exigen

Administrator's Guide, Part 2:

Business Component Reference

process backbone

Exigen Workflow 5.6

Process Control Services

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Table of Contents

Preface

The following topics are described in this section:

Purpose

The *Exigen Workflow Administrator's Guide, Part 2: Business Component Reference* describes how to configure, manage, and run Exigen Workflow servers.

For information on the main concepts of Exigen Workflow and instructions for setting up the system, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration.*

Audience

This guide is intended for Exigen Workflow system administrators only. These administrators assign access rights to users, set up and maintain security, design workflow, and configure Exigen Workflow servers. The system administrator is often referred to as the administrator.

This guide assumes basic computer knowledge for performing Windows® operations. It also assumes a familiarity with ODBC and basic experience working with the SQL language and databases.

Related Information

The following table lists guides that provide related information about Exigen Workflow:

Related information	
Title	**Description**
Exigen Workflow User's Guide	Describes how to operate Exigen Workflow.
Exigen Workflow Installation Guide	Describes how to install Exigen Workflow.
Exigen Workflow Administrator's Guides I-III	Defines the main concepts underlying Exigen Workflow and describes how create projects and set up, manage, and monitor the system.
Exigen Workflow Task Oriented Workflow Administrator's Guide	Describes how to deploy Task Oriented Workflow.

Typographic Conventions

The following styles and conventions are used in Exigen documentation:

Typographic styles and conventions	
Convention	**Description**
Bold	• Represents user interface items such as check boxes, command buttons, dialog boxes, drop-down list values, field names, menu commands, menus, option buttons, perspectives, tabs, tooltip labels, tree elements, views, and windows. • Represents keys, such as **F9** or **CTRL+A.** • Represents a term the first time it is defined.
`Courier`	Represents file and directory names, code, system messages, and command-line commands.
`Courier Bold`	Represents emphasized text in code.
Select **File > Save As**	Represents a command to perform, such as opening the **File** menu and selecting **Save As.**
Italic	• Represents any information to be entered in a field. • Represents documentation titles.
< >	Represents placeholder values to be substituted with user specific values.
Hyperlink	Represents a hyperlink. Clicking on this field takes you to the identified place in this guide.

Chapter 1: Print Server and Monitor

This chapter explains how to configure and run Print Server as well as how to monitor all print jobs in the database. The following topics are described in this section:

Overview

Exigen Workflow **Print Server** schedules, spools, and routes imaged documents to high-speed network printers. It is recommended that you use the Printer Server tool with networked printers because imaged documents take longer to spool and print than other documents.

Print Monitor and **Print Monitor Log** manage the jobs sent to the printers. Jobs can be rerouted, suspended, or deleted as needed.

Exigen Workflow enables you to change your default printer. Because a print server usually runs on a network workstation and not a user workstation, you can use Exigen Workflow Print Server setup to change a default print server.

Exigen Workflow Print Server

The Exigen Workflow Print Server application is used with a high-speed network printer. Each printer is run with a print server application. The application is run on a workstation to which the printer is connected. The association between the printer and the workstation is created during the device setup.

Print Server is located in Exigen Workflow Explorer, in the **Administration Tools** folder, in the **Servers** subfolder.

To open the **Workflow Print Server** window, double click the **Print Server** icon.

The **Workflow Print Server** window displays the number of jobs currently in the print queue.

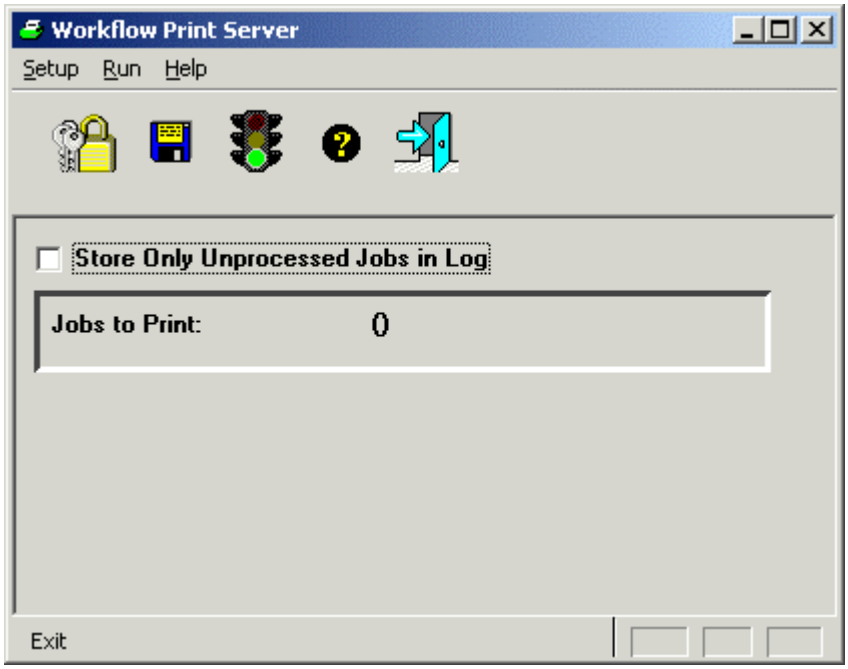


Figure 1: Workflow Print Server window

The following topics are described in this section:

- Configuring Print Server
- Running Print Server

Configuring Print Server

Before a printer and print server can be used, they must be associated. This is done using the Print Server Setup function.

To set up a printer, click **Print Server Setup.**

The **Print Server Setup** window appears.

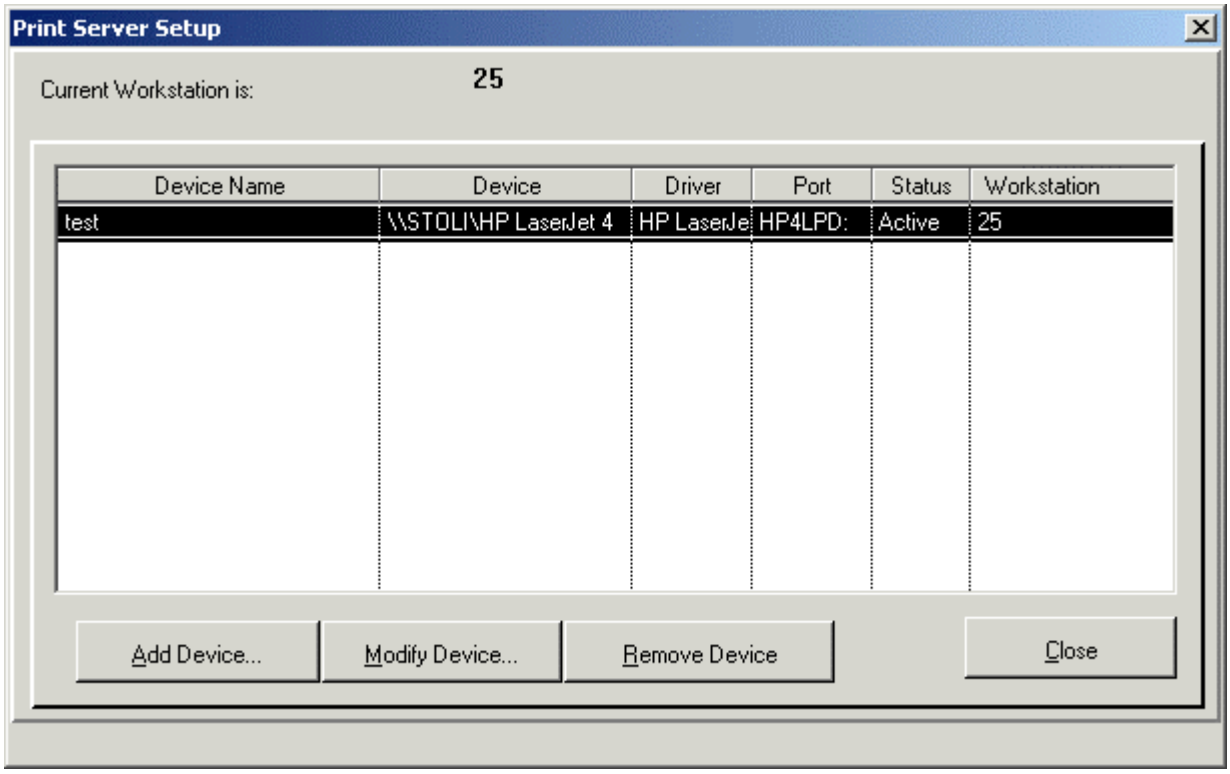


Figure 2: Print Server Setup window

The **Current Workstation** is displayed at the top of the window. The table lists all configured printers with details in the following columns:

Print Server setup	
Column	**Description**
Device Name	Name visible to the users.
Device	Printer device name.
Driver	Print driver name used.
Status	Device status, either active or disabled. If disabled, users cannot send jobs to this device.
Workstation	Device workstation ID.
Consolidation Device	Print job consolidation device.
Consolidation Port	Print job consolidation port.

The following topics are described in this section:

- Configuring Advanced Printing Options for Exigen Workflow Web
- Adding a Device
- Modifying a Device
- Deleting a Device
- Assigning a Device to Print Server

- Selecting a Default Printer
- Setting Extended Printing
- Configuring Default Printing Options

Configuring Advanced Printing Options for Exigen Workflow Web

Advanced printing options that are available in Exigen Workflow can also be configured for Exigen Workflow Web. The following advanced printing options are available:

- selecting multiple documents for printing
- printing documents, folders, and subfolders on local printers
- adding cover pages to folders and subfolders
- monitoring the status of print jobs

When advanced options are enabled for Exigen Workflow Web, documents are printed virtually to a print queue. After virtual printing, documents, folders, and subfolders can be physically printed on a local printer.

To provide advanced printing options to Exigen Workflow Web users, the following configuration requirements must be fulfilled:

- At least one Virtual Print Queue node must be included in a workflow, and all user groups that require advanced printing options must have access to a Virtual Print Queue. If security requires that users using the Retrieve node be prevented from viewing documents sent to the Virtual Print Queue by other users, one or more Virtual Print Queues must be set up in a separate workflow. Only authorized users must be provided access to see the documents in the Virtual Print Queues. For information on setting up workflow objects, see the *Exigen Workflow Administrator's Guide Part 1: Design and Configuration,* Chapter 5: Designing a Workflow, Setting Up Workflow Objects.
- The NED Image Printer Driver must be installed to print Word and PDF files. It is located in the following directory:

  `VISIFLOW\INSTALL\NedImagePrinter`

  A NED driver is not required for printing DMS files.

A virtual printing device must be set up in Print Server as described in Adding a Virtual Device.

Adding a Device

This section describes adding a device to Print Server.

The following topics are described:

- Adding a Standard Device
- Adding a Virtual Device

Adding a Standard Device

To add a new device to Print Server, proceed as follows:

1. Click **Add Device.**

   The **Add Device** window appears.

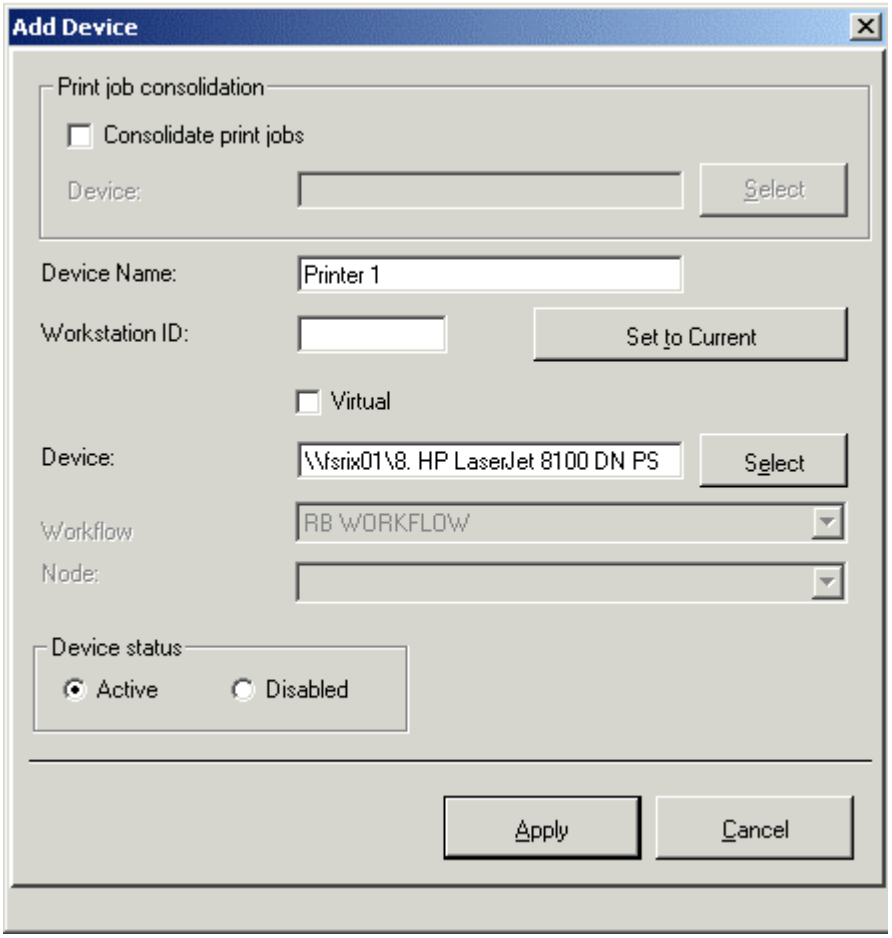


Figure 3: Adding a new device

2. To collect all print jobs from the user into a single print job, select the **Consolidate print jobs** check box and the corresponding device.

   This resolves the problem of separating documents among users after all print jobs are completed. If the **Consolidate print jobs** check box is not selected, Print Server enables printing documents in order of print job arrival.

   Print job consolidation works as follows:

   - A user prints on the consolidation device.
   - As all of the user's print jobs arrive, they are consolidated into a single print job and sent to the real printer.
   - A virtual printer device is used.

3. To install the virtual device, create a virtual printer port using the We Do Drivers, Inc. WDDPORT solution.
4. To add a new printer, select **Control Panel > Printers > Add Printer.**
5. To locate the device, click **Select.**
6. If the device is not listed, close the Exigen Workflow Print Server, add the printer via the Control Panel, and proceed to Exigen Workflow Print Server Setup as described in Configuring Print Server.
7. In the **Device Name** field, enter the name used to identify the printer.

   Spaces are not permitted. Underscores _ should be used instead of spaces.
8. In the **Workstation ID** field, enter a known workstation ID number, or to automatically assign the ID of your workstation, click **Set to Current.**

   Workstation ID identifies the workstation where the print device is located.
9. To specify the device status, select the **Active** or **Disabled** radio button.
10. To add the device to the list, click **Apply.**

    The **Print Server Setup** window displays the new printer in the list.

Adding a Virtual Device

To add a virtual device, proceed as follows:

1. Click **Add Device.**

   The **Add Device** window appears.
2. Select the **Virtual** checkbox.
3. To select the workflow of the virtual device, select a value in the **Workflow** list.
4. To select the workflow node of the virtual device, select a value in the **Node** list.
5. In the **Device Name** field, enter the name used to identify the printer.

   Spaces are not permitted. Underscores _ should be used instead of spaces.
6. In the **Workstation ID** field, enter a known workstation ID number, or to automatically assign the ID of your workstation, click **Set to Current.**

   Workstation ID identifies the workstation where the print device is located.
7. To ensure that the virtual printer is available to users, in the **Device status** section, select **Active.**
8. To ensure that the virtual printer is not available to users, in the **Device status** section, select **Disabled.**
9. To add the device to the list, click **Apply.**

   The new printer appears in the **Print Server Setup** window.

Modifying a Device

To modify the Workstation ID or device for an existing record, select the device and click **Modify Device.** Note that the **Device Name** cannot be modified.

Deleting a Device

To delete a device, select the device and click **Remove Device.**

Assigning a Device to Print Server

To assign the device to Print Server, confirm that the record is selected in the **Print Server Setup** window before clicking **Close.**

Note that multiple devices can be added to Print Server, but only unique device names must used for all devices on all print servers.

