature Manager to install or update the Custom Document Properties feature.

12. Load the RICOH ProcessDirector updated custom document properties to the tool you use to configure document properties:

    • If you have the PDF Document Support feature, load RICOH ProcessDirector document properties to RICOH ProcessDirector Plug-in for Adobe Acrobat.
      For more information, see the related topic in the information center.

    • If you have the AFP Support feature, use one of these methods to start RICOH Visual Workbench:

      – Start RICOH Visual Workbench from the RICOH ProcessDirector server.

      – Replace the RICOH Visual Workbench application on your desktop:

        ◆ Delete the `VisualWorkbench.zip` file and all of the unzipped files.

        ◆ Download the `VisualWorkbench.zip` file from the RICOH ProcessDirector user interface.

        ◆ Unzip the file, and start the new RICOH Visual Workbench desktop application.

      The document properties are loaded automatically.

Naming custom document properties in more than one language

To define user interface names and descriptive information for your custom document properties in more than one language, you edit a language-specific version of the `docCustomDefinitions.properties` file for each language. After you update your custom document properties, RICOH ProcessDirector displays the user interface names and descriptive information for the custom document properties in each language.

In a single-language environment, the preferred method of defining user interface text for custom document properties is to use the caption and description attributes of the docProperty element in the `docCustomDefinitions.xml` file. If you are using a single language and all custom document property descriptive text is defined in `docCustomDefinitions.xml`, do not edit the `docCustomDefinitions.properties` file.

For more information about the format of the `docCustomDefinitions.properties` file, see docCustomDefinitions.properties file, p. 46.

To name custom document properties in more than one language:

1. Make a working copy of the `docCustomDefinitions.properties` file for each language:

    *   The first time that you name custom document properties in more than one language, make one copy of the sample `docCustomDefinitions.properties` file for each language except your default language. Navigate to this directory:

        –   `/aiw/aiw1/samples/config` on AIX and Linux

        –   `C:\aiw\aiw1\samples\config` on Windows

        Copy the `docCustomDefinitions.properties` file to a working directory.

        Name each file `docCustomDefinitions_language.properties`. For example:

        –   `docCustomDefinitions_de.properties` (German)

        –   `docCustomDefinitions_en.properties` (English)

        –   `docCustomDefinitions_es.properties` (Spanish)

        –   `docCustomDefinitions_fr.properties` (French)

        –   `docCustomDefinitions_it.properties` (Italian)

        –   `docCustomDefinitions_ja.properties` (Japanese)

        –   `docCustomDefinitions_pt.properties` (Brazilian Portuguese)

        ⭐ **Important**

        –   Do not create a `docCustomDefinitions_language.properties` file for your default language.

        –   Make sure each file is owned by the RICOH ProcessDirector system user and group (**aiw1** and **aiwgrp1** are the defaults).

    *   When you name additional document properties in more than one language, navigate to this directory:

        –   `/aiw/aiw1/config` on AIX and Linux

        –   `C:\aiw\aiw1\config` on Windows

        Copy each `docCustomDefinitions_language.properties` file to a working directory.

2. Edit each file to add your new custom document properties.

    The entry for each custom document property has three lines:

    *   Short caption

    *   User interface name

    *   Description

    These lines add two custom document properties with the database names **Doc.Custom. AccountNumber** and **Doc.Custom.StatementDate** to the `docCustomDefinitions_es. properties` file:

`Doc.Custom.AccountNumber.Short=Número de cuentaDoc.Custom.AccountNumber=Número de cuentaD`

Keep a backup copy of each edited file for recovery purposes.

3. If you did not create the file in Latin-1 or Unicode format, run the **native2ascii** utility to convert the file to Unicode Latin-1 format.

   - On AIX and Linux, the **native2ascii** utility is at `/opt/infoprint/ippd/jre/bin`.

   - On Windows, the **native2ascii.exe** utility is at `C:\Program Files\Ricoh \ProcessDirector\jre\bin`.

   For detailed information, see Considerations for a system with more than one language, p. 27.

4. Make sure that each `docCustomDefinitions_language.properties` file uses the ISO-8859-1 character encoding format (codepage).

   If your files use a different format, such as Shift JIS or UTF-8, convert them to ISO-8859-1 format before placing them in the configuration directory.

5. Copy each edited file to the configuration directory:

   - `/aiw/aiw1/config` on AIX and Linux

   - `C:\aiw\aiw1\config` on Windows

   Important

   - Do not delete the `docCustomDefinitions.properties` file. The system requires a file with that name in the configuration directory.

6. Make the custom document properties that you have named in multiple languages available to RICOH ProcessDirector:

   1. Run the **docCustom** utility.

      The first time that you run the **docCustom** utility, it creates the Custom Document Properties feature and adds it to Feature Manager. When you run the utility again, it adds an updated Custom Document Properties feature to Feature Manager.

   2. Use Feature Manager to install or update the Custom Document Properties feature.

7. Load the RICOH ProcessDirector updated custom document properties to the tool you use to configure document properties:

   - If you have the PDF Document Support feature, load RICOH ProcessDirector document properties to RICOH ProcessDirector Plug-in for Adobe Acrobat.
     For more information, see the related topic in the information center.

   - If you have the AFP Support feature, use one of these methods to start RICOH Visual Workbench:

     – Start RICOH Visual Workbench from the RICOH ProcessDirector server.

     – Replace the RICOH Visual Workbench application on your desktop:

       ◆ Delete the `VisualWorkbench.zip` file and all of the unzipped files.

       ◆ Download the `VisualWorkbench.zip` file from the RICOH ProcessDirector user interface.

       ◆ Unzip the file, and start the new RICOH Visual Workbench desktop application.

   The document properties are loaded automatically.

Considerations for a system with more than one language

If you are using a language other than English on your system, or if you want to let users see user interface text for custom document properties in more than one language, you might need to do these tasks.

Identifying the code page in docCustomDefinitions.xml

At the top of the docCustomDefinitions.xml file, make sure you correctly identify the code page so that the file can be processed correctly when you update configuration files. Here are some examples of valid code page declarations:

* `<?xml version="1.0" encoding="UTF-8"?>` (specified in the sample file)
* `<?xml version="1.0" encoding="iso-8859-1"?>` (Latin-1)
* `<?xml version="1.0" encoding="shift_jis"?>` (Japanese)

Making sure the document properties names files are in ISO-8859-1 format

The docCustomDefinitions.properties file and docCustomDefinitions_*language*.properties files must contain only Latin-1 or Unicode-encoded (\udddd notation) characters. If you created your docCustomDefinitions.properties and docCustomDefinitions_*language*.properties files in a different format (such as Shift JIS or UTF-8), you must convert each file to ISO-8859-1 before placing it in the `/aiw/aiw1/config` (UNIX-based operating systems) or `C:\aiw\aiw1\config` (Windows) directory. Although you can convert the files using whatever method you choose, this section describes one possible method: using the **native2ascii** utility.