Selecting a Default Printer

To select a default printer, proceed as follows:

1. Select **Setup > Printer Setup.**

   The **Select Printer** dialog displays all printers set up on your computer, including network printers.

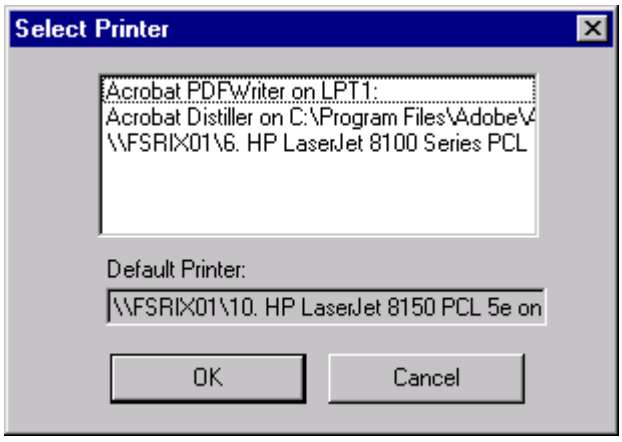


Figure 4: Selecting a default printer

2. Select a printer.
3. To set it as the default printer, click **OK.**

Setting Extended Printing

In Exigen Workflow Print Server, on and off switches can be configured to print Word and Excel files through OLE, and PDF files through Acrobat Reader.

To configure printing files with this switch, proceed as follows:

1. Open the `visiclt.ini` file.
2. In the `[Extended Printing]` section, enter **yes** or **no** next to the relevant file type.

```
-------------------------------------------------
[Extended Printing]
msword=
msexcel=
pdf=
-------------------------------------------------
```

Note: If the `visiclt.ini` file does not contain such a section, or such entries in the section, an application cannot use the feature.

Configuring Default Printing Options

To configure the default printing options for the system, proceed as follows:

1. Open the `visi.ini` file.
2. In the `[print]` section of the `visi.ini` file, specify the default settings for printing documents with or without annotations. Indicate whether users can change these settings. For example:

```
[print]
print_version_readonly =1 /* users cannot change the settings */
print_version=0 /* the original version without overlays is printed */
```

Running Print Server

Print Server contains an auto refresh feature that searches the print queue for jobs designated for that printer after a specified period of time. To determine the refresh rate, proceed as follows:

1. Select **Setup > Refresh Time Setup.**
2. In the **Refresh Print Server Queue Every ….Seconds** field, enter a number up to 60.
3. To save the setting, click **OK.**
4. To retain a log of all unprocessed print jobs or of all print jobs, both processed and unprocessed, select or clear the **Store Only Unprocessed Jobs in Log box.**
5. To start Print Server, click **Start Server.**

   The status window displays the number of print jobs in the queue for the device.
6. To stop the server, click **Stop Server.**
7. To save the current window configuration, click **Save Configuration.**

Exigen Workflow Print Monitor

The **Print Monitor** application manages jobs in the print queue. All print jobs sent to all registered devices are listed in the **Print Monitor.** They can then be rescheduled, rerouted, suspended, or deleted as necessary.

Print Monitor is located in Exigen Workflow Explorer, in the **Administration Tools** folder, in the **Servers** subfolder.

To open the **Print Monitor** window, double click the **Print Monitor** icon.

The **Workflow Print Monitor** window appears.

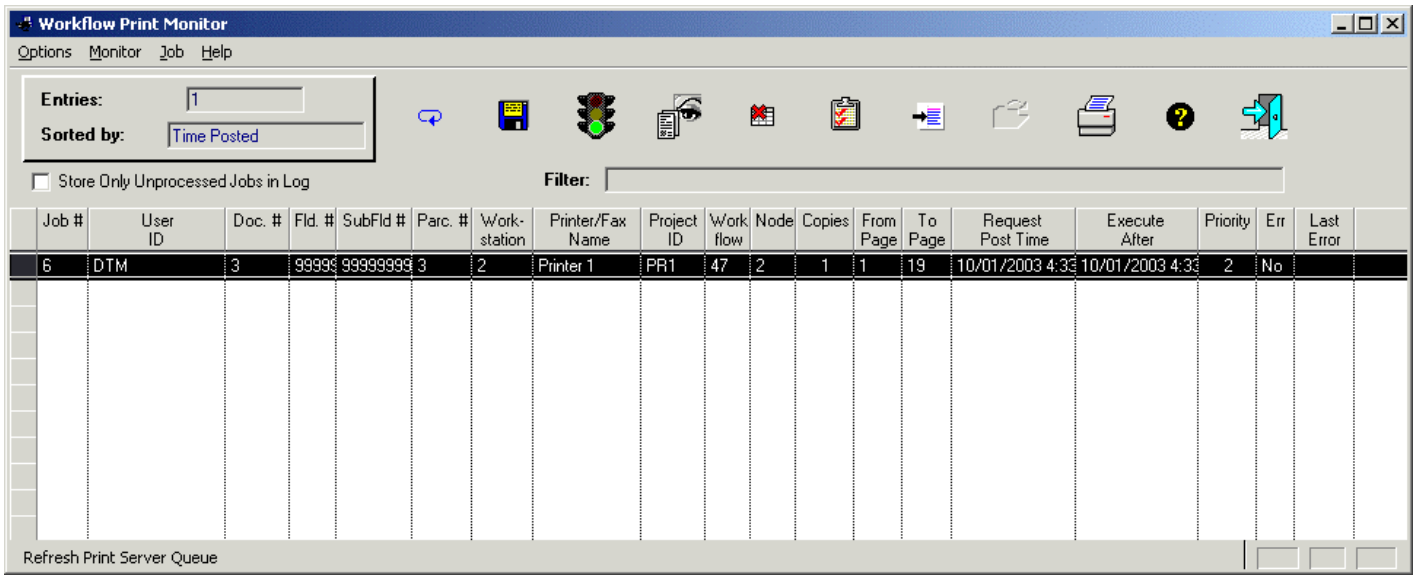


Figure 5: Print Monitor window

A status box displays the number of items in the list and the sort order.

All pending print jobs are shown in a table with the following details:

Print Monitor window print jobs	
Column	**Description**
Job #	Sequential internal number assigned to each print job.
User ID	User who initiated the print job.
Doc #	Internal document number, if a single document is being printed.
Fld. #	Internal folder number, if an entire folder is being printed.
SubFld #	Internal subfolder number, if a whole subfolder within a specific folder is being printed.
Parc. #	Internal parcel number, if a whole parcel is being printed.
Workstation	Workstation ID from where the job originated.
Printer/Fax Name	Device name the job was sent to.
Project ID	Project that the job was created in.
Workflow	Workflow ID that the job was created in.
Node	Node ID that the job was created in.

Print Monitor window print jobs	
Column	**Description**
Copies	Number of copies to be printed.
From Page	First page to be printed if the job is a single document.
To Page	Last page to be printed if the job is a single document.
Request Post Time	Time that the job was posted.
Execute After	Time assigned for the job to execute.
Priority	Print job priority.
Err	Print job status. An Err value appears if the job was suspended or if there was a problem with the printing process.
Last Error	Last error of a print job.

Jobs

The following topics are described in this section:

Printing Jobs

Jobs can be executed in **Print Monitor** without the individual print servers running as follows:

- To print a job, select it and click **Execute.**
- To select multiple jobs, hold down the **CTRL** key and select the jobs in the list.
- To print the entire list, select **Job > Select All.**

Deleting Jobs

To delete a job, select it and click **Delete.**

Setting Refresh Frequency

To set the refresh frequency of the list, proceed as follows:

1. Select **Options > Print Monitor Setup.**

2. In the dialog box, enter the refresh rate in seconds.

   The maximum value is 65.

3. To display any new print jobs, click **Refresh.**

Printing a Report About Pending Jobs

To print a report listing all pending print jobs, click **Print Report.**

To view individual statistics for each print device, select **Monitor > Statistics.**

To print statistics, click **Report.**

Setting Up Print Server

To add, modify, or remove print devices as you use the Print Server application, select **Options > Print Server Setup.**

Searching Jobs

To search for specific print jobs, proceed as follows:

1. Select **Job > Search.**

   The **Search** window appears.

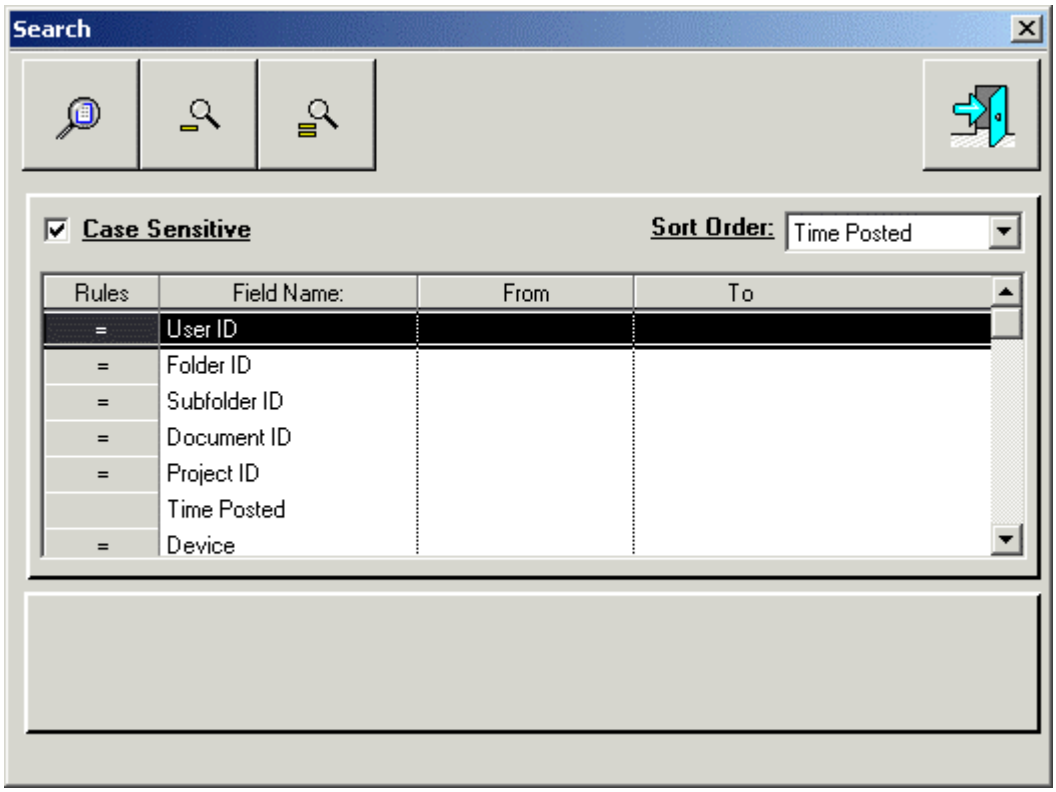


Figure 6: Search window

All column names displayed in the **Print Monitor** window are listed in the **Field Name** column.

2. To search for exact matches, in the **Rules** column, click **=.**
3. To search for approximate matches, in the **Rules** column, click **%.**
4. To specify a date for the search, in the **From** column, enter an exact date or a starting date.
5. If you are specifying a range of dates for the search, in the **To** column, enter the final date.
6. To make your search case specific, select the **Case Sensitive** box.

Note: Whether the **Case Sensitive** check box is enabled or disabled depends on database sensitivity.

7. To run the search, click **Find.**

   The **Filter** field in the **Print Monitor** window displays the search criteria to help identify the resulting list.

8. To change the sort order of print jobs, select a value in the **Sort Order** list.

Changing Job Attributes

To change job attributes, select a job and select **Job > Job Settings.** The **Job #** window appears.

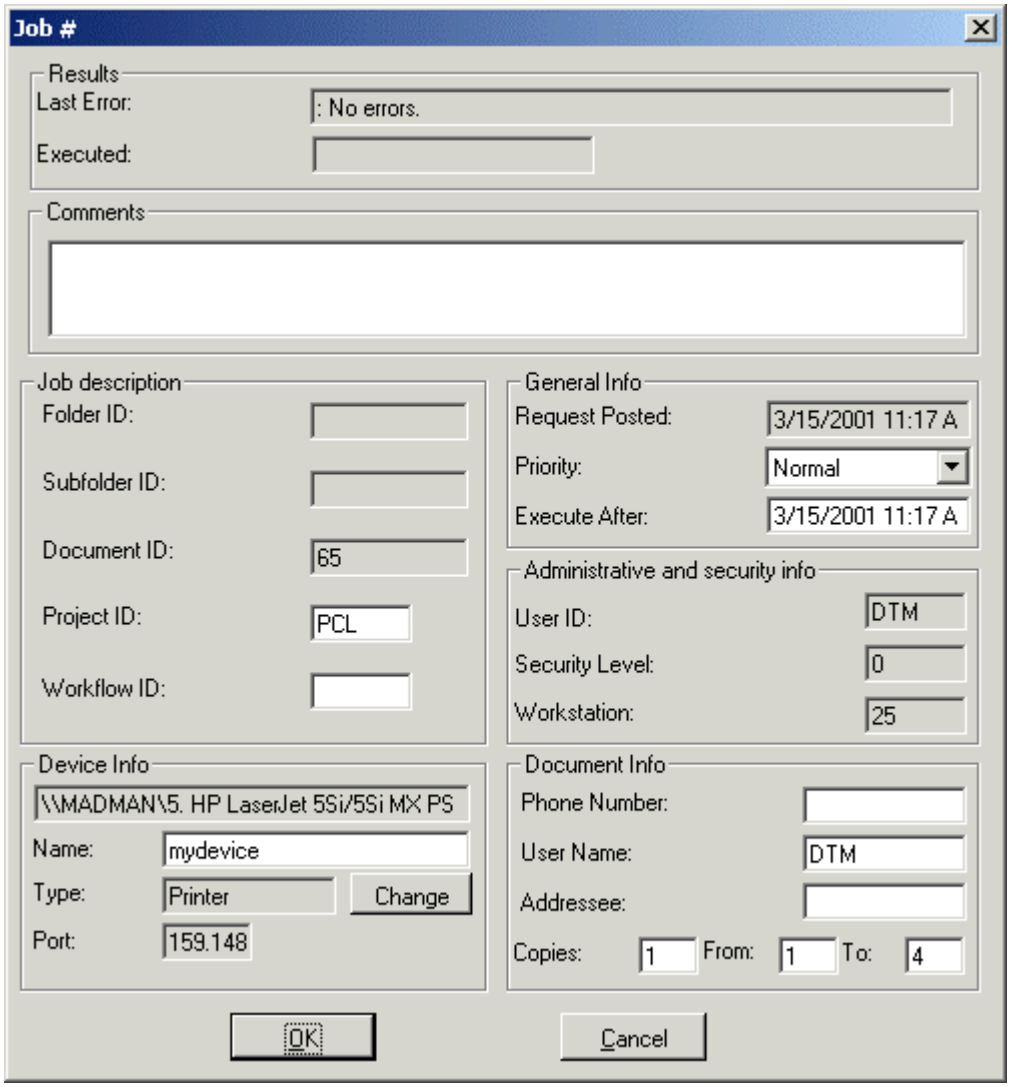


Figure 7: Job Settings window

You can change the following job attributes:

Job attributes	
Column	**Description**
Comments	Comment. Can be added or removed as necessary.
Priority	Priority. By default, jobs are assigned a priority of Normal, or 2. This can be changed to Low, or 1, meaning it prints last, or High, or 3, meaning it prints first. If all jobs are Normal, first in, first out (FIFO) parameters are used.
Execute after	Date and time when a job executes.
Name (Device Info)	Destination printer name. This can be changed by clicking **Change** and selecting another printer.
Phone Number, User Name, Addressee	Information for a device and person receiving a fax.
Copies, From, To	Number of copies and range of pages to be printed.

Viewing a Document

To view the document, click **Display Document.**

To view a thumbnail of the first page of each document in a folder, click **Folder View.** This button is enabled only when the job consists of an entire folder or subfolder.

Suspending a Job

To delay printing a job, select the job and click **Suspend.** The job is removed from the **Print Monitor** window and sent to the **Print Server Log** window.

To access the **Workflow Print Server Log** window, click **Pull Up Log.** The **Workflow Print Server Log** window appears.

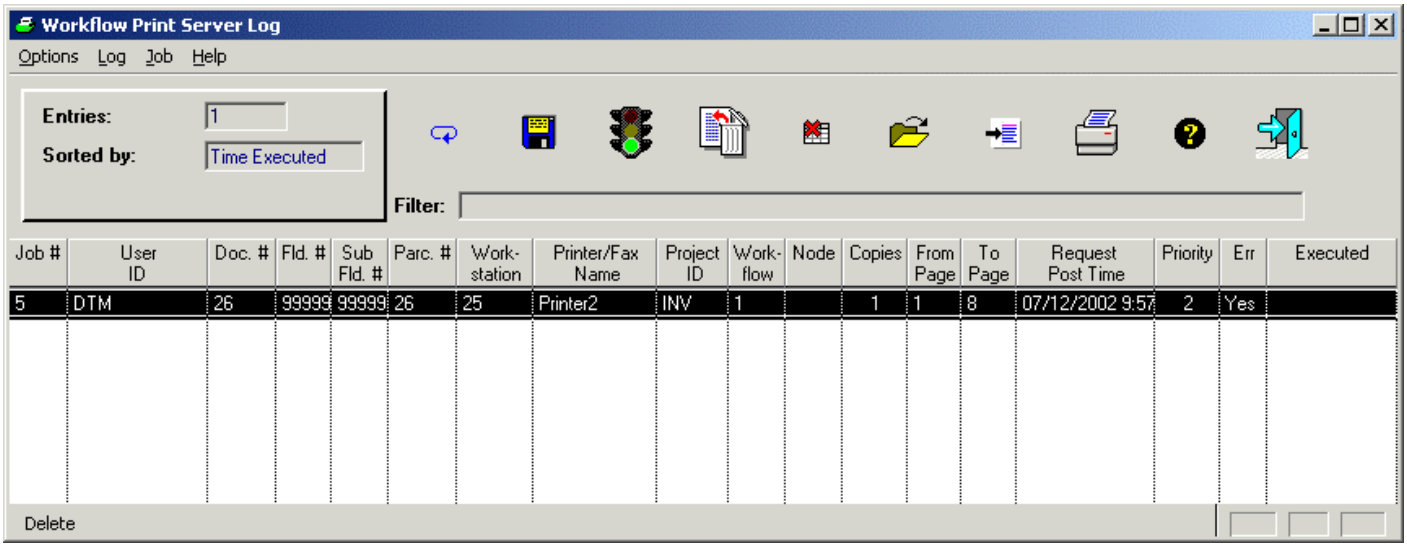


Figure 8: Print Server Log window

The **Print Server Log** window displays all jobs that were either suspended from the **Print Monitor** window or did not process successfully through the print server.

To recover a suspended job, select it in the list and click **Move To Queue**  .

Chapter 2: Barcode Server

This chapter describes Barcode Server and explains how to configure, run, and specify advanced options.

The following topics are described in this section:

Overview

Barcode Server reads bar codes in documents being scanned. The server converts the values into commands that create parcels for the documents and populate the document index fields. Bar codes are useful for scanning large batches of papers because they remove the need to split them into parcels and smaller documents. Barcode separator sheets, blank sheets with a barcode on them, can be inserted to separate the batches during the document preparation process. To add more information to each document, stickers with the barcode on them are used.

On a workflow map, Barcode Server usually follows the Scan object.

Warning: Barcode Server does not support processing of reference documents.

Barcode Server Window

To open the **Barcode Server** window, in Exigen Workflow Explorer, double click the **Barcode Server** icon.

The **Barcode Server** window appears.

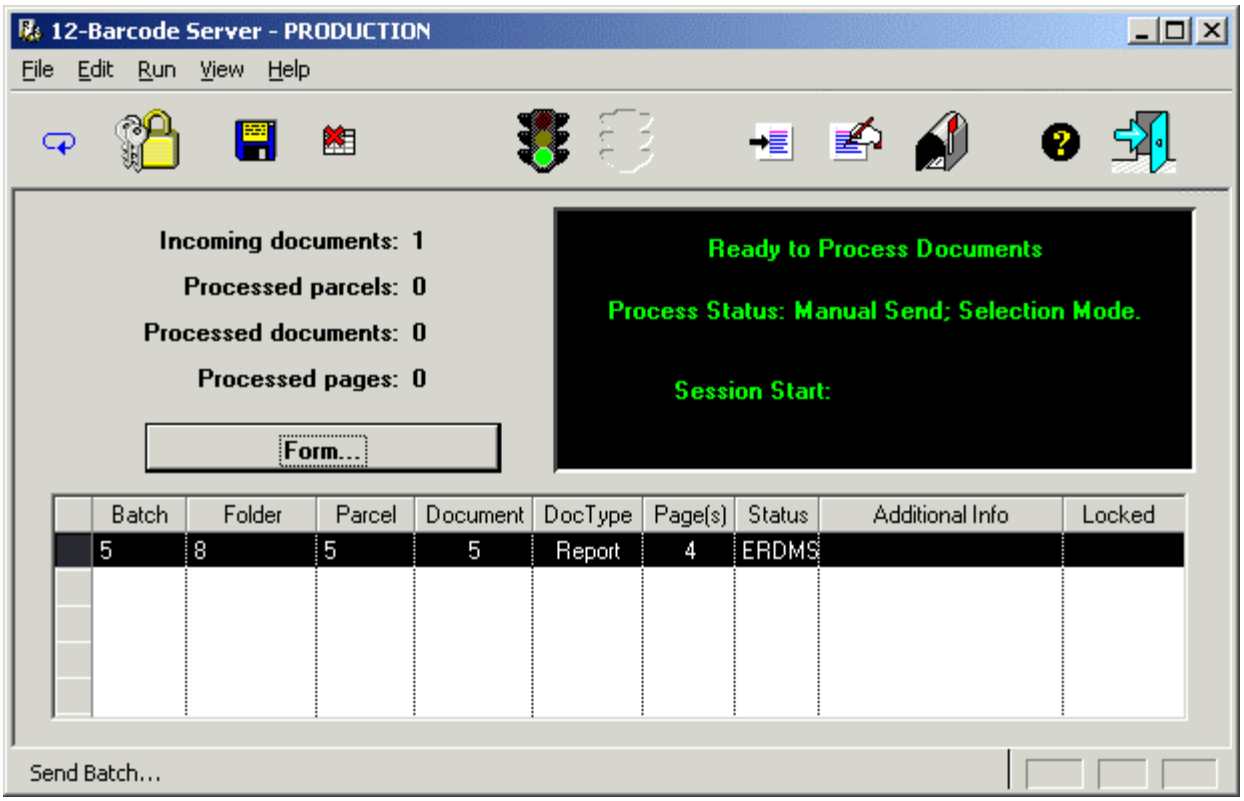


Figure 9: Barcode Server window

The window consists of the following:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- statistics about the number of incoming batches, processed parcels, documents, and pages. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displaying the current mode of the server
- toggle button to display data in either **Form** view or **Column** view

Configuring Barcode Server

Before running Barcode Server, configure it to read the incoming barcode values.

To configure Barcode Server, select **Run > Process Setup,** or double click **Process Setup.**

The **Barcode Setup** window appears.

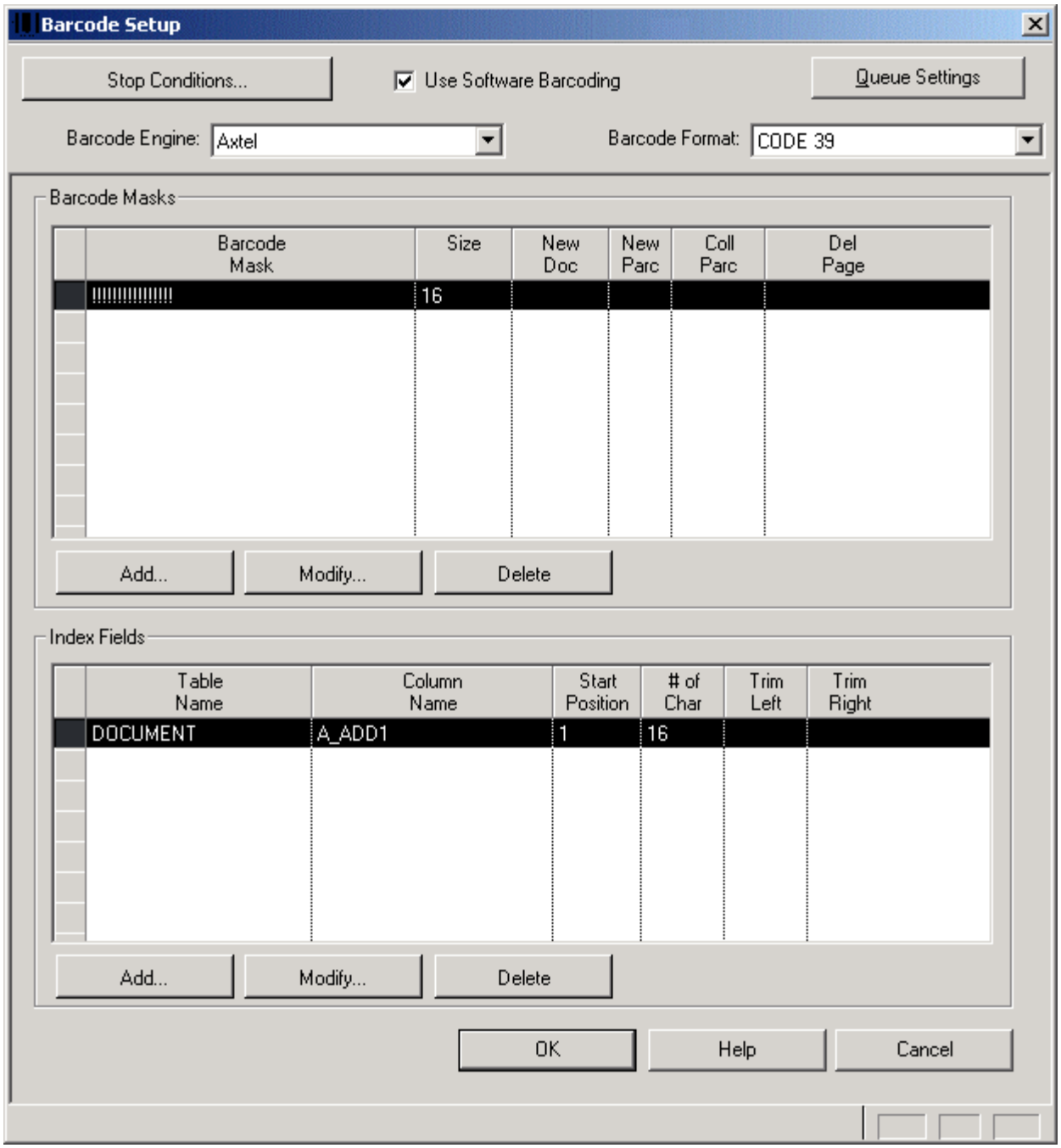


Figure 10: Barcode Setup window

The window is divided into two sections: **Barcode Masks** and **Index Fields.**

From left to right, the **Barcode Masks** section displays the following:

Barcode Masks section	
Column	**Description**
Barcode Mask	Barcode character types.

Barcode Masks section	
Column	**Description**
Size	Number of characters in the barcode value.
New Doc	If **Y,** a new document is created when this value is read.
New Parc	If **Y,** a new parcel and document are created when this value is read. If **N,** a new parcel is created only if the document cannot be attached to the current parcel.
Coll Parc	If **Y,** all documents with this barcode value are placed in the same parcel unless logical or indexing conflicts prevent the documents from being placed in the same parcel. All documents with the same barcode value can be placed in the same parcel automatically if there are no indexing conflicts and the mask does not require creating a new parcel. **Y** is recommended for Coll Parc only if a barcode mask already has **Y** set for New Parc.
Del Page	If **Y,** all pages with this barcode value are deleted.

The **Index Fields** section lists the following:

Index Fields section	
Column	**Description**
Table Name	Index field table name.
Column Name	Field name.
Start Position	Starting position in the field for the value.
# of Char	Number of characters in the index field.
Trim Left	If **Y,** trimming of leading spaces in bar code is enabled.
Trim Right	If **Y,** trimming of trailing spaces in bar code is enabled.

Note: Neither the bar code nor the barcode mask can contain the @ symbol.

Note: Two bar codes are considered identical only if the extracted symbols of both are identical.

The following configuration tasks are performed in the **Barcode Setup** window:

- Specifying the Barcode Method
- Selecting the Barcode Engine and Format
- Specifying Queue Settings
- Adding, Modifying, and Deleting Barcode Masks
- Adding, Modifying, and Deleting Index Fields
- Setting Stop Conditions

Specifying the Barcode Method

The **Use Software Barcoding** check box is used to specify the barcode method.

To specify the barcode method, proceed as follows:

1. To use the barcode software that comes with Exigen Workflow, select the **Use Software Barcoding** check box.
2. To test what bar codes can be recognized on the page, open a page with bar codes in the Image Viewer.
3. Select **Barcode > Read barcode** and draw a rectangle on the entire page.

   A message box is displayed with values of recognized bar codes from the selected area, if any.
4. To use only the barcode information supplied in the DMS file as electronic bar code, deselect the **Use Software Barcoding** check box.
5. To view electronic bar codes for the entire document, select **Barcode > Document Info** in the Image Viewer.

   If both electronic and graphical bar codes are found on the page, the graphical ones are ignored even if **Use Software Barcoding** is selected.

   The **Use Software Barcoding** check box is selected by default. As a result, the barcode software delivered as part of Exigen Workflow is used.
6. To change this setting, clear the **Use Software Barcoding** check box.

   A confirmation dialog appears.

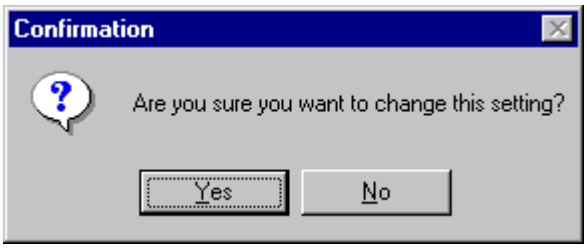


Figure 11: Confirmation dialog for changing a setting

7. To use the barcode software supported by the scanner, click **Yes.**

Selecting the Barcode Engine and Format

In the drop-down lists at the top of the **Barcode Setup** window, select the engine and format. Exigen Workflow supports two third-party barcode engines:

- Axtel
- Pegasus SmartScan Xpress Barcode

For each workstation where this option is applied, the license for Axtel, Pegasus, or both is required.

Specifying Queue Settings

To change property settings for the server queue, click **Queue Settings.** The **Define Queue Settings** dialog appears.