The **native2ascii** utility converts text to Unicode Latin-1. It is shipped with RICOH ProcessDirector.

* On AIX and Linux, the **native2ascii** utility is at `/opt/infoprint/ippd/jre/bin`.
* On Windows, the **native2ascii.exe** utility is at `C:\Program Files\Ricoh\ProcessDirector\jre\bin`.

The utility is also provided with the Java Development Kit, which you can download from this site:

http://www.oracle.com/technetwork/java/javase/downloads

Instructions for using the utility (for Java 6) are here:

http://download.oracle.com/javase/6/docs/technotes/tools/#intl

For example, to convert a UTF-8 file named docCustomDefinitions-UTF8.properties, you can use this command:

```
native2ascii -encoding UTF-8 docCustomDefinitions-UTF8.properties >
docCustomDefinitions.properties
```

Updating custom document properties

Whenever you define new custom document properties or name custom document properties in more than one language, you update custom document properties to make your changes available to RICOH ProcessDirector.

⬇ Note

- Only use this procedure for custom document properties defined in the `docCustomDefinitions.xml` file. If you created custom properties using the Administration tab, this procedure is not required.

Before doing this task, verify that the syntax in the `docCustomDefinitions.xml` file is correct.

To update custom document properties:

1. Log in to the primary server as the RICOH ProcessDirector system user.

   - For Linux/AIX, **aiw1** is the default.

   - For Windows, log in to the **Administrator** account.

2. Open a command line.

3. Change directories.

   - For Linux/AIX, use `cd /aiw/aiw1/bin`.

   - For Windows, use `cd C:\aiw\aiw1\bin`.

4. Enter this command to run the utility:

   `docCustom`
   The **Custom Document Properties** feature EPK file is created and available in the Feature Manager.

5. Close the command line.

6. Log in to RICOH ProcessDirector.

7. Click the **Administration** tab.

8. In the left pane, click **Utilities** → **Features**.

9. Select the check box for the **Custom Document Properties** feature.

10. In the **Available versions** column for each feature, select the version of the feature you want to install.

11. Click **Install**.

12. Review the information in the confirmation window, then click **OK** to continue.
    The features are installed, then RICOH ProcessDirector is restarted to finish the install process.

13. Click **DISMISS** to close the Feature Manager browser tab.

14. Check that your new document properties are defined on the system:

    1. Log in to RICOH ProcessDirector.

    2. In the Documents portlet on the Main page, click **By property**.

    3. Click the **Edit** ( ) button.

    4. Scroll through the **Property** list to see if it includes your new properties.

If you have the PDF Document Support feature installed and you change document property names in RICOH ProcessDirector, load a new document properties list into RICOH ProcessDirector Plug-in for Adobe Acrobat. See Loading RICOH ProcessDirector document properties, p. 30 for more information.

If you have the AFP Support feature installed and you change document property names in RICOH ProcessDirector, access RICOH Visual Workbench from the RICOH ProcessDirector user interface. New document properties are loaded to RICOH Visual Workbench when it opens on your workstation.

Installing RICOH ProcessDirector Plug-in for Adobe Acrobat

This section describes how to install and uninstall RICOH ProcessDirector Plug-in for Adobe Acrobat. The plug-in is included with the PDF Document Support feature.

Make sure the system on which you install RICOH ProcessDirector Plug-in for Adobe Acrobat meets the hardware and software requirements. See Planning for installation, p. 11 for more information. If you have a previous version of RICOH ProcessDirector Plug-in for Adobe Acrobat on the system, uninstall it.

Running the installation program

Follow these steps to install RICOH ProcessDirector Plug-in for Adobe Acrobat using the plug-in installer file that is copied to the primary computer during installation of the PDF Document Support feature.

The installer file that comes with the PDF Document Support feature is placed here:

- On Windows: `C:\aiw\aiw1\share\Ricoh-ProcessDirector-Plug-in-for-AdobeAcrobat-Setup.exe`

- On Linux or AIX: `/aiw/aiw1/share/Ricoh-ProcessDirector-Plug-in-for-AdobeAcrobat-Setup.exe`

To run the installation program:

1. Download the installer file from the primary computer to the Windows computer that has Adobe Acrobat installed on it using the RICOH ProcessDirector user interface.

    1. On the client Windows computer, log in as an administrator.

    1. Log in to RICOH ProcessDirector as a member of the Administrator group.

    2. Click the **Administration** tab.

    3. In the left pane, choose **Utilities** → **Plug-in for Adobe Acrobat**.

    4. Click **RICOH ProcessDirector Plug-in for Adobe Acrobat**.
    The browser's default file download process is used to transfer the file. You might have to choose where to store the file.

    5. Log out of RICOH ProcessDirector.

2. Close all open applications that could be using Adobe Acrobat, Distiller, or Reader. Many Web browsers use Adobe Acrobat Reader, so make sure to close all Web browsers.

3. Find the directory where you downloaded the installer file and double-click the file.
    The installer starts.

4. **Optional:** For setup information including hardware and software requirements, click **Setup Guide**.

    Adobe Acrobat must be closed during the installation process. Print these instructions if you want to view them during installation.

5. Follow the prompts to complete the installation.

6. Depending on your current configuration, the installer might ask to update some Microsoft libraries.

7. Verify the installation by opening a PDF file using Adobe Acrobat.

   • In the traditional view of Adobe Acrobat, check the menu bar. You should see the **Ricoh** menu.

   • In the new Adobe Acrobat experience (introduced in May 2023), select **Menu** → **Plug-ins**. You should see a sub menu for **Ricoh**.

8. If you cannot see the **Ricoh** menu or sub-menu, check the default values for these Adobe settings:

   1. Open the **Preferences** dialog:

      • In the traditional view, click **Edit** → **Preferences**.

      • In the new Adobe Acrobat experience, select **Menu** → **Preferences**.

   2. Select the **General** category.

   3. In the **Application Startup** section, make sure that **Use only certified plug-ins** is not selected.

   4. Select the **Security (Enhanced)** category.

   5. In the **Sandbox Protections** section, you might see an option called **Enable Protected mode at startup**. Make sure this option is not selected.

Before you start using the plug-in to enhance PDF files, open Adobe Acrobat and review the help for the RICOH ProcessDirector Plug-in for Adobe Acrobat. To open the help:

• In the traditional view, click **Ricoh** → **Help**

• In the new Adobe Acrobat experience, select **Menu** → **Plug-ins** → **Ricoh** → **Help**.

Review the topics about preferences, loading document properties, and adding the Plug-in icon to the Acrobat quick launch bar. These topics describe how to tailor the Plug-in to your environment.

Loading RICOH ProcessDirector document properties

To use RICOH ProcessDirector Plug-in for Adobe Acrobat to define text in a PDF file as a RICOH ProcessDirector document property, you must import the list of RICOH ProcessDirector document properties.

You must do this task:

• After you install RICOH ProcessDirector Plug-in for Adobe Acrobat.

• After changes are made to property definition files, you have run the **docCustom** utility, and you have installed or upgraded the **Custom Document Properties** feature.

1. Close Adobe Acrobat Professional.

2. Retrieve the `definitions.zip` file from this directory on the RICOH ProcessDirector server that processes your PDF files:

   • Unix-based systems, `/aiw/aiw1/share`

   • Windows, `C:\aiw\aiw1\share`

This file is generated when you install one of the document processing features and is updated when you run the **docCustom** utility and install or upgrade the **Custom Document Properties** feature.

The `definitions.zip` file is downloaded when you download the plug-in installer from the **Administration** tab. After you make any changes to your custom document properties, you must manually download the `definitions.zip` file.

3. On the system where you installed RICOH ProcessDirector Plug-in for Adobe Acrobat, place the `definitions.zip` file in the `<user_home_directory\AppData>\Roaming\InfoPrint\InfoPrintPlugin\` directory.

   For `<user_home_directory\AppData>`, substitute the name of the home directory application data directory for the current user.

   🔵 Note

   - You can view the application data directory location for the current user by typing **%appdata%** in the Windows **Run** command line and clicking **OK**.

4. Restart Adobe Acrobat Professional and click **Ricoh** → **Select** to activate RICOH ProcessDirector Plug-in for Adobe Acrobat. The list of RICOH ProcessDirector document properties in the `definitions.zip` file is automatically imported into the areas of the plug-in that use document properties.

The `definitions.zip` file contains document properties and limited document properties. Limited document properties are not saved to a database, but they are stored in the document properties file that contains the property. For more information about both types of properties, see the topics related to document properties in the information center, for example see the topic on editing the sample document properties template.

Loading media objects

After installing RICOH ProcessDirector Plug-in for Adobe Acrobat, load RICOH ProcessDirector media objects. After you load them, you can use them to define media and finishing options for specific pages in a PDF file.

Whenever you change RICOH ProcessDirector media objects, do this task to load them into RICOH ProcessDirector Plug-in for Adobe Acrobat.

To load media objects:

1. Close Adobe Acrobat Professional.

2. On the RICOH ProcessDirector primary server, go to this directory:

   - `/aiw/aiw1/share` on AIX and Linux
   - `C:\aiw\aiw1\share` on Windows

3. Copy the `media.zip` file to the `<user_home_directory\AppData>\Roaming\InfoPrint\InfoPrintPlugin\` directory on the system where you installed RICOH ProcessDirector Plug-in for Adobe Acrobat.

   For `<user_home_directory\AppData>`, substitute the name of the home directory application data directory for the current user.

⬇ Note

- You can view the application data directory location for the current user by typing **%appdata%** in the Windows **Run** command line and clicking **OK**.

- If the directory includes both a `media.zip` file and a `media.xml` file, RICOH ProcessDirector Plug-in for Adobe Acrobat uses the `media.zip` file to load the media objects.

- The media files are not downloaded when you download the plug-in installer from the **Administration** tab.

4. Restart Adobe Acrobat Professional and click **Ricoh** → **Select**.

The media objects now are available in RICOH ProcessDirector Plug-in for Adobe Acrobat for defining media and finishing options.

If your RICOH ProcessDirector system includes the Preprinted Forms Replacement feature, the electronic forms defined for media objects also are available.

Uninstalling RICOH ProcessDirector Plug-in for Adobe Acrobat

If you need to uninstall RICOH ProcessDirector Plug-in for Adobe Acrobat, use your system's method to remove programs.

To uninstall RICOH ProcessDirector Plug-in for Adobe Acrobat:

1. Close all instances of Adobe Acrobat.
2. Log in to Windows as an administrator.
3. Locate **RICOH ProcessDirector Plug-in for Adobe Acrobat** in your installed program list.
4. Select it and remove it.

4. Reference

- **Installation and configuration checklist**
- **docCustomDefinitions.xml file**
- **docCustomDefinitions.properties file**
- **Document properties template file**
- **Document properties file**
- **Property conditions file**

This section includes format information and examples of configuration files.

Installation and configuration checklist

This checklist can help you plan your installation and configuration process.

	Task	Notes
	Decide which document properties you want to use for all the applications that you process.	
	Define custom document properties in the document properties configuration file (docCustomDefinitions.xml).	
	Optional: To name custom document properties in more than one language, edit the associated docCustomDefinitions. properties file.	
	Optional: Edit the sample document properties template file.	
	Run the **docCustom** utility and install or update the **Custom Document Properties** feature.	
	If you have the PDF Document Support feature, load RICOH ProcessDirector document properties to RICOH ProcessDirector Plug-in for Adobe Acrobat.	
	If you have the PDF Document Support feature, use RICOH ProcessDirector Plug-in for Adobe Acrobat to define the document properties and map them to document data.	

	Task	Notes
	If you have the AFP Support feature, use the AFP Indexer mode of RICOH Visual Workbench to create index tags in AFP files. Use the Document Property Designer mode to link custom document properties to the index tags.	
	Create or edit step templates and workflows as needed.	
	Optional: If you have the AFP Support feature, create the Enhance AFP control file.	

docCustomDefinitions.xml file

The document properties configuration file (`docCustomDefinitions.xml`) defines properties that are used to manage documents. The installation process places a sample file in `/aiw/aiw1/samples/config` on UNIX-based operating systems, and in `C:\aiw\aiw1\samples\config` on Windows.

Note

- If you change the `docCustomDefinitions.xml` file after installing Advanced Document Pool, AFP Support, or PDF Document Support:

    – Run the **docCustom** utility and install or upgrade the **Custom Document Properties** feature.

    – For the PDF Document Support feature, load the document properties to RICOH ProcessDirector Plug-in for Adobe Acrobat.

    – For the AFP Support feature, access RICOH Visual Workbench from the RICOH ProcessDirector user interface. New document properties are loaded to RICOH Visual Workbench when it opens on your workstation.

Database properties and limited properties

You can define two types of document properties:

- Database properties
- Limited properties

You can store and manipulate both types of properties in a document properties file, but only database properties are stored in the database.

You can work with both types of properties in these ways:

- You can use them with steps in a workflow to group or sort documents (for example, with the SortDocuments step template).

- You can link them to AFP index tags using the RICOH Visual Workbench Document Property Designer.

- You can map document data in PDF jobs to them using RICOH ProcessDirector Plug-in for Adobe Acrobat.

- If you have the Archive feature, you can store them in a repository. After you store them, you can use them to search the repository and retrieve jobs, documents, and history information. The values of the properties appear on the Properties tab when you click **Show details** on the Results table.

- If you have the Preference Management feature, you can use an external preferences file to set the values of the properties.

You can work with database properties, but not limited properties, in these ways:

- You can use them to search for documents on the Documents portlet on the Main page of the user interface.

- When you select a document on the Documents portlet, the values of database properties are displayed.