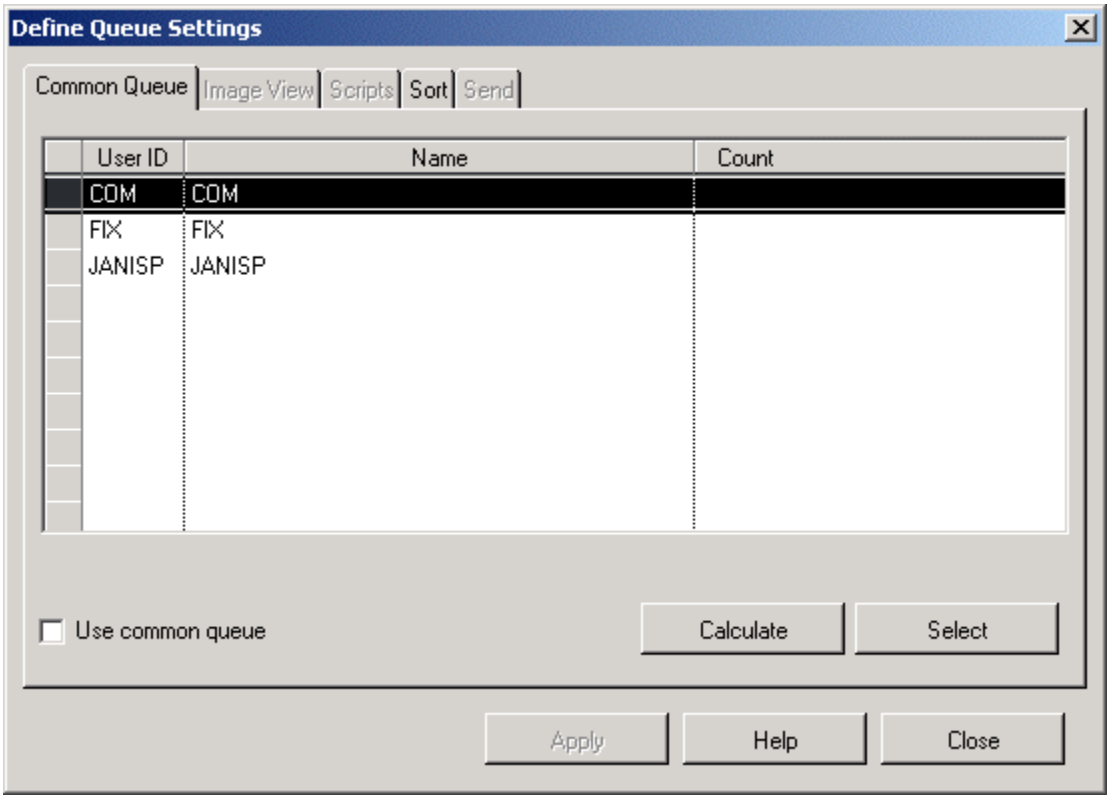


Figure 12: Define Queue Settings dialog

The **Define Queue Settings** dialog has the following tabs enabled:

- Common Queue Tab
- Sort Tab

Common Queue Tab

The Common Queue allows more than one user to pull jobs from the same location. The **Common Queue** tab displays the names of the common queues and their user IDs.

By default the **Use common queue** check box is not selected. All user jobs in the server queue are displayed.

To see only your jobs and the jobs that you pull from the common queue, select the **Use common queue** check box. This selection is used to run multiple instances of the server with different user names. Each user can process assigned and pulled jobs.

To view the number of jobs in a common queue, click **Calculate.**

To pull jobs from one of the common queues, select the queue, and click **Select.** The pulled job appears in your queue.

Sort Tab

The **Sort** tab is used to sort jobs pulled from the common queue. The order in which the fields are listed in the **Sort By Field** table is the order in which they are presented to the user. The most important field, for example, bat_priority or parcel_rec_date, must be selected first. The jobs with the smallest value are pulled first.

Adding, Modifying, and Deleting Barcode Masks

To add a barcode mask, proceed as follows:

1. In the **Barcode Masks** section of the **Barcode Setup** window, click **Add.**

   The **Add Barcode Description** window appears.

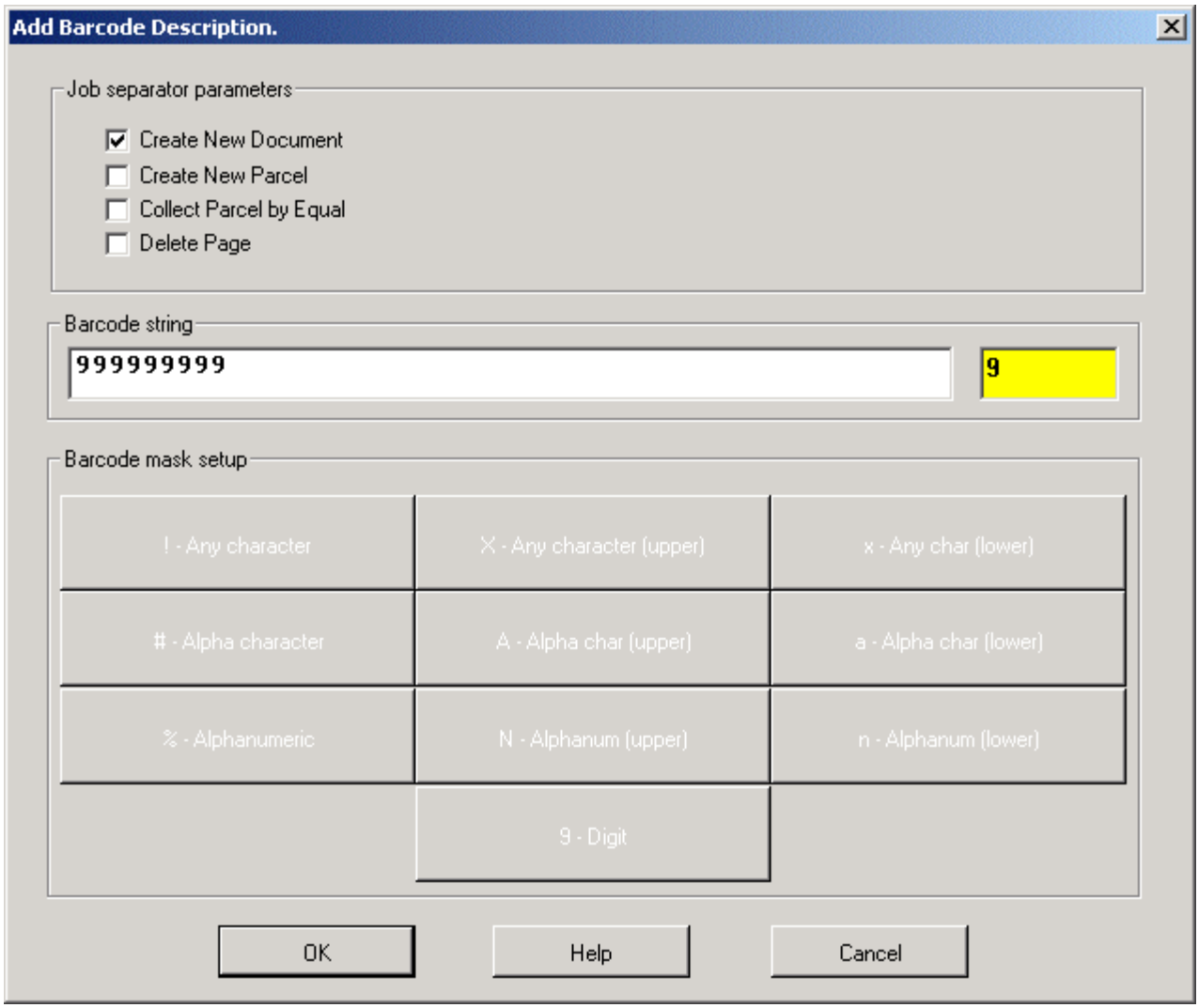


Figure 13: Add Barcode Description window

2. In the **Job separator parameters** area, select actions to perform when a barcode of the specified configuration is read.

   The following table describes options in the **Job separator parameters** area:

Job separator parameters area options	
Option	**Description**
Create New Document	New document is created each time a barcode of this configuration is read.
Create New Parcel	New parcel is created each time a barcode of this configuration is read.
Collect Parcel by Equal	Collects documents with the same barcode value into one parcel. This option works only if documents with equal barcode values are arranged one after another in the document set.
Delete Page	Each page containing this barcode configuration is deleted. This option is used for deleting barcode separator sheets.

3. In the **Barcode string** field, enter the barcode mask. For your convenience, the **Barcode Mask Setup** area contains all possible mask values. To enter the corresponding character in the **Barcode string** field, click the appropriate button.

   The barcode mask indicates the types of characters that comprise the bar code. For example, if the barcode value is a social security number, the value of 999999999 must be entered for the mask. This indicates that 9 digits are the expected value. The box to the right of the **Barcode string** field displays the number of characters in the mask.

4. To complete the barcode mask configuration, click **OK.**
5. To modify the existing barcode mask, select it and click **Modify** to change any of the values in the **Barcode Setup** window.
6. To delete a mask, in the **Barcode Setup** window, select the mask and click **Delete.**

Adding, Modifying, and Deleting Index Fields

Once a barcode mask is set up, index fields can be assigned and populated with the value of the mask. The system reads the barcode font, translates it into text, and inserts that value into the appropriate table and column.

To add an index field, proceed as follows:

1. In the **Barcode Setup** window, select the appropriate barcode mask.
2. Beneath the **Index Fields** table, click **Add.**

   The **Add Assignment Fields to Bar code** window appears.

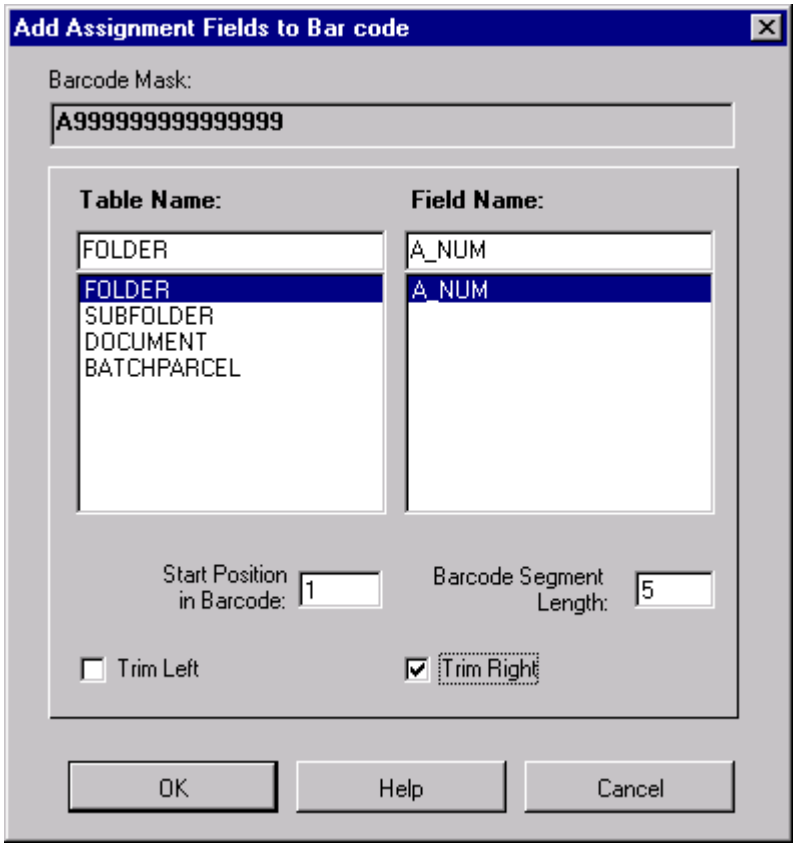


Figure 14: Add Assignment Fields to bar code

The mask for the selected bar code appears at the top.

3. To assign an index field, beneath the **Table Name** field, select one of the following tables:
   - **FOLDER**
   - **SUBFOLDER**
   - **DOCUMENT**
   - **BATCHPARCEL**

   The system uses only these four tables at the indexing level.

   User-defined fields appear in the **Field Name** box.

4. Select a field to fill.

   The system automatically inserts the **Start Position into Barcode** and **Barcode Segment Length** values based on the size of the barcode mask. Changing the start position adjusts the segment length accordingly.

5. To trim extra spaces in bar code, select the following options:

Options for trimming extra spaces	
Option	**Description**
Trim Left	Deletes leading spaces.
Trim Right	Deletes trailing spaces.

Trim Left and **Trim Right** Deletes extra spaces from both sides.

6. To configure the index field, click **OK.**
7. To modify the start position of an index field bar code, click **Modify** in the **Barcode Setup** window.

To change the table or field name, delete the existing record and add a new one.

To delete a record, select it and click **Delete.**

Setting Stop Conditions

To set conditions for stopping Barcode Server, proceed as follows:

1. In the **Barcode Setup** window, click **Stop Conditions.**

   The **Stop Conditions** window appears.

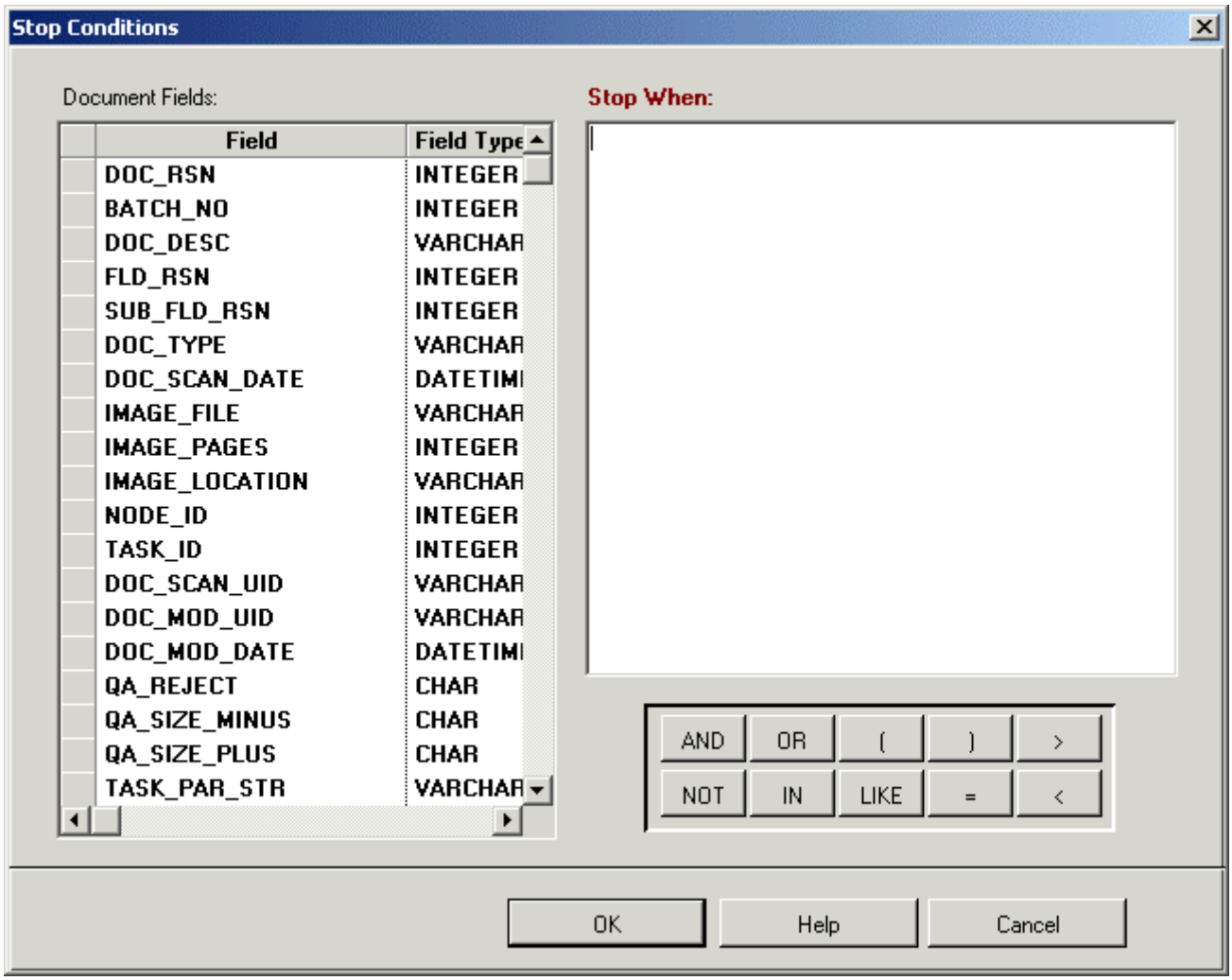


Figure 15: Stop Conditions window

2. To select a field for defining the condition, in the **Document Fields** list, click a field name.

   The field name appears in the **Stop When** section.