- You can use them to search for documents to display in the viewer.

- You can determine their values in one job, update their values in another job, and use the updated values in the original job.

- If you have the Automated Verification or Inserter feature, you can use database properties to search for documents to reconcile or reprint.

- If you have the Advanced Document Pool extended feature, you can use selectors to manipulate documents based on their property values.

Limited properties offer these advantages:

- You can use them to avoid displaying sensitive property values in the user interface, such as Social Security numbers or check amounts.

- They maximize system performance. Database property manipulation can degrade performance if you process a significant number of documents.

Work with your support representative to determine your needs for database and limited document properties.

Sections in sample file

The sample docCustomDefinitions.xml file contains several sections. This table summarizes them.

Sections in the docCustomDefinitions.xml file

Section	Purpose
Schema	The schema section identifies the schema and the unique character string for the custom document properties. Only the support representative should edit this section.
Database properties	This section defines database document properties.

Section	Purpose
Limited properties	This section defines limited document properties.
User authorization properties	This section is optional. User authorization properties specify custom authority groups for access to database properties.

Schema section

The **Schema** section contains one **docCustomDefinitions** element and one **schema** element. Only support representatives should edit the schema section.

Database properties section

The **Database properties** section contains the **docProperty** element.

⬇Note

- Do not define a property as both a database property and a limited property. Unexpected behavior might occur.

- Do not define a document property with the same name as a property that RICOH ProcessDirector defines automatically. For a list, see .

<docProperty >

Defines document properties that are in the database.

Attributes for the docProperty element

docProperty attribute	Required?	Notes
name	Yes	The database name (internal name) for the property. Programs that read or write properties use this name. We recommend that you use a consistent naming convention for your custom property names, so they are unique across the entire system. For example, the sample docCustomDefinitions.xml file uses the prefix Doc.Custom to make its properties unique from those of the base product. Do not use any special characters (such as @, #, $, %, or - (dash)) or spaces in the property name. You can use periods and underscores. Do not use a number immediately after the period (.) in the property database name. For example, the property Doc.3rdLineAddress is not valid.
access	No	The user access level for the property. You can use an access level that is already defined in the product, or you can create a custom access level if an existing one does not meet your needs. See the **Access** section for more information.

docProperty attribute	Required?	Notes
datatype	Yes	The data type to use for the property. See the next table.
dbType	No	A database parameter that specifies the type of data. 🔽Note • The **dbType** property has been deprecated and is no longer used. Use the **datatype** property instead.
caption	Yes	The user interface name (default caption) for the property. If you are setting up captions in only one language, define them in this file. If you are setting up user interface names in more than one language, create additional document properties names files (docCustomDefinitions_*language*. properties) for the other languages. For more information, see docCustomDefinitions.properties file, p. 46.
shortCaption	Yes	The default short caption displayed for this property where required, such as in table column headings. If you are setting up short captions in only one language, define them in this file. If you are setting up short captions in more than one language, create additional document properties names files (docCustomDefinitions_*language*.properties) for the other languages. For more information, see docCustomDefinitions.properties file, p. 46.
description	Yes	The default description of the document property, which displays in the user interface as help text. If you are setting up descriptions in only one language, define them in this file. If you are setting up descriptions in more than one language, create additional document properties names files (docCustomDefinitions_*language*.properties) for the other languages. For more information, see docCustomDefinitions.properties file, p. 46.

You can use these data types and database types in database property definitions. Keep in mind that the database definition might further restrict the values that can be stored, in addition to the validation rules shown in this table. For example, a SMALLINT can store integers from 0 to 32,767. Database type values are not case-sensitive.

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Data types and database types for docProperty definitions

Data type	Database type (used in SQL)	Validation for data type
String	`VARCHAR(128)`	`VARCHAR: variable length, 1-128 characters`
IntegerNonNeg	`SMALLINTBIGINTIN- TEGER`	`SMALLINT: 2 bytesBIGINT: 4 bytesINTEGER: 8 bytesMinimum=0`
Timestamp	`TIMESTAMP`	`TIMESTAMP: Must contain values for day (D), month (M), and year (Y). Those components can appear in one of these formats:MM DD YYYYDD MM YYYYYYYY MM DDDay and month must be represented by a two-digit number. You can add a time of day in this format:hh:mm:ss`
XdkString10	VARCHAR(10)	VARCHAR: variable length, 1–10 characters 🔽Note • These values are variations of the String data type that can be used instead of String to reduce the amount of space reserved in the database for property values.
XdkString20	VARCHAR(20)	VARCHAR: variable length, 1–20 characters 🔽Note • These values are variations of the String data type that can be used instead of String to reduce the amount of space reserved in the database for property values.
XdkString30	VARCHAR(30)	VARCHAR: variable length, 1–30 characters 🔽Note • These values are variations of the String data type that can be used instead of String to reduce the amount of space reserved in the database for property values.
XdkString40	VARCHAR(40)	VARCHAR: variable length, 1–40 characters 🔽Note • These values are variations of the String data type that can be used instead of String to reduce the amount of space reserved in the database for property values.

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XdkString50	VARCHAR(50)	VARCHAR: variable length, 1–50 characters
		Note • These values are variations of the String data type that can be used instead of String to reduce the amount of space reserved in the database for property values.
XdkString128	VARCHAR(128)	VARCHAR: variable length, 1–128 characters
		Note • These values are variations of the String data type that can be used instead of String to reduce the amount of space reserved in the database for property values.

Limited properties section

The **Limited properties** section contains one or more **docProperty** elements.

Note

- Do not define a property as both a database property and a limited property. Unexpected behavior might occur.

- Do not define a document property with the same name as a property that RICOH ProcessDirector defines automatically. For a list, see .

<docProperty >

Defines document properties that are manipulated only in the document properties file and not in the database.

Attributes for the docProperty element

docProperty attribute	Required?	Notes
name	Yes	We recommend that you use a consistent naming convention for your custom property names, so that they are unique across the entire system. For example, the sample docCustomDefinitions.xml file uses the prefix Doc.Custom to make its properties unique from the base product.
		Do not use any special characters (such as @, #, $, %, or - (dash)) or spaces in the property name. You can use periods and underscores.
		Do not use a number immediately after the period (.) in the property database name. For example, the property Doc.3rdLineAddress is not valid.
datatype	No	See the next table.
caption	No	The caption displayed in lists in the user interface for this property. If you are setting up captions in only one language, define them in this file. If you are setting up captions in more than one language, create a document properties names file (docCustomDefinitions_*language*.properties) for the other languages. See the related information center topic for details.

You can use these data types in docProperty definitions:

Data types for the docProperty element

Data type	Validation for data type
String	`None`
IntegerNonNeg	`Integer between 0 and 2147483647`
Timestamp	`TIMESTAMP: Must contain values for day (D), month (M), and year (Y). Those components can appear in one of these formats: MM DD YYYYDD MM YYYYYYYY MM DDDay and month must be represented by a two-digit number. You can add a time of day in this format: hh:mm:ss`

User authorization properties section

The **User authorization properties** section is optional. User authorization properties specify custom authority groups for access to database properties. This section contains one or more **access** elements.