3. To set conditions on the values for stopping the server, at the bottom of the window, click an operator, for example, **AND**, **OR,** or **=.**

   The operator appears in the **Stop When** section.

4. To finish specifying the condition, in the **Stop When** section, enter values, field names, and operators as required.
5. To save changes, click **OK.**

Running Barcode Server

To run Barcode Server, click **Start Server.**

If the **Auto Send** and **Server Mode** options are selected in the **Run** menu, the jobs to be processed are loaded by batch into Barcode Server. When a barcode value is recognized, it appears in the **Additional Info** column in the table.

Note: Barcode Server recognizes only black-and-white images.

After the entire batch is processed, the new parcels and documents are automatically sent to the next queue, and the processing of the next batch begins.

If no selections are made each new parcel must be manually sent to the next queue by clicking **Send Batch.**

The status window displays the processes being performed and the time elapsed.

To stop the server, click **Stop Server.**

For information on maintaining Barcode Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Document Status

Each document processed by Barcode Server is automatically assigned a status. The status appears in the FLG_JOB and FLG_BAR fields of the DOCUMENT database table.

The following table describes Barcode Server document statuses:

Barcode Server document statuses		
Status	**FLG_JOB field value**	**FLG_BAR field value**
Document processing is successful, and at least one bar code matching a specified mask is recognized.	`BarOk`	`BarOk`

Barcode Server document statuses		
Status	**FLG_JOB field value**	**FLG_BAR field value**
Document processing is successful, but the document contains no bar codes that match the specified masks.	`NoBar`	`NoBar`
Document processing stopped after stop condition was fulfilled.	`Err##`	`Err##`
Document is not in DMS format, is corrupted, or cannot be opened.	`ERDMS`	`ERDMS`

Defining Advanced Barcode Server Options

The following topics are described in this section:

- Verifying the Number of Separated Documents and Parcels
- Assigning Document Types
- Setting the Maximum Size of Processed Pages

Verifying the Number of Separated Documents and Parcels

Barcode Server contains a configuration for splitting the incoming batches into separate documents and parcels according to the read barcode values. For information on splitting a batch into documents and parcels, see Adding, Modifying, and Deleting Barcode Masks.

Barcode Server can be configured to check the expected number of documents and parcels in a batch, and the actual number of separated documents and parcels.

To enable Barcode Server to verify the number of separated documents and parcels, in the BATCHPARCEL table, create the following custom fields:

Additional BATCHPARCEL table fields	
Field Name	**Description**
A_DOCTOTAL	Expected number of documents.
A_DOCCOUNT	Actual number of documents produced by Barcode Server.
A_PRSTOTAL	Expected number of parcels.
A_PRSCOUNT	Actual number of parcels produced by Barcode Server.

All the fields must be type INTEGER and the **Null is not allowed** check box must be unselected.

For information on adding table fields, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration*, Chapter 3: Creating Projects.

When the new table fields are created, the additional fields are available in the scan dialog in all workflow nodes that have the scan functionality.

Figure 16: Parcel and document counter fields in the scan dialog

The following table describes additional fields in the scan dialog:

Additional scan dialog fields	
Field Name	**Description**
# of Parcels	Expected number of parcels in the batch entered by the user that performs scanning. This number cannot exceed 999.
# of Docs	Expected number of documents in the batch entered by the user that performs scanning. This number cannot exceed 999.
Counted Parcels	Actual number of parcels produced by Barcode Server.
Counted Docs	Actual number of documents produced by Barcode Server.

Values in the **# of Parcels** and **# of Docs** fields are entered by a user during scanning. After Barcode Server finishes processing the documents, it checks the actual results against the values entered during scanning. If the results do not match, the document is marked with the **ERR##** status and handled according to the routing rules for Barcode Server.

Assigning Document Types

By default, Barcode Server assigns numerical values for a document type. It is also possible to predefine textual values that can be read by Barcode Server and assigned as a document type. To assign this functionality, proceed as follows:

1. In the **Exigen Workflow Explorer** window, select **Database Tools** and double click **Project Builder.**

   The **Project Builder** window appears.

2. Select a project and click **Project Maintenance**  .

3. Select the **DOCTYPE** table and click **New Field**  .

4. In the **Field Name** field, enter *A_BARVALUE.*

5. In the **Field Type** list, set the field type to **INTEGER.**

6. To save settings, click **Apply.**

7. To close the window, click **Close.**

8. Exit **Project Builder.**

9. In the **Exigen Workflow Explorer** window, select **Workflow Tools** and double click **Administrator.**

10. In the **Administrator Utilities** window, select a project and click **Table Maintenance**  .
11. Select the **DOCTYPE** table and click **Run.**
12. In the **Document Types** window, click **New Record.**
13. In the **New Record** window, enter a document type value next to the **A_BARVALUE** field description.
14. To add as many document types as needed, repeat steps 12 and 13.

When the document type values are assigned, Barcode Server looks for the value in the **A_BARVALUE** column of the DOCTYPE table. If it finds a matching value, a letter string of the corresponding DOC_TYPE column is assigned to the document. Otherwise, it assigns a numerical barcode value.

Setting the Maximum Size of Processed Pages

To set the maximum size of pages processed by Barcode Server, in the `visiclt.ini file` in the `[setup_barcode]` section, add the following parameter:

`MaxPageSize=<size in kilobytes>`

Barcode Server skips all pages that are larger than is specified in the `MaxPageSize` parameter.

The default value for the `MaxPageSize` parameter is 250.

Barcode Server Audit File

If errors occur during barcode processing, Barcode Server creates the `barlog` folder with a Barcode Server audit file in the folder where the processed document image is located. The Barcode Server audit file has the same file name as the document image file and has file extension `txt`.

The Barcode Server audit file logs information on two types of problems that may occur during batch processing:

- The expected number of documents and parcels differs significantly from the actual number of documents and parcels scanned.
- An error related to stop conditions occurs.

  For information on setting the expected number of documents and parcels, see Verifying the Number of Separated Documents and Parcels. For information on stop conditions, see Setting Stop Conditions.

Chapter 3: Form OCR Server

This chapter describes how to configure and run Form OCR Server. The following topics are described in this section:

Overview

Form OCR Server extracts OCR data from incoming documents based on templates created by the Template Management Utility. For more information on the Template Management Utility, see the *Exigen Workflow Administrator's Guide, Part 3: Utilities,* Chapter 8: Template Management Utility. The zone data is used to populate database fields defined in form templates.

Form templates are registered in Form OCR Server and are associated with database fields. Confirmation levels and default and substitute values are assigned to ensure zone data integrity, and to route the documents. Post processing tools allow you to add, delete, or replace specified values to maintain consistency in the way the data is eventually displayed.

Warning: Form OCR Server does not support processing of reference documents.

Form OCR Server Window

To open the **Form OCR Server** window, in Exigen Workflow Explorer, double click the **Form OCR Server** icon.

The **Form OCR Server** window appears.

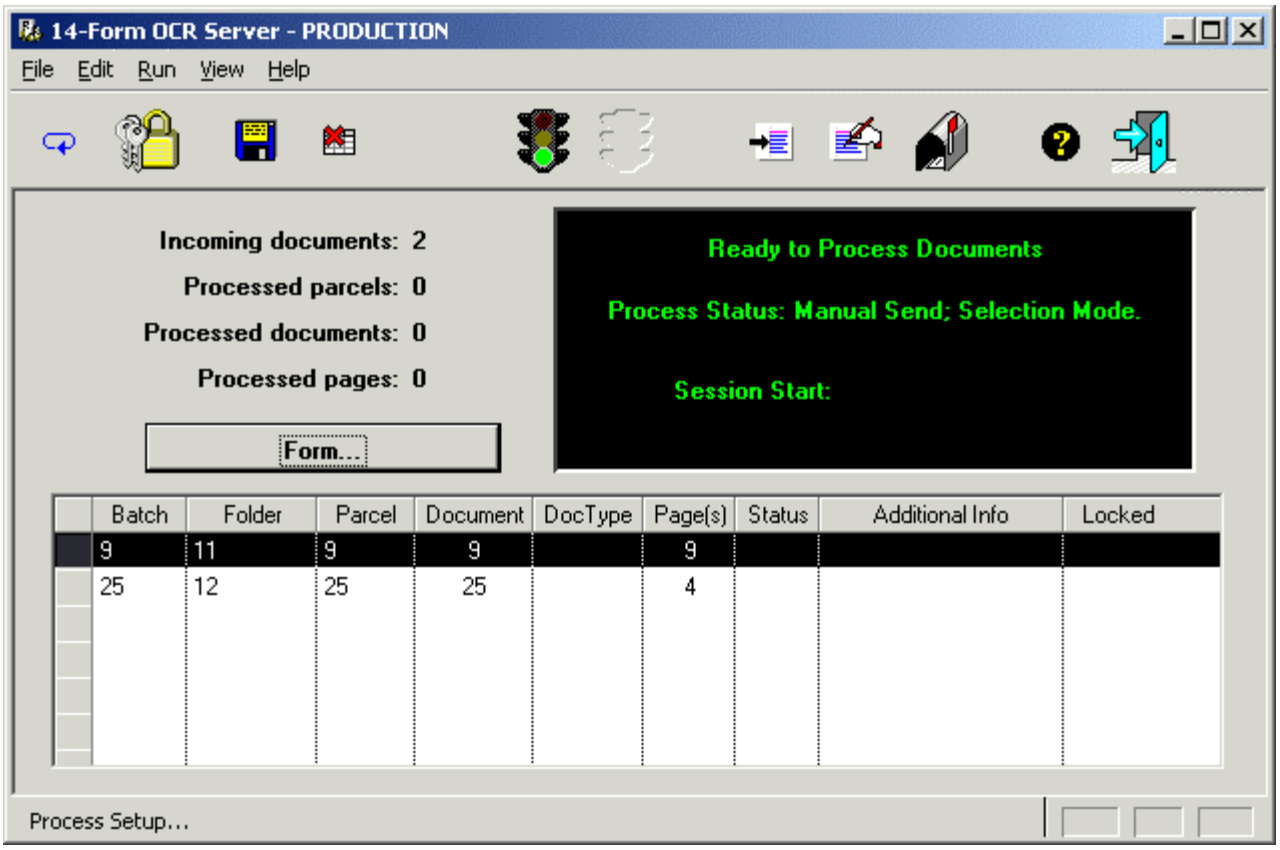


Figure 17: Form OCR Server window

The **Form OCR Server** window consists of the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of incoming batches, processed parcels, documents, and pages. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displaying the current mode of Form OCR Server
- toggle button to display data in either **Form** view or **Column** view, or table view

Configuring Form OCR Server

Before running Form OCR Server, it must be configured. To configure Form OCR Server, proceed as follows:

1. Select **Run > Process Setup** or **Process Setup.**

   The **Process Setup** window appears.

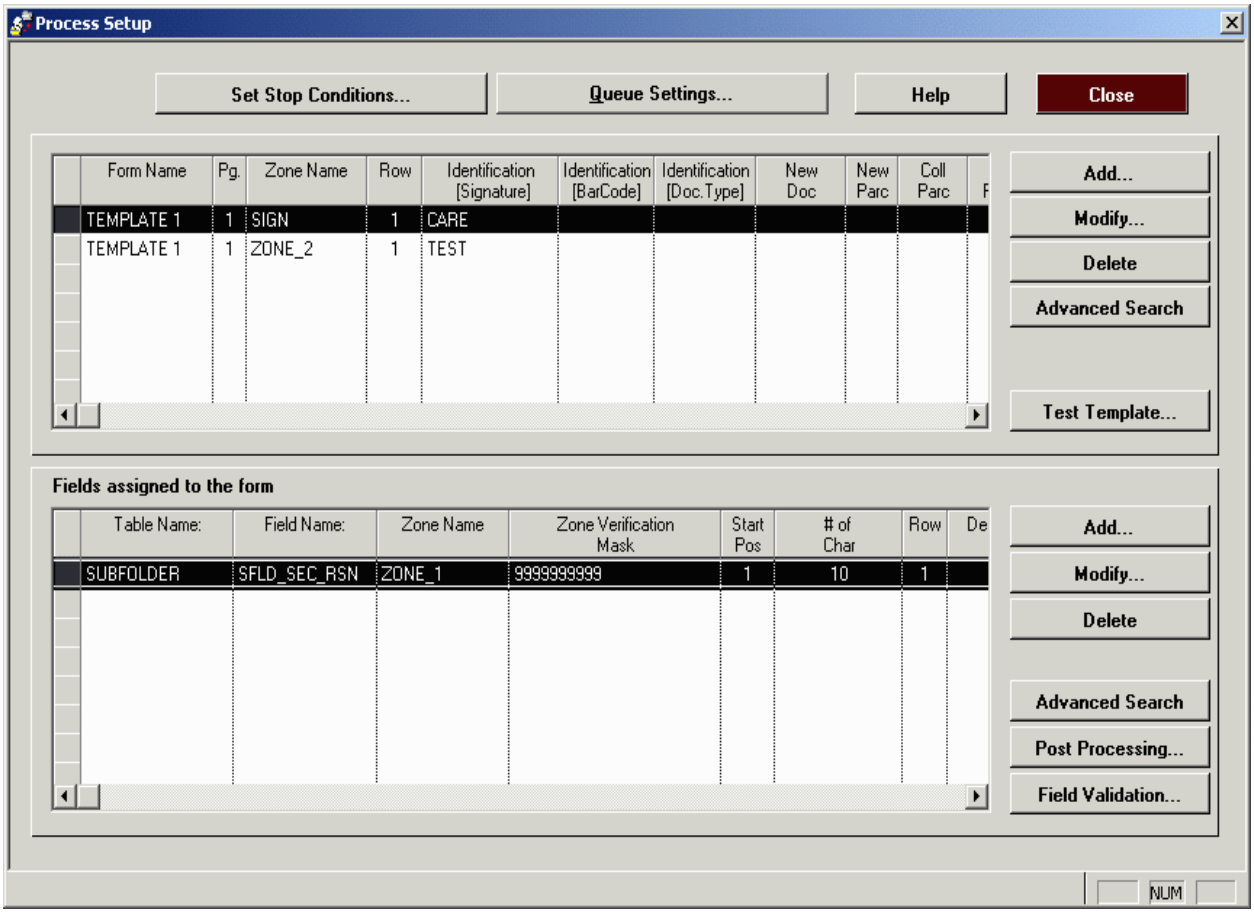


Figure 18: Process Setup window

The table at the top of the window displays data specific to the form templates that are already configured. The columns display the following information:

Form template	
Column	**Description**
Form Name	Form template name.
Pg	Form page where the signature zone is located.
Zone Name	Signature zone name.
Row	Zone row that the data is extracted from.
Identification (Signature)	Form template signature identifier.
Identification (BarCode)	Form template Signature bar code.
Identification (Doc. Type)	Form template Signature document type.
New Doc	New document is created when the form template is recognized.
New Parc	New parcel is created when the form template is recognized.
Coll Parc	Form templates read and assigned to the same folder are merged into the same parcel.
Del Page	Page where the form signature appears is deleted.
Advanced	Advanced font is set.

2. To add, modify, or delete template assignments, click **Add, Modify,** or **Delete** to the right of the table.

   For more information on adding or modifying a form template, see Registering Form Templates.

3. To configure the form signature flexible search options, click **Advanced Search.**

   For information on the form signature flexible search, see Using Form Signature Flexible Search.

The **Fields assigned to the form** table at the bottom of the window displays the database fields that are populated by data extracted from specified zones of the form template. The columns display the following information:

Fields assigned to the form	
Column	**Description**
Table Name	Table to be updated by the zone data.
Field Name	Field to be updated by the zone data.
Zone Name	Zone that the data is extracted from.
Zone Verification Mask	Data mask expected in the extracted data.
Start Pos	Position in the zone where the data begins.
# of Char	Number of characters to be extracted from the zone.
Row	Row in the zone that the data is extracted from.
Default value	Default value to be assigned if the zone is blank.
Post Proc	Post processing rules are set to this zone.
Validation	Field validation rules are set to this zone.
Advanced	Advanced font is set to this zone.