`<access >`

Used to define the ability to read or edit custom properties. You use these access levels in the docProperty element. You can use one of the default security groups that RICOH ProcessDirector provides, or define your own. These are the attributes:

Attributes for the access element

access attribute	Notes
name	Name of the access level.
groupAttributeAccess	Ability of the user group to read or edit the attribute.

These are the default access levels and authorizations that RICOH ProcessDirector provides:

Default access levels and authorizations

Access name	Group name	Access level
generic	AnyAuthenticated	Attribute access: read
	Operator	Attribute access: read
	Supervisor	Attribute access: read
	Administrator	Attribute access: write
attrWriteAdmin	Operator	Attribute access: read
	Supervisor	Attribute access: read
	Administrator	Attribute access: write
	Everyone	Attribute access: read
	Monitor	Attribute access: read
attrWriteAdminSuper	Operator	Attribute access: read
	Supervisor	Attribute access: write
	Administrator	Attribute access: write
	Everyone	Attribute access: read
	Monitor	Attribute access: read
attrWriteAdminSuperOper	Operator	Attribute access: write
	Supervisor	Attribute access: write
	Administrator	Attribute access: write
	Everyone	Attribute access: read
	Monitor	Attribute access: read
actionAdmin	Operator	Action access: false
	Supervisor	Action access: false
	Administrator	Action access: true
	Everyone	Action access: false

Access name	Group name	Access level
	Monitor	Action access: false
actionAdminSuper	Operator	Action access: false
	Supervisor	Action access: true
	Administrator	Action access: true
	Everyone	Action access: false
	Monitor	Action access: false
actionAdminSuperOper	Operator	Action access: true
	Supervisor	Action access: true
	Administrator	Action access: true
	Everyone	Action access: false
	Monitor	Action access: false

Automatically defined document properties

This table lists document properties that RICOH ProcessDirector automatically defines during installation. Do not define these properties in the docCustomDefinitions.xml file.

Automatically defined document properties

Property database name	Packaged with...	Notes
Doc.Address.1	Postal Enablement	Specifies the first line of the address block in the document.
Doc.Address.Company	Postal Enablement	Specifies the company name in the document.
Doc.Address.PostalCode	Postal Enablement	Specifies the zip code in the document.
Doc.Address.ZipCode	Postal Enablement	Specifies the zip code in the document.
Doc.AV.ScanCount	Automated Verification	Shows the number of times the barcode on a document is scanned.
Doc.ChildJobID	All document processing features	A grouping identifier for child jobs. Although the value is initially defined in IdentifyDocuments or IdentifyPDFDocuments, it can be updated by any step that changes the document properties file, such as SplitDocuments or CreateJobsFromDocuments.
Doc.CurrentFirstPage	All document processing features	The page number of the first page of the document in the current print file.

Property database name	Packaged with...	Notes
Doc.CurrentJobID	All document processing features	The associated job number.
Doc.CurrentPages	All document processing features	The number of pages for the document in the current job.
Doc.CurrentSequence	All document processing features	The sequence of the document in the current job.
Doc.CurrentSheets	All document processing features	The number of sheets for the document in the current job.
Doc.Custom. MemberLevel	Electronic Presentment	The customer's level of membership at the time the statement was created.
Doc.Custom.PURL	Electronic Presentment	A personalized URL linking to the location where the customer can retrieve the statement.
Doc.Custom. StatementDate	Electronic Presentment	The date of when the statement was first issued.
Doc.DataLen	All document processing features	The length (in bytes) of the document in the print file.
Doc.DataOffset	All document processing features	The byte offset of the document in the print file of the original job. This value is used by BuildAFPFromDocuments and CreateAFPJobsFromDocuments to locate the AFP to extract from the original job.
Doc.DocSize. PieceThickness	Postal Enablement	Specifies the thickness of a mail piece when the mail pieces in a job have different thicknesses.
Doc.DocSize. PieceWeight	Postal Enablement	Specifies the weight of a mail piece when the mail pieces in a job have different weights.
Doc.Email.Sent	All document processing features	Specifies whether an email with an attached document has been created and delivered to the SMTP server by the **EmailDocuments** step in a workflow.
Doc.EmailAddress	All document processing features	The email address associated with the document.
Doc.ID	All document processing features	A unique identifier for the document.
Doc.Insert.BinTriggers	Inserter	The inserter bins that should deliver inserts for this document.
Doc.Insert.DivertBin	Inserter	The number of the inserter output bin to which the document is diverted after insertion.

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Property database name	Packaged with...	Notes
Doc.Insert. OriginalBarCode	Inserter	The data in the barcode that controls insertion of the document.
Doc.Insert. RecipientName	Inserter	The name of the person to whom this document is mailed.
Doc.Insert. ReprintJobId	Inserter	For an inserter reprint job, the parent job ID that created the job.
Doc.Member.Number	Archive	Specifies the member number in the document. The RepositorySample supplied workflow uses this property.
Doc.OriginalFirstPage	All document processing features	The page number of the first page of the document.
Doc.OriginalJobID	All document processing features	The job ID of the original job.
Doc.OriginalPages	All document processing features	The number of pages in the document.
Doc. OriginalSequence	All document processing features	The sequence of the document in the original job. The system gives the first document the sequence value **1**, the next document has the sequence value **2**, and so on.
Doc.OriginalSheets	All document processing features	The number of sheets needed to print the document.
Doc.Postal. AddressProcessingRC	Postal Enablement	A value returned from postal software to indicate if an address change is available for the document.
Doc.Postal.Category	Postal Enablement	Specifies the pallet break mark for the document.
Doc.Postal. ChangeAddressRC	Postal Enablement	Specifies the pallet number for the document.
Doc.Postal. ContainerBreakMark	Postal Enablement	Specifies the container break mark for the document.
Doc.Postal. ContainerNumber	Postal Enablement	Specifies the container number for the document.
Doc.Postal. HandlingUnitBreak-Mark	Postal Enablement	Specifies the package break mark for the document.
Doc.Postal. HandlingUnitNumber	Postal Enablement	Specifies the package number for the document.
Doc.Postal. PackageBreakMark	Postal Enablement	Specifies the postage rate for the document.