4. To add, modify, or delete zone assignments for the selected template, click **Add, Modify** or **Delete** to the right of the table.
5. To set up the zone data flexible search, click **Advanced Search.**

   For information on the zone data flexible search, see Using Zone Data Flexible Search.

6. To assign post processing rules to the zone, click **Post Processing.**
7. To assign field validation rules to the zone, click **Field Validation.**

   For information on database fields and template zones, see Associating Database Fields with Template Zones.

The **Process Setup** window is used to perform the following configuration tasks:

- Registering Form Templates
- Associating Database Fields with Template Zones
- Post Processing Window
- Validating Fields

- Using Form Signature Flexible Search
- Using Zone Data Flexible Search

Registering Form Templates

To register form templates, proceed as follows:

1. In the **Process Setup** window, click **Add.**

   The **Add Form Identification** window appears.

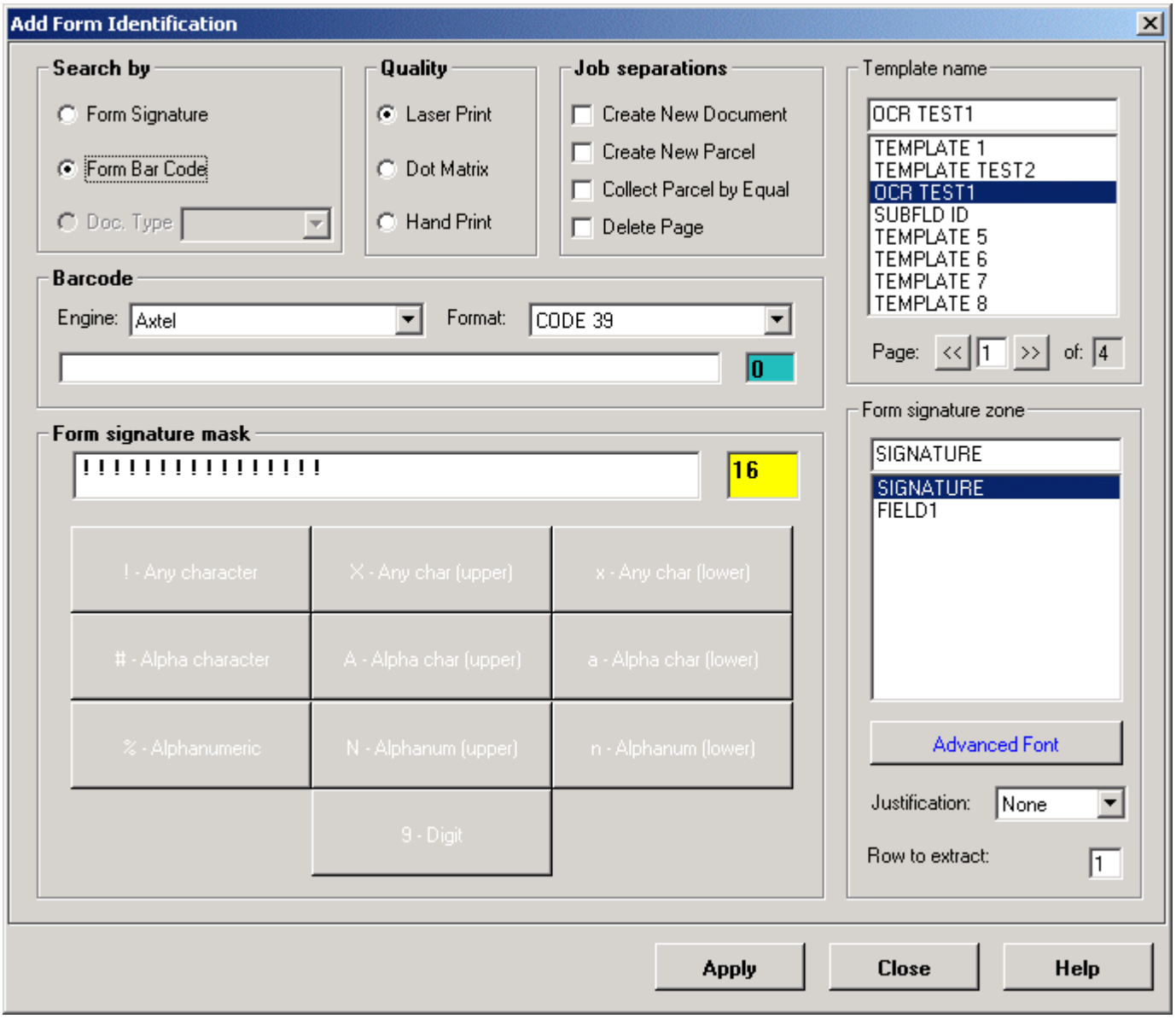


Figure 19: Add Form Identification

The **Add Form Identification** window registers new form templates. The **Modify Form Identification** window changes existing form template IDs in Form OCR Server. Before form templates can be registered, they must be created using the Template Management Utility. For more information on form templates, see the *Exigen Workflow Administrator's Guide, Part 3*: *Utilities,* Chapter 8: Template Management Utility.

2. In the **Add Form Identification** window, specify the following settings:

Add Form Identification settings	
Setting	**Description**
Search By	Indicates which signature or combination of signatures can be used to identify the form template. The following options are available: • **Form Signature:** only used to search for a matching template. This option results in the longest query; therefore the other two options must be used whenever possible. • **Form Bar Code:** all templates are first checked for a matching barcode mask and the resulting templates checked for the matching signature zone. This option must be used when using multiple templates. • **Doc. Type:** only those documents assigned the same document type are checked for a matching signature zone. If you are assigning document types at the scanning level, this option must be used.
Quality	Identify the quality of the zone data to be read. The following options are available: • **Laser Print:** incoming forms are generated by a laser printer. This results in the highest level of recognition. • **Dot Matrix:** incoming forms are generated by a dot-matrix printer. If both laser and dot matrix printing are anticipated, this option must be used. Note that dot matrix results in a lower level of recognition. • **Hand Print:** incoming forms are mostly hand printed. This results in a low level of recognition due to different writing styles.
Job Separations	Determine what database actions can be taken when the form template is recognized. The following options are available: • **Create New Document:** when the form template signature is recognized, a new document record is created in the database. • **Create New Parcel:** when the form template signature is recognized, a new parcel record is created in the database. • **Collect Parcel by Equal:** if the same template signature is recognized and the documents are assigned to the same folder, all documents are merged into the same parcel. • **Delete Page:** when the form template signature is recognized, the page where it exists is deleted.
Template name	Displays all form templates that are created in the database. The template name is clicked to select it for registration. The template name appears in the top field.
Page	Value in the first field defaults to page 1 with the total number of pages in the template on the right. Signature fields can be assigned on any page of a template; however, each page must be registered in Form OCR Server. The arrow buttons are clicked or a number is entered to identify the page of the template where the associated signature is located.

Add Form Identification settings	
Setting	**Description**
Barcode	If **Form Bar Code** is selected in the **Search by** section, this block is enabled. The engine and format are selected in the drop-down lists. Exigen Workflow supports the following third-party barcode engines: • Axtel • Pegasus SmartScan Xpress Barcode For each workstation where this option is applied, the license for Axtel, Pegasus, or both is required. The barcode mask is used to identify the form template. When Form OCR Server reads the form templates and locates this barcode mask, it searches only those templates containing the same barcode mask for a matching signature zone mask.
Doc. Type	Enables allowing a document type to be selected in the list box if **Doc. Type** is selected in the **Search by** section. Only documents assigned the same document type are checked for the signature zone. The document type can be assigned either during scanning or by Barcode Server.
Form signature zone	Displays all zones assigned to the selected page in the selected form template. In this list, select the zone designated as the signature zone when the form template was created.
Form signature mask	Anticipated mask for the signature zone. If this mask is not located during Forms OCR Processing, the form template zones and data is not applied or read. This is entered using the 10 buttons in this area of the window, or by entering a value. The exact signature zone data can be entered to ensure that a match is found. For example, if the signature zone for a specific form is the word INVOICE, the mask can be set up as either AAAAAAA or INVOICE. By using INVOICE, you ensure that an exact match is made and also free up the signature mask for another 7-alpha character mask to be used for a different form template.
Justification	Identifies where in the zone the data is extracted from. There are the following justification options: • **None:** no justification is performed in the zone. All data in the zone is extracted. If the zone fits exactly around the data, this option must be used. • **Left:** the zone search begins from the left side of the zone. This option must be used if the zone is a text field that has varying lengths. • **Right:** the zone search begins from the right side of the zone. If the zone data is typically right justified, as in dollar amounts, this option must be used.
Row to extract	Selects the row in the zone that is extracted for the form template signature. If the zone contains only one row, **1** is entered in this field.
Advanced Font	Opens the **Advanced Font Settings** window. In the window, a language can be specified in the list, and which characters can be ignored.

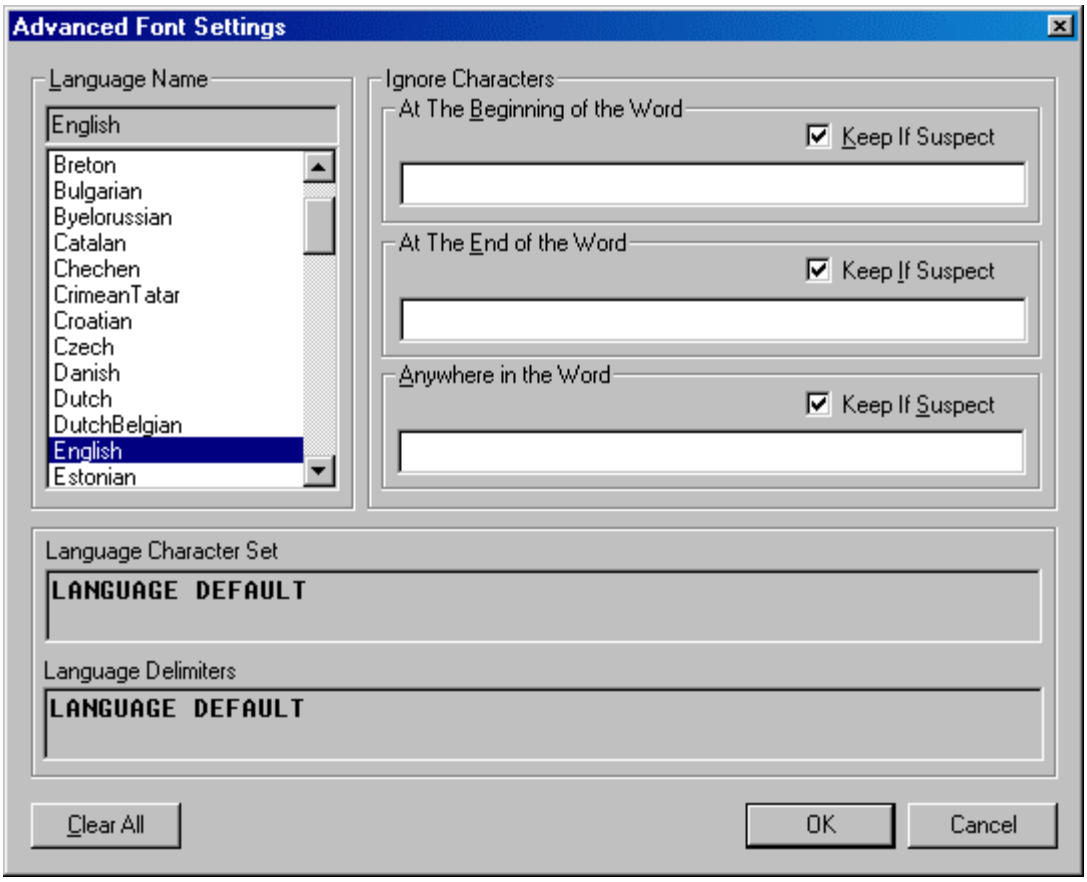


Figure 20: Advanced Font Settings

The following topics are described in this section:

- Specifying Advanced Font Settings
- Adding a Form Identification
- Examples of Form Bar Code and Document Type Usage

Specifying Advanced Font Settings

To specify font settings for zones, proceed as follows:

1. In the **Add Form Identification** window, click **Advanced Font.**

   The **Advanced Font Settings** window appears.

2. In the **Advanced Font Settings** window, in the **Language Name** field, select a language.
3. To specify characters to be removed, in the **Ignore characters** section, enter characters in any of the corresponding fields:
   - **At the beginning of the word**
   - **At the end of the word**
   - **Anywhere in the word**

4. To retain characters with a low OCR process confidence level, select the **Keep if suspect** option for the corresponding field.

   A low OCR process confidence level means that the character can be easily misread or confused with another character, for example, the letter l and the number 1.

5. To save changes and close the window, click **OK.**
6. To clear entries in the window, click **Clear All.**
7. To close the window without saving changes, click **Cancel.**

Adding a Form Identification

To add a form identification, proceed as follows:

1. In the **Template name** list, select a template to register.

   All created templates are listed, regardless of the project or workflow to which they belong. The current template page number, scroll arrows, and the total number of pages that exist in the form template are displayed. Since signatures and zones can be assigned to multiple pages of a form template, the scroll arrows differentiate between the pages.

2. In the **Form signature zone,** click on the zone name defined as the signature zone for the selected template.

   The zone name appears in the top field.

3. In the **Form signature mask** field, click the buttons to define a mask for the signature values, or enter the specific text value identified in the signature zone. If your signature consists of a specific value on the form, enter the actual value in the mask field.

   For example, the signature zone for the PO TEMPLATE is defined as the words PURCHASE ORDER. The mask could be defined as AAAAAAAA AAAAA representing an 8-character, uppercase, alpha-text value followed by a space and a 5-character, uppercase, alpha-text value. By defining the mask as PURCHASE, you guarantee that the PO TEMPLATE zones are assigned only when those specific characters are recognized. It also cuts down on the processing time, because there can be more than one form template signature containing the same number of words and characters.

4. Specify justification.

   Justification is important because it indicates where in the zone the mask is located. If **None** is selected, the system expects that the information in the zone exactly matches what is anticipated in the mask. For example, if the signature zone is a social security number, the zone can be created around the 9-digit number on the form. The mask is 999999999 and the justification is **None.**

   During Form OCR processing, if the 999999999 mask is located exactly in the same zone as indicated in the form template, the system finds a match and the remaining zones in the template are applied to this form.

5. To match the mask in the left portion of the zone, specify **Left** justification.

Using the example of the previous PURCHASE ORDER signature zone, the justification must be set at **Left** to ensure that, when the system searches for the mask, PURCHASE is in the left portion of the zone. If **None** is chosen, the system tries to match the mask PURCHASE with all of the text in the zone, which in this case is PURCHASE ORDER. Obviously no match can be found and the form is not recognized.

6. To define masks for text that is normally right justified, such as dollar amounts, select **Right** justification.

   For example, if the signature zone for a form template is the total dollar amount, the logical mask is 99999.99. The signature zone is created around the area on the form where the amount is located. Since the value found in this zone can vary, such as 10.00 or 978.12, the **None** option does not work to find an exact match. Left justification does not match the mask because the value .99 always appears on the right. Right justification ensures that matching values are always found for this zone.

7. In the **Row to extract** field, define the row in the zone where you want to extract the data.
8. To save the new form template in the list, click **Apply.**
9. To close the window without saving the template configuration, click **Close.**
10. To modify an existing form template configuration, in the **Process Setup** window, select the desired template and click **Modify.**
11. To delete a form template configuration, but not the template itself, select the template and click **Delete.**

    The template can no longer be used in the current Form OCR Server.

Examples of Form Bar Code and Document Type Usage

If the **Form Bar Code** option is selected in the **Search by** section in the **Process Setup** window, Form OCR Server searches for a unique combination of both the signature zone and a barcode value to identify a specific form template.

When the **Form Bar Code** option is selected, the Barcode mask is enabled.