Property database name	Packaged with...	Notes
Doc.Postal. PackageNumber	Postal Enablement	Specifies the postage rate code for the document.
Doc.Postal. PostageRate	Postal Enablement	Specifies the presort sequence number for the document.
Doc.Postal. PostageRateCode	Postal Enablement	A value returned from postal sorting software to indicate the result of its processing.
Doc.Postal. SequenceNumber	Postal Enablement	The sequence of the document in the child job.
Doc.Postal. SequencingProces-singRC	Postal Enablement	The state of the document.
Doc.Pref.Member	Preference Management	Can be used with a property mapping object to identify the documents in a job. The DelimitedSample supplied property mapping object and PreferencesSample supplied workflow use this property.
Doc.Pref.Output	Preference Management	Can be used with a property mapping object to indicate the output type (such as Email, Print, or Suppress) for a document. The DelimitedSample supplied property mapping object and PreferencesSample supplied workflow use this property.
Doc.Pull	All document processing features	Can be used with the **SetDocPropsFromList** step template to indicate that a document should be removed from a job. The PullPDFSample and PullAFPSample supplied workflows use this property.
Doc.PullProp	All document processing features	Can be used with the **SetDocPropsFromList** step template to identify which document property determines the documents to be removed from a job. The PullPDFSample and PullAFPSample supplied workflows use this property.
Doc.SequenceInChild	All document processing features	The sequence of a document in a child job. Although the value is initially defined in IdentifyDocuments, it can be updated by any step that changes the document properties file, such as SortDocuments or CreateJobsFromDocuments.

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Property database name	Packaged with...	Notes
Doc.SourceFileName	All document processing features	The name of the input file that contained the document.
Doc.State	All document processing features	The current state of the document.
Doc.TT. BarcodeStatus1	Automated Verification	Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.
Doc.TT. BarcodeStatus2	Automated Verification	Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.
Doc.TT. BarcodeStatus3	Automated Verification	Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.
Doc.TT. BarcodeStatus4	Automated Verification	Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.
Doc.TT. BarcodeStatus5	Automated Verification	Shows whether the barcode on a document has been read correctly by the camera or barcode scanner associated with a ReadBarcodeData step.
Doc.Verification. Recipient	Automated Verification	Specifies information, such as account name, that helps you to identify a document.

docCustomDefinitions.properties file

The document properties names file (docCustomDefinitions.properties) defines user interface information for custom document properties. The entries in the docCustomDefinitions.properties file correspond to the docProperty elements in the docCustomDefinitions.xml file.

> ⬇ **Note**

- If you change the `docCustomDefinitions.properties` file or any `docCustomDefinitions_language.properties` files after installing the feature:

    – Run the **docCustom** utility and install or upgrade the **Custom Document Properties** feature.

    – For PDF document processing features, load the document properties to RICOH ProcessDirector Plug-in for Adobe Acrobat. For more information, see *RICOH ProcessDirector: Installing Document Processing Features*.

    – For AFP document processing features, access RICOH Visual Workbench from the RICOH ProcessDirector user interface. New document properties are loaded to RICOH Visual Workbench when it opens on your workstation.

The entries in the `docCustomDefinitions.properties` file are used in the RICOH ProcessDirector user interface when you select custom document properties from lists, or when you view field help for a custom document property. A sample file is in the /samples directory on the feature CD, and the installation process places a sample file in `/aiw/aiw1/samples/config` on AIX or Linux, and in `C:\aiw\aiw1\samples\config` on Windows.

Create a separate `docCustomDefinitions_language.properties` file for each additional language that you want to support, using a language identifier in each file name. For example:

- docCustomDefinitions_de.properties (German)
- docCustomDefinitions_en.properties (English)
- docCustomDefinitions_es.properties (Spanish)
- docCustomDefinitions_fr.properties (French)
- docCustomDefinitions_it.properties (Italian)
- docCustomDefinitions_ja.properties (Japanese)
- docCustomDefinitions_pt.properties (Brazilian Portuguese)

You create a stanza of caption and description values for every document property.

`[property]`

   The full property name.

`[property].Description`

   A description of the property. Use HTML tags if you want to format the text. This content appears in the field help when the user clicks the **?** button.

For example:

```
Doc.Custom.Zip=ZIP code
Doc.Custom.Zip.Description=The ZIP code of an address
```

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⬇Note

- Do not rename the default `docCustomDefinitions.properties` file; a file with this name must exist in your configuration directory (`/aiw/aiw1/config`). Copy the file and name the copy with the appropriate language identifier as needed.

- The `docCustomDefinitions.properties` file and any `docCustomDefinitions_language.properties` files must use the ISO-8859-1 character encoding (code page). If you create your `docCustomDefinitions.properties` files in a different format (such as Shift JIS or UTF-8), you must convert the file to ISO-8859-1 when placing it in the `/aiw/aiw1/config` directory.

Document properties template file

The document properties template file, if it exists, determines which properties go into the document properties file for each job. The template file lets you control the number of document properties to be used, as well as the order of the columns in the document properties file. If you need to maximize performance on your system by assigning only a subset of document properties, make sure that any properties needed by your workflow steps are listed in the document properties template file.

A sample document properties template file is located on the product CD in the `/samples` directory. After installation, you can find it in the directory `/path/extensions/doc/samples/`. For example, on AIX or Linux, the *path* is `/opt/infoprint/ippd`. On Windows, the *path* is `C:\Program Files\Ricoh\ProcessDirector`.

The document properties template file lists the database names of document properties. You can include all entries on a single line with a space or a tab character between each property, or you can place each entry on a separate line. When a step based on the **ReadDocumentsFromDatabase** step template creates the document properties file, it copies the first line from the template file. Then the step creates a separate line for each document associated with the job. Each document description line lists the property values, separated by a tab or space character, in the same order that they appear in the first line. If a value is Not set, an empty string ("") is placed in the file.

Using a document properties template file is optional, but recommended if you need to maximize performance. If you do not use it, all document properties are included in the generated document properties file.

The document properties template file must include all the properties needed by steps that process the document properties file. In addition, the document properties template file must include certain properties, depending on the step that is using the template file. These properties are required by **BuildPDFFromDocuments**, **CreateAFPJobsFromDocuments**, and **BuildAFPFromDocuments**:

- Doc.ChildJobID (*)
- Doc.OriginalJobID (*)
- Doc.OriginalSequence (*)
- Doc.SequenceInChild (*)
- Doc.OriginalSheets
- Doc.DataOffset (for AFP jobs)
- Doc.DataLen (for AFP jobs)

Document properties marked with an asterisk (*), as well as the Doc.ID property, are automatically included in the document properties file whether or not they are defined in the template.

Document properties file

RICOH ProcessDirector uses information from the document properties file in these processes:

- Steps that sort, group, and split documents. For example, if you want to use a step to sort documents by ZIP code, a property such as Doc.Custom.ZipCode must be in the document properties file.

- External programs that process document properties.

- Steps that process document properties files for use with postal software. The Postal Enablement feature provides these steps: **BuildExternalDocPropsFle**, **MapExternalResultsFileToDocProps**, and **UpdateDocPropsFromExtResultsFile**. For these steps to run successfully, the Doc.ID or Doc.SequenceInChild property must be included in the document properties file.

- Steps that process document properties files for use with values from external files. All document processing features provide the **SetDocPropsFromList** and **EmailDocuments** steps. The Preference Management feature provides the **ApplyPreferences** step.

- Steps that process AFP documents, such as steps based on the **CreateAFPJobsFromDocuments** and **BuildAFPFromDocuments** step templates. For either the **CreateAFPJobsFromDocuments** or **BuildAFPFromDocuments** steps to run successfully, these properties must be included in the document properties file:

  - Doc.OriginalJobID
  - Doc.ChildJobId
  - Doc.SequenceInChild
  - Doc.OriginalSequence
  - Doc.OriginalSheets
  - Doc.DataOffset
  - Doc.DataLen

- Steps that process PDF documents, such as steps based on the **BuildPDFFromDocuments** step template. For the **BuildPDFFromDocuments** steps to run successfully, these properties must be included in the document properties file:

  - Doc.OriginalJobID
  - Doc.ChildJobId
  - Doc.SequenceInChild
  - Doc.OriginalSequence
  - Doc.OriginalSheets

The first line in the document properties file contains the information from the document properties template file. Each additional line contains values for each of the properties from one document.

These steps automatically create the document properties file:

- A step based on the **IdentifyDocuments** step template creates the document properties file using the Visual Workbench control file as a guide.

- A step based on the **IdentifyPDFDocuments** step template creates the document properties file using the RICOH ProcessDirector Plug-in for Adobe Acrobat control file as a guide.

- A step based on the **ReadDocumentsFromDatabase** step template creates the document properties file using a document properties template file as a guide.

- A step based on the **CreateJobsFromDocuments** or **CreatePDFJobsFromDocuments** step template creates the document properties file for child jobs using the document properties file of the parent (current) job as a guide.

These steps can manipulate the document properties file:

- **GroupDocuments**

- **SortDocuments**

- **SplitDocuments**

- **SetDocPropsFromList**

- **ApplyPreferences** (Preference Management only)

- **UpdateDocPropsFromExtResultsFile** (Postal Enablement only)

The document properties file might also be used by an external program or a custom step that you create.

A document properties file always contains the properties Doc.ChildJobId and Doc.SequenceInChild. If a step (such as **GroupDocuments**) that creates document groups runs, the document properties file will contain more than one value for Doc.ChildJobId.

RICOH ProcessDirector provides methods, including getFileName and getAbsoluteFileName, that let you provide access for external programs to read and write spool files in the spool directory for the job. For more information, see "Using RICOH ProcessDirector methods such as getFileName".

The document properties file is stored in the spool directory for the job. When the **IdentifyDocuments** or IdentifyPDFDocuments step creates the file, the file name is in the format: *jobid*.original.dpf (for example, 10000009.original.dpf). When the WriteDocumentsToDatabase step runs, it copies the file and adds additional properties, including Doc.ID. The new file is saved with a file name in this format: *jobid*.document.dpf (for example, 10000009.document.dpf). The values are in UTF-8 format and separated by tabs.

Some information in the document properties file is not stored in the database but is used only during the processing of steps. This information, for example, is in the document properties file but not in the database:

Doc.DataOffset

The offset of the print data for the document in the original job's AFP print file.

Doc.DataLen

The length of the print data for the document in the original job's AFP print file.

Property conditions file

Steps based on the **SetDocPropsFromConditions** step template set document properties or job properties in the current job using a property conditions file. The conditions defined in the file use a comma-separated value (CSV) format. A sample property conditions file is in /aiw/aiw1/samples/ doc/DocPropConditions.csv. If you have the Postal Enablement feature, more sample files are in /aiw/aiw1/samples/control_files/postal.

⭐ **Important**

- When you edit the property conditions file, open it in a text editor. Do not edit the file in Microsoft Excel.

You can use the property conditions file to set values for properties with conditions or without conditions. You can also use a separate **include** file to define properties using a property = value format.

Setting values using conditions

The first line in the property conditions file is a header row that lists the database names of document or job properties, separated by commas. Normally the leftmost part of the header row specifies the properties to test for one or more conditions, although this order is not required.

The header row is followed by one or more condition rows that define the conditions, and the property values to be set when all the conditions in that row are true. You can think of each condition row as representing an if-then statement. All specified conditions in a row are logically ANDed together and must all be true. If any of the conditions in a row are not true, none of the values in that row are set. The values in the condition rows are separated by commas.

This example shows the contents of a property conditions file that sets property values based on conditions:

```
Doc.Custom.MailCategory,Job.Name,Doc.Run.PAVE
=USPS,,Yes
=USPS,~XYZ*,No
=NonUSPS,,No
=Exception,,No
```

The first if-then condition specifies that if a mailpiece category is USPS, RICOH ProcessDirector sets the **Doc.Run.PAVE** property to **Yes**. The second row sets the value of **Doc.Run.PAVE** to **No** when the job name begins with XYZ.

We recommend that you place all properties that are part of conditions to the left of the properties that are receiving values.

Properties that are part of conditions use condition characters from this set:

Condition characters in the conditions file

Condition characters	Condition	Example/Notes
=[value]	equal to	=Fir
<>[value]	not equal to	<>Fir
<[value]	less than	<4900000
>[value]	greater than	>61000
<=[value]	less than or equal to	<=61207
>=[value]	greater than or equal to	>=61207
~[value]	like	~INSURE*.PDF
!~[value]	not like	!~*.PDF

Condition characters	Condition	Example/Notes
"([val1],[val2],...)"	in (must start and end with parentheses surrounded by quotation marks)	"(PRTA, PRTB)"
"!([val1],[val2],...)"	not in (must start and end with parentheses surrounded by quotation marks)	"!(PRTA, PRTB)"
(blank)	wildcard (*)	When a condition is blank, it is considered always true.

↓Note

- You can use the pound sign (#) to add comments. Only complete lines can be comments; the # character must be in the first position in the line.

- Spaces can separate keyword characters from condition values.

- When setting positional properties, you can choose one of these two formats: *property-name* [*process-name*][*phase-name*][*step-name*] or [*phase-name*][*step-name*]. You cannot use positional properties to set other properties.

- The ? and * characters are wildcard characters used with the like and not like conditions. The question mark matches single characters and the asterisk matches any number of characters.

- You can use RICOH ProcessDirector symbol notation in the conditions file to set conditions or assign values based on the current value of a particular document or job property. See the topic titled *RICOH ProcessDirector symbol notation* in the Information Center for a description of symbol notation syntax. You can also use symbol notation with literal string values; see below for more information.

- If a condition field has an equal sign (=) without a value, the condition is true if the job's property value is null. If a field has an empty value, the property is ignored for that row; it is not part of any condition and its value is not changed. Because of this rule, the step cannot set a job property to null. To set a property to null manually, use the expression ${null}.

- Each row is evaluated independently.

- All rows with conditions that match a job's or document's properties are applied. The rows are applied in the order that they occur in the conditions file. Within each row, property values are applied from left to right.

- Leading and trailing blanks are removed from field values before any comparison or set operation takes place. Blanks within a value (not leading or trailing) are retained.