Enter the barcode mask directly into the field to define the anticipated bar code. This feature is recommended if your processing is similar to the following scenario:

Your company processes applications for employment for many businesses. Each business has its own unique application form requesting certain information. For each business, the application title differs depending on the position being applied for.

A barcode value that appears on the first page of each application is used internally by your business to identify the company where the application is used. Each individual application form can be configured with the application title as the signature zone. This configuration does not work if more than one company uses the same application title, such as General Sales Application.

By using both the signature zone, or application title, and barcode value, or company code, as form template identifiers, the following scenarios occur:

1. You are not forced to find a different signature zone for all of the applications.

2. The template search time is reduced because a match is sought first for the barcode value and then for the signature zone.

If you process applications for 50 companies that each use 10 types of applications, the processing time is drastically reduced by using both identifiers.

The **Doc. Type** selection in the **Search by** section is based on the same premise. The initial search is based on a specific document type instead of a barcode value. When this option is selected, the **Document type** list box is enabled allowing a specific document type to be assigned. The following business scenario represents an example of when this type of search is beneficial:

Your company images invoices along with other types of documents. Each invoice contains different information to be extracted depending on the department being billed. The department code appears on each invoice. The department code on each form can be used for the signature zone and all appropriate information is extracted.

In addition to the invoice form templates, you also use many other form templates. The time it takes to search through each form template is significantly reduced by using the **Document type** feature to identify the invoices. By assigning the Document type **Invoice** during scanning, the document type is used to narrow the initial search.

Associating Database Fields with Template Zones

After registering a template in Form OCR Server, you can identify which database fields you want to populate with the data extracted from the template zones. A record is created for each template zone, and only one-to-one zone-to-field assignments can be configured.

To add field configurations, proceed as follows:

1. In the **Process Setup** window, click **Add** next to the **Fields Assigned to Form** table.

   The **Add Field Value Assignment** window appears.

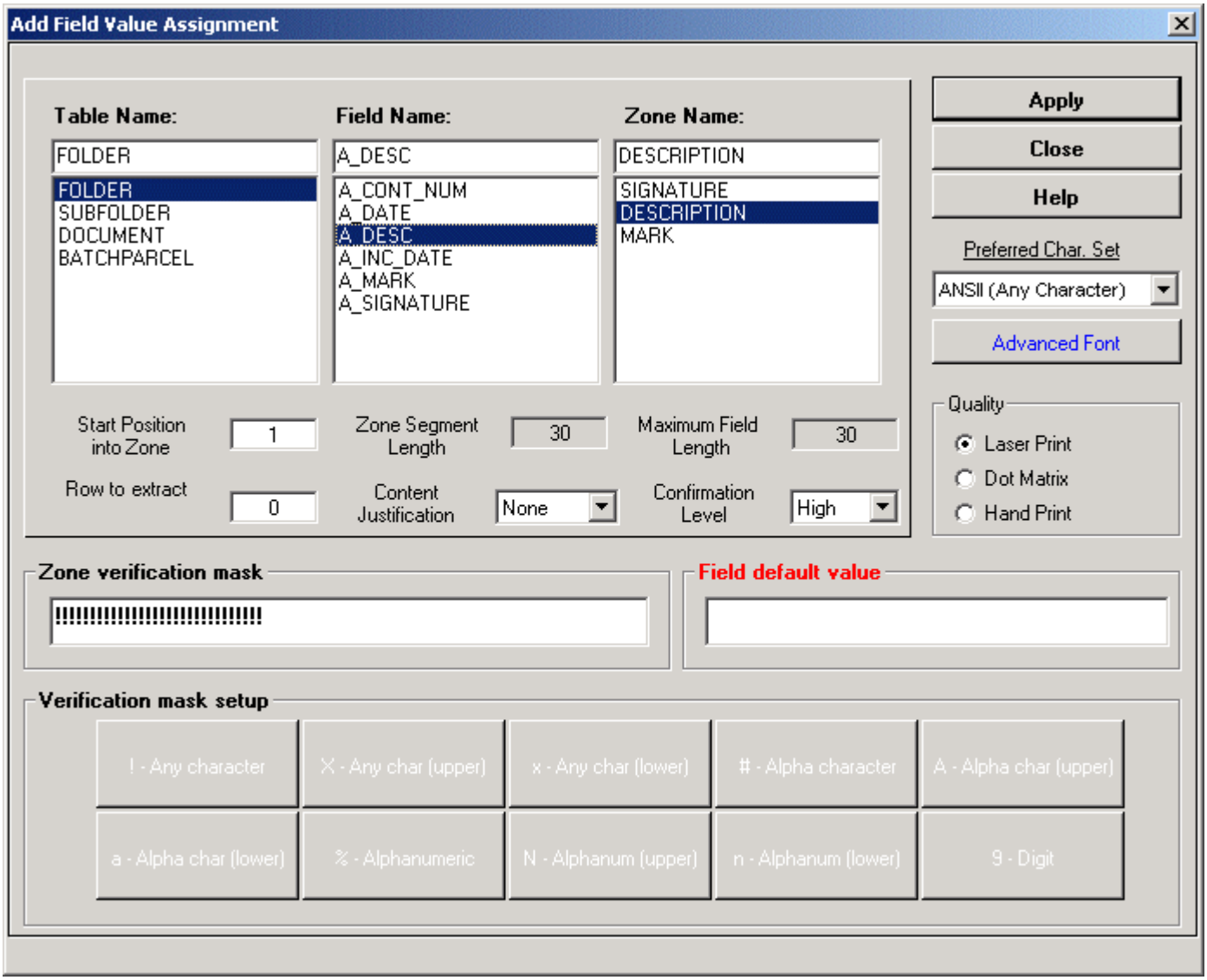


Figure 21: Add Field Value Assignment

2. In the **Table Name** list, select the table to update.

   When a table is selected, its fields are listed under **Field Name.**

3. Select a field to update.
4. In the **Zone Name** list, select the template zone that you want to use to populate the field value.
5. In the **Start Position into Zone** field, enter the starting field position for extracting data from the zone.

   The **Zone Segment Length** displays the length of the Zone Verification Mask. The mask defaults to the length defined when the form template was created. The default value is 64. The **Zone Length by Definition** displays the actual length of the zone. The default value is 64.

6. In the **Row to Extract** field, select the row where you want to extract the data.

   Zones can include multiple rows on a form, such as an address field.

7. To extract only city, state, and ZIP information, define the entire address as the zone but extract data only from row 3.
8. To ensure that your mask is located in the assigned zone, in the **Content Justification** field, specify content justification.
9. To specify the importance of the data being extracted, in the **Confirmation Level** field, select one of the following confirmation levels:

Confirmation levels	
Name	**Conditions for use**
High	If Form OCR Processing is used to populate index fields in the database, the **High** confirmation level is recommended for those fields. **High** ensures that the value exactly matches the mask data during the verification process.
Med	If the values are important but are not necessarily index values, **Med** is used.
None and **Low**	If values are useful but not required, **None** or **Low** is used.

10. Click the buttons at the bottom, or enter the **Zone Verification Mask.**

    The **Zone Segment Length** field adjusts to the number of characters you enter for the mask.

    The **Field Default Value** field can be used for two purposes:

    - To set up a template to read a zone on a form that does not contain data but requires a value in the database. When configuring the field, you can indicate that you do not want to select data from any row, and insert the default value that you want to populate the database with.
    - To assign a specific value to a field if Form OCR Processing cannot locate or interpret the text contained in the zone.

11. To specify the form quality, select an option in the **Quality** section.

    For information on quality settings, see Registering Form Templates.

12. To specify the preferred character set, select an item in the **Preferred Char. Set** field.

    The preferred character set determines the type of characters expected by Form OCR Server. By defining the type of characters to be searched for, Form OCR Server bypasses those that do not meet the criteria and improves the processing speed. This setting differs from the characters used to create the Zone Verification Mask. The following table lists the values and their meanings:

Preferred character set	
Value	**Description**
ANSII (Any Character)	Form OCR Server searches for any character type. Select this setting only if none of the others apply.
Alpha Lowercase	Form OCR Server searches for alpha, lowercase characters only.

Preferred character set	
Value	**Description**
Alpha Uppercase	Form OCR Server searches for alpha, uppercase characters only.
Alpha Mixed Case	Form OCR Server searches for alpha characters only.
Digit (0….9)	Form OCR Server searches for numeric characters only.
Alpha Digit (a…9)	Form OCR Server searches for both alpha and numeric characters.
Numeric (9,+%-$)	Form OCR Server searches for both numeric and special characters normally associated with numeric values.
Check Box	Form OCR Server searches for a mark or value inside a check box.
Barcode	Form OCR Server searches for a bar code.

13. When all values are entered, to add the field to the **Process Setup** window, click **Apply.**
14. To cancel all changes, click **Close.**
15. To open the online help section for the **Add Field Value Assignment** window, click **Help.**
16. To modify an existing field assignment record, select the record and click **Modify.**
17. To remove a field assignment from a template configuration record, click **Delete.**

Post Processing Window

The tools in the **Post Processing** window format the data extracted from the zones. For example, to ensure consistency in your database, you may want all phone number values to be displayed simply as 9999999999. By deleting specific characters, the data can be displayed in the same format, regardless of the original format of the data that was extracted.

To open the **Field Processing Settings** window, select the zone record in the bottom table and click **Post Processing** in the **Process Setup** window. The **Field Processing Settings** window appears.

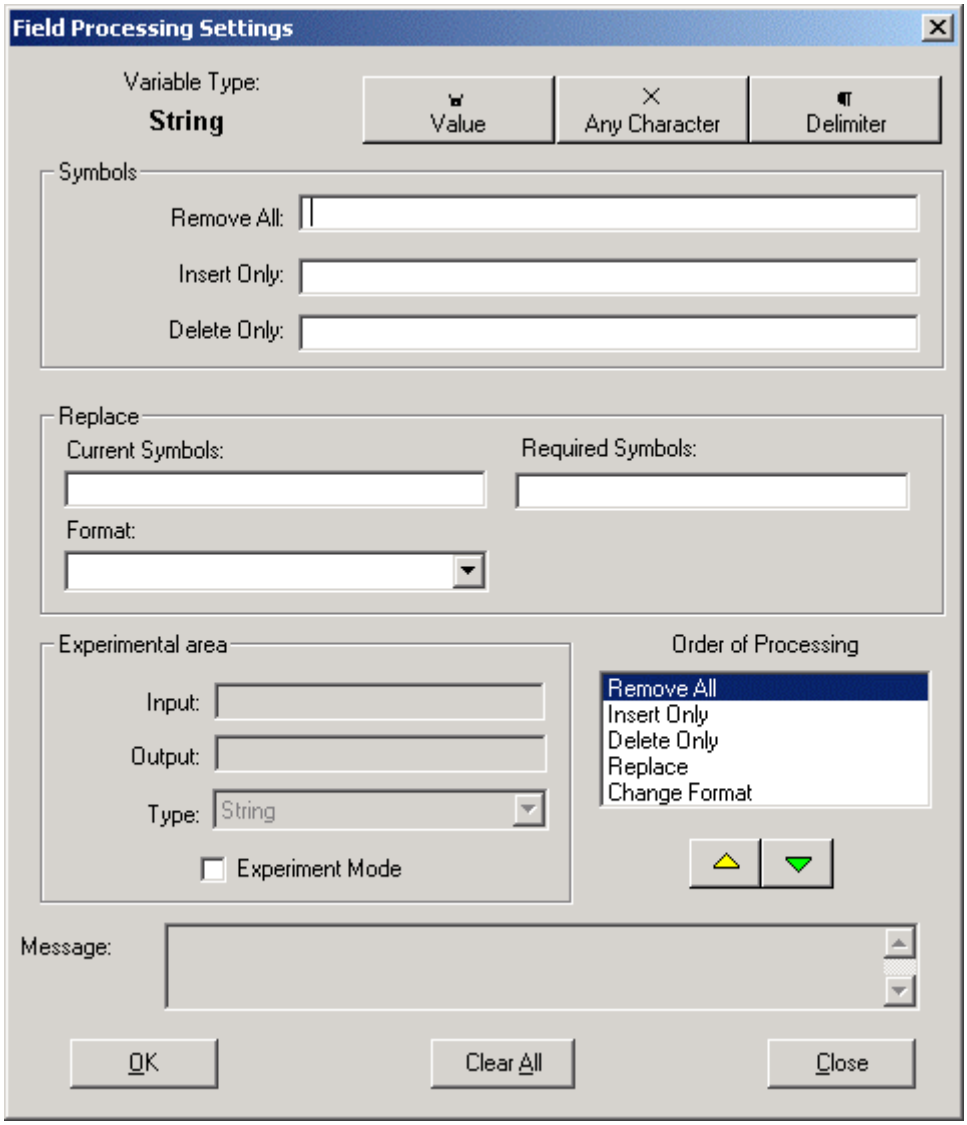


Figure 22: Field Processing Settings

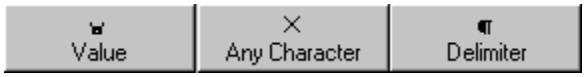
The window displays the **Variable Type,** or **String,** for the selected field. This value is derived from the **Field Type** assigned in the **Project Builder** application. The variable type is assigned as follows:

Variable and field types	
Variable type	**Field type**
Date/Time	DATE, TIME, DATETIME
Number	FLOAT, INTEGER, SMALLINT
String	CHAR, VARCHAR

The three buttons to the right of the **Variable Type** are used with the three options in the **Symbols** section. Using the buttons with the commands, you can adjust the extracted data so that it appears uniformly in the database.

For example, phone numbers can be written as (999) 999-9999, (999)999-9999, or 999-999-9999. Using **Delimiter** and the **Remove All** command, all phone numbers can be adjusted to display in the database as 9999999999.

The following buttons are available in the **Field Processing Settings** window.



Field Processing Settings window buttons	
Button	**Description**
Value	Identifies the entire text being extracted from the image.
Any Character	Identifies any character found in a specific position in the extracted text.
Delimiter	Defines specific characters or character strings within the extracted text.

The Field Processing Settings buttons are used with the three fields in the **Symbols** label.

Field Processing Settings Symbols fields	
Field	**Description**
Remove All	Removes specific values from the extracted text. To remove the entire value, or delete everything extracted, click **Value** once. To remove multiple characters or character strings within the extracted text, click **Delimiter. Delimiter** must be inserted after each character or character string that is to be removed.
Insert Only	Inserts the value entered in the field.
Delete Only	Deletes the value entered in the field.

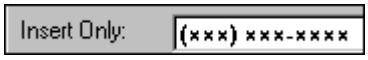
If you are extracting a dollar amount field from an image but do not want the dollar sign to appear in the database, the **Remove All** value appears as follows:

Incoming text extracted as $123,000.55 is displayed in the database as 123,000.55.

In the previous phone number example, the characters “(,” “),” [space], and “—” must be deleted. Each character is entered in the **Remove All** field with the delimiter between each. The **Remove All** value appears as follows:

Incoming text extracted as (212) 555-1212 appears in the database as 2125551212.

To insert a character or string before the extracted data, in the **Insert Only** field, click **Value,** and enter the character or string. If the phone numbers being extracted from the image are formatted as 9999999999 and you want to insert the “(,” “),” [space], and “—” characters, the **Insert Only** value appears as follows:



The values inserted are entered into the field. The **x** marks identify individual clicks on **Any Char** to represent any character in the field. Incoming text extracted as 2125551212 is displayed in the database as (212) 555-1212.

To insert a character or string before the extracted data, in the **Insert Only** field, click **Value** and enter the character or string. For example, if the data being extracted is a dollar amount with no dollar sign and you want to view the dollar sign in the database, the **Insert Only** field appears as follows:

To enter the dollar sign in the field, click **Value.** Incoming text extracted as 123,000.00 displays in the database as $123,000.00.

To insert a character or string after the extracted data, enter the character or string and click **Value.** For example, if the data being extracted is in whole dollar amounts but you want to also see the cents, the **Insert Only** field appears as follows:

When **Value** is clicked the text you want to insert is entered. Incoming text extracted as $125 displays in the database as $125.00.