Using a segment of a property value with symbol notation and the substring specifier

If you want to use only a portion of a property in a condition - such as using only the first 5 characters of a property's value - you can use the substring specifier to indicate the portion of the property that you want to use.

The syntax is:

${*property_name*;substr;*start*;*length*}

where:

property_name is the name of the property, such as **Job.Name**.

start is the position in the string that you want to start from.

length is the number of characters to use in the condition; if you enter a length that is more than the number of characters in the property, the rest of the property is used.

♦Note

- The string is zero-base indexed; for example, the first character is in position 0 and the fifth character is in position 4.

This table shows some examples:

Examples of substring values

Property conditions file contains...	Property value	Result
`${Job.Name;substr;0;4}`	Job.Name = USPS-FullService	USPS
`${Job.Name;substr;5;8}`	Job.Name = USPS-OversizeFlat	Oversize

Creating concatenated values with symbol notation

In addition to using symbol notation to set conditions or assign values based on the current value of a particular property, you can combine symbols to create a concatenated single value, or use them with literal strings.

This table shows some examples:

Examples of concatenating property values

Property conditions file contains...	Actual property values	Result

`Job.Custom.A,Job.Custom.Z`
 	
`${Job.Custom.D}${Job.Custom.E},4`
	`Job.Custom.D=5` and `Job.Custom.E=9`	`Job.Custom.A=59`
		
		`Job.Custom.Z=4`

`Doc.Custom.MailCategory,Job.Name,Doc.Run.PAVE`
 	
`=USPS,${Job.Custom.D}Flat,No`
	`Doc.Custom.MailCategory=USPS` and `Job.Custom.D=Oversize`	`Job.Name=Oversize Flat`
		
		`Doc.Run.PAVE=No`

Setting values without defining conditions

The format of the conditions file is the same, with a header row that contains property database names and a second row that lists property values. However, the conditions file contains only two rows. If you include more than one row of property values, only the values specified in the last row are saved.

This example shows the contents of a property conditions file that sets property values without using conditions:

```
Doc.Custom.MailCategory,Job.Name,Doc.Run.PAVE
USPS,PostalDiscount,Yes
```

Setting values with a separate include file

If you have a collection of properties that remain the same for several workflows, you can define those properties in a separate include file that you refer to in the property conditions file.

To refer to a separate include file, put `@include` in the header row of the property conditions file, and specify the relative or absolute path to the include file in the second row of the property conditions file.

⭐ **Important**

- Use the Linux delimiting character (/) to specify the absolute directory path to the include file on a Windows system. For example, if the include file on a Windows system is at `C:\Projects\data.txt`, specify `/Projects/data.txt`.

This example shows the contents of a property conditions file that contains @include and a path to a separate include file:

```
Doc.Custom.MailCategory,Job.Name,@include
USPS,Priority,../prop-assignments/usps-properties.txt
```

In this example, the Mail Category property is assigned the value of USPS, the Job Name property is assigned the value Priority, and the relative path to the include file `usps-properties.txt` is specified.

The include file defines property values using the format *Property name = Value*. This example shows the format of the include file:

```
Doc.Insert.RecipientName=George Rogers
Job.CustomerName=CerbCo
```

The conditions file is processed from left to right and from top to bottom. This table contains examples to show how the property conditions file and the include file can override properties that were previously set. (These examples are for illustration only and are not intended as actual uses of the conditions file.)

Examples of processing order for the conditions file and include file

Property conditions file contains...	Include file contains...	Result

`Job.Name,@include`
 	
 `=,../prop-assignments/ usps-properties.txt`
	`Job.Name=FlatFold`	If the Job Name is not already defined, the include file defines it as FlatFold.

`Doc.Custom.Zip, Doc. Custom.Location, Doc. Custom.Location, @include`
 	
 `<50000, EAST, NEW HAMPSHIRE, /Projects/ data.txt`
	`Job.CityPopulation = 42400`	If Zip is <50000, the conditions file sets Location = EAST, then the conditions file sets Location = NEW HAMPSHIRE, then the include file /Projects/data.txt sets CityPopulation = 42400.
		
		 `Doc.Custom.Location = NEW HAMPSHIRE`
		
		 `Job.CityPopulation = 42400`

Property conditions file contains...	Include file contains...	Result

`Doc.Custom.Zip, Doc. Custom.Location, @include, Doc.Custom. Location`
 	
`<50000, EAST, /Projects/ data.txt, NEW HAMPSHIRE`
	`Doc.Custom.Location = CONCORD`
	
	`Job.CityPopulation = 42400`
		If Zip is <50000, the conditions file sets Location = EAST, then the include file /Projects/data.txt sets Location = CONCORD and CityPopulation = 42400, then the conditions file sets Location = NEW HAMPSHIRE.
		
		`Doc.Custom.Location = NEW HAMPSHIRE`
		
		`Job.CityPopulation = 42400`

`Doc.Custom.Zip, Doc. Custom.Location, @include, @include`
 	
`<50000, EAST, /Projects/ data.txt, /Projects/ data2.txt`
	`/Projects/data.txt`
	
	`Doc.Custom.Location = CONCORD`
	
	`Job.CityPopulation = 42400`
	
	`/Projects/data2.txt`
	`Doc.Custom.Location = US ROUTE 202`
	
	`Job.CityPopulation = 52400`
		If Zip is <50000, the conditions file sets Location = EAST, then the include file /Projects/data.txt sets Location = CONCORD and Population = 42400, then the include file /Projects/data2.txt sets Location = US ROUTE 202 and CityPopulation = 52400.
		
		`Doc.Custom.Location = US ROUTE 202`
		
		`Job.CityPopulation = 52400`

⤓Note

- You can use RICOH ProcessDirector symbol notation as part of the include file name. For example, if you use the include file name `${Job.RequestedPrinter}.equipmentprops.txt`, the system can choose the correct set of properties to define for each requested printer (for each value of Job. RequestedPrinter). See the related Reference topic for a description of symbol notation syntax.

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5. Accessibility

Ricoh strives to provide products with usable access for everyone, regardless of age or ability.

For more information about the commitment that we have made to accessibility, refer to the Accessibility page on the Ricoh web site.

Accessibility features

Accessibility features help users who have disabilities, such as restricted mobility or limited vision, use information technology products successfully.

The major accessibility features in this product let you:

* Use screen readers, screen magnifiers, and other assistive technologies.

* Use a keyboard instead of a mouse.

* Change attributes such as volume, color, contrast, and font size.

* Distinguish keys by touch without activating them.

* Attach alternative input and output devices such as special pointing devices and Braille displays.

In addition, the information center and the publications for the product are in an accessible format.

RICOH ProcessDirector Plug-in for Adobe Acrobat Markup Navigator shortcut keys

When a markup object that you defined has focus in the Markup Navigator, you can use these shortcut keys:

Markup Navigator shortcut keys

Description	Key
Opens the **Edit** dialog	Enter
Deletes a markup object	Delete

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

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