Delimiter does not apply to the **Insert Only** option.

The **Replace** section removes and replaces specific characters or strings.

Field Processing Settings, Replace fields	
Field	**Description**
Current Symbols	Extracted character or string to be replaced. To replace more than one character or string, **Delimiter** is clicked to separate the values. To replace all of the extracted data in the zone, **Value** is clicked.
Required Symbols	Values to be replaced. If more than one character or string is to be replaced and the **Delimiter** tool is used to separate them in the **Current Symbols** field, one or more values can be entered in the **Required Symbols** field. If all values entered in the **Current Symbols** field are to be replaced with one value, that value is entered in the **Required Symbols** field. If multiple values are replaced, delimiters must be used in the **Required Symbols** field. If two or more replacement values are entered in the **Required Symbols** field, the number of values in the **Current Symbols** and **Required Symbols** fields must be equal. For example, if the values @, # and $ are to be replaced and they are separated by delimiters in the **Current Symbols** field, three values separated by delimiters

Field Processing Settings, Replace fields	
Field	**Description**
	must appear in the **Required Symbols** field.
Format	Formats the extracted data based on the Variable Type. The following string formats are available: • **Lowercase** • **Unformatted** • **Uppercase** For date and time, predefined formats can be used, or another format can be entered. The format is selected with which you want to populate the database.

Note: Date and time are recognized according to the specified format.

The **Order of Processing** box is used to change the order in which any post processing functions are executed.

To set the order of processing, proceed as follows:

1. Select a function.
2. To move each function within the list, click the up, yellow, and down, green, arrow keys.
3. If you are using post processing to perform more than one of the available functions, make sure the order is correct or you may not achieve the desired results.
4. Test your settings.

The **Experimental Area** tests the post processing changes.

Field Processing Settings, Experimental area	
Field	**Description**
Experiment Mode	Enables the test function.
Input	Value that represents the text being extracted from the zone.
Output	Displays all post processing changes made to the value entered in the **Input** field.
Type	Identifies the extracted data type. Types are **Select String, Number,** or **DateTime.**

Post processing occurs during the Form OCR Index process and the adjustments are not visible during the Form OCR QA process.

Validating Fields

The Field Validation option ensures that the extracted data matches the data in an existing table. By performing validation, you can ensure that the database is populated with the correct values.

To use Field Validation, proceed as follows:

1. In the **Process Setup** window, select the field to validate and click **Field Validation.**

The **Zone Validation Settings** window appears.

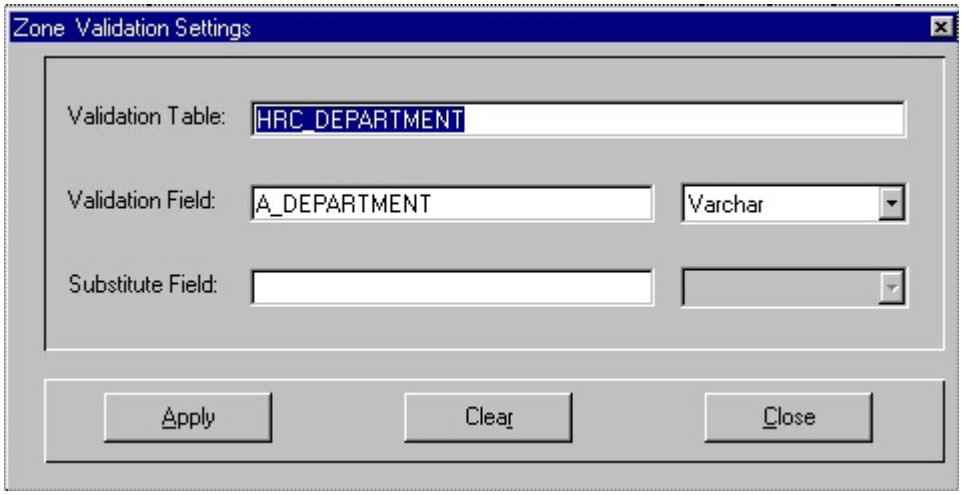


Figure 23: Zone Validation Settings

2. In the **Validation Table** field, enter the table in which the values exist. Enter the entire table name including the project ID because you can use tables from other projects in the same database for validation.
3. In the **Validation Field,** enter a column or field name.

   This field must exist in the Validation table.
4. To substitute a value, enter a column name in the **Substitution Field.**

   The field must exist in the Validation table.

Using Form Signature Flexible Search

The flexible search feature expands the possibilities of the form signature search and enables the following options:

- processing complicated forms in which the data location is not determined
- using one template for similar forms with minor data positioning differences

The following topics are described in this section:

- Searching for Form Signature
- Searching for Form Signature by Pattern
- Setting Up the Advanced Search Options

Searching for Form Signature

This feature searches for the form signature defined when registering the form templates. For information on registering the form templates, see Registering Form Templates.

The flexible search defines the lines to search, vertically or horizontally. The procedure uses the best-fit search algorithm; the first result found according to the search options is returned. The best-fit algorithm is activated if no search pattern is defined.

Searching for Form Signature by Pattern

This feature searches for the form signature defined when registering the form templates by search pattern. For information on registering the form templates, see Registering Form Templates.

The flexible search by pattern has the following algorithm:

1. It searches for the pattern as defined in the search lines.
2. If the pattern is found, it searches for the form signature according to the data position relative to the pattern defined.
3. If the form signature is found, it returns the result.
4. If the pattern or form signature is not found, it performs the best-fit search algorithm for the form signature and returns the first result found.

   For information on the best-fit algorithm, see Searching for Form Signature.

Setting Up the Advanced Search Options

To set up the advanced search options, proceed as follows:

1. In the **Process Setup** window, select the form identification or the zone verification.
2. Click **Advanced Search.**

   The **Advanced Search Options** window appears.

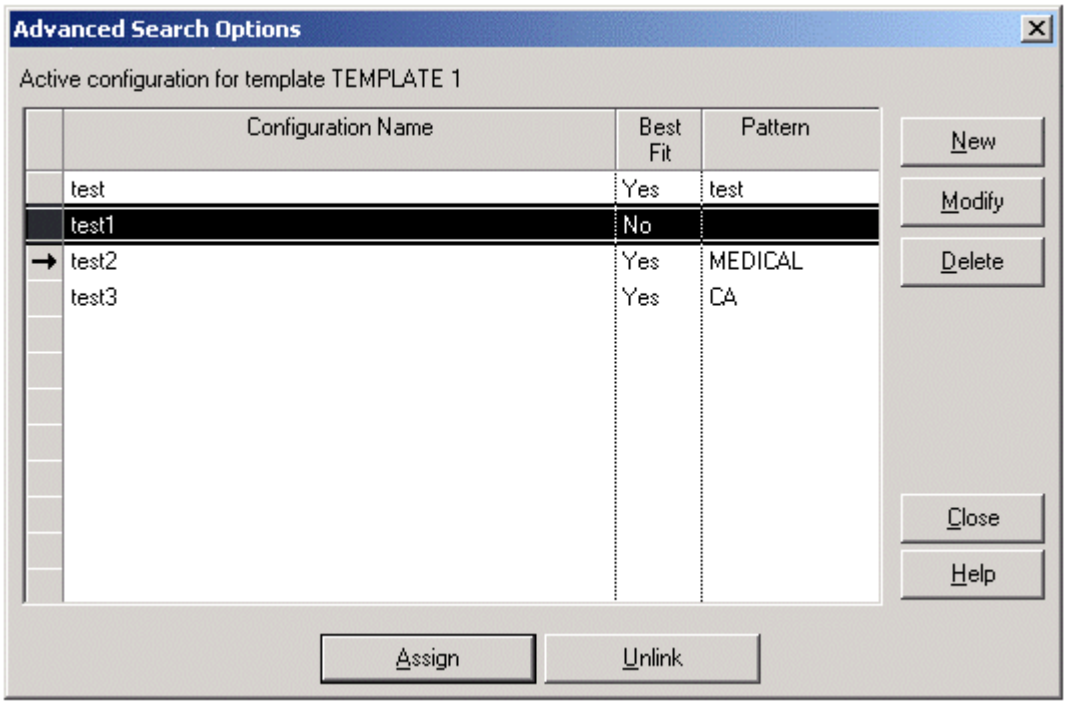


Figure 24: Setting the advanced search options

The **Advanced Search Options** window lists all the existing configurations. The following table describes the window columns:

Advanced Options window columns	
Column	**Description**
Configuration Name	Names of all existing configurations.
Best Fit	Indicates whether the best-fit algorithm is used; that is, if the search pattern is defined.
Pattern	Patterns defined for each configuration.

The active configuration is marked with an arrow.

3. Select one of the following options:
   - To create a configuration, click **New.**
   - To modify a configuration, click **Modify.**
   - To delete a configuration, click **Delete.**

   For information on creating a configuration, see Adding a Configuration.

   For information on modifying a configuration, see Modifying a Configuration.

   For information on deleting a configuration, see Deleting a Configuration.
4. To assign one or more configurations to the template, select the configuration and click **Assign.**
5. To remove the configuration assignment from the template, click **Unlink.**

6. To exit, click **Close.**

Adding a Configuration

To add a configuration, proceed as follows:

1. In the **Advanced Search Options** window, click **Add.**

   The **Add Configuration** window appears.

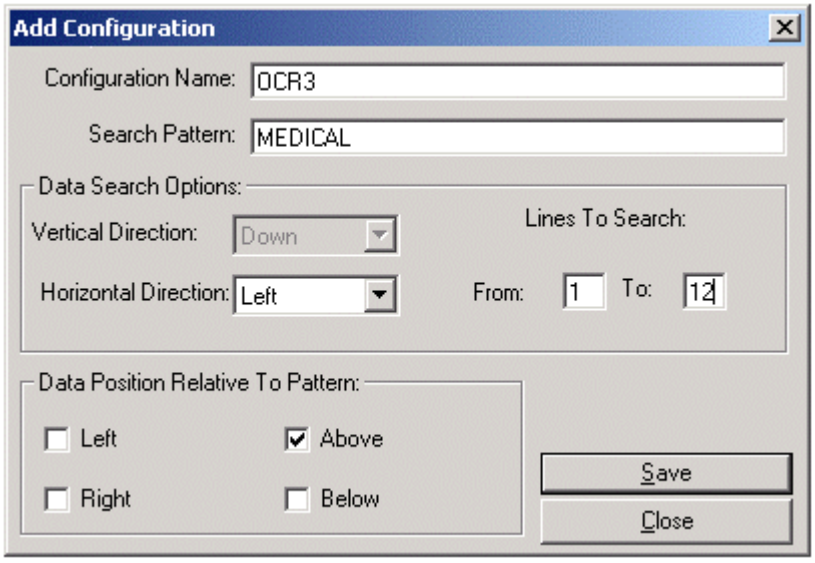


Figure 25: Add Configuration window

2. Specify the following options:

Configuration options	
Option	**Description**
Configuration Name	Configuration name.
Search Pattern	Pattern to search for.
Vertical Direction	Searches vertically. If the search pattern is used, this option is disabled. **Note:** Only the first value found is returned.
Horizontal Direction	Searches horizontally. **Note:** Only the first value found is returned.
Lines To Search	Line interval for the search.
Data Position Relative to Pattern	Position of the mask relative to the defined pattern. This option is enabled only if the search pattern is defined.

3. To save the configuration, click **Save.**

Modifying a Configuration

To modify an existing configuration, proceed as follows:

1. Select the configuration to be modified.
2. Click **Modify.**
3. Set the necessary configuration options.

   For information on the configuration options, see Adding a Configuration.
4. Click **Save.**

Deleting a Configuration

To delete a configuration, proceed as follows:

1. Select the configuration to be deleted.
2. Click **Delete.**

   You cannot delete a configuration that is used by another template. If you try to delete a configuration in use, an error message appears.

Using Zone Data Flexible Search

The flexible search feature expands the possibilities of the zone data search. This feature performs the following actions:

- Searching for Zone Data
- Searching for Zone Data by Pattern
- Setting Up Advanced Zone Search Options

Searching for Zone Data

This feature searches for the zone data defined when associating database fields with template zones. For information on associating database fields with template zones, see Associating Database Fields with Template Zones.

The flexible search for the zone data defines the lines to search, vertically or horizontally. The feature uses the best-fit search algorithm; the first result found according to the search options is returned. The best-fit algorithm is activated if no search pattern is defined.

Searching for Zone Data by Pattern

This feature searches for the zone data defined when associating database fields with template zones by the search pattern. For information on associating database fields with template zones, see Associating Database Fields with Template Zones.

The flexible search by the search pattern has the following algorithm:

1. It searches for the pattern in the search lines defined.

2. If the pattern is found, it searches for the zone data according to the data position relative to the pattern defined.
3. If the zone data is found, it returns the result.
4. If the pattern or zone data is not found, it performs the best-fit search algorithm for the zone data and returns the first result found.

   For information on the best-fit algorithm, see Searching for Zone Data.

Setting Up Advanced Zone Search Options

The zone data advanced search is set up in the same way as that for form signature. For information on setting up the form signature advanced search, see Setting Up the Advanced Search Options.

Testing Form OCR Server Configurations

Before using Form OCR processing, it is recommended that you test Form OCR Server configurations to make sure that all zone templates are read properly, for example, by sending a batch of scanned documents containing the templates to Form OCR Server.

To test the Form OCR Server configurations, proceed as follows:

1. Open the **Form OCR Server** window and, in the **Run** menu, deselect the **Autosend** option.
2. Select **Run > Start Test.**

   The **Form Recognition Test** window displays the test data in the middle of the window.
3. To begin testing, click **Start Processes.**

The first page of the batch is displayed in the **Form Recognition Test** window. As each template is read, the **Form Recognition Test** window title is replaced by the word identification, followed by the zone mask and the page where the zone is found. The value found in the zone is displayed in a separate window with a status message.

The following table describes message text values:

Status messages	
Message	**Description**
Zone Recognition Successful	Zone was located, but the value inside matches the zone mask.
Quality Check is not Confirmed	Zone was located, but the confirmation level of the value inside has not been reached.
Mask Verification Check is not Confirmed	Value inside the zone does not match the zone mask.

The test stops after each zone is read. To continue testing, proceed as follows:

1. To test the next zone, in the **Zone Value** window, click **OK.**

2. To stop the test at any time, click **Stop Processes.**
3. To make appropriate changes, click **Process Setup.**

   The test can be started as many times as necessary.
4. When testing is complete, select **Run > Release Test** and reselect the **Auto Send** and **Server Mode** options to begin regular processing.

Running Form OCR Server

To run Form OCR Server, proceed as follows:

1. Click **Start Processes.**

   If the **Auto Send** and **Server Mode** options are selected, the jobs to be processed are loaded by batch into Form OCR Server.
2. If **Auto Send** and **Server Mode** are not chosen, send each new parcel manually to the next queue by clicking **Send Batch...**

   Clicking this button sends all batches with the same parcel ID.

   The status window displays the processes being performed and the time elapsed.
3. To stop the server, click **Stop Processes.**

For information on maintaining Form OCR Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Chapter 4: Form OCR QA

This chapter describes the Form OCR quality assurance (QA) process. The following topics are described in this section:

Overview

Form OCR QA checks and corrects the data extracted during the Form OCR process. Various tools edit the zone information and assign flags to those templates that are not correctly identified. Form OCR QA is not required to run with Form OCR Processing, but it is recommended.

If Form OCR QA is used in your workflow, jobs sent to it from Form OCR Server are sent to a common queue. When the Form OCR QA application opens, the first job is automatically loaded. As each job is sent onward, the next is pulled in.

When the Form Verification server is launched, it opens the **Performing OCR Verification** window. This **OCR Verification** window confirms and corrects values extracted from the templates during Form OCR Server processing. Zones identified as High Confirmation zones in Form OCR Server must be corrected before the document can be sent to the next queue. Zones identified as Medium, Low or None in the confirmation field can be corrected, although it is not required.

Warning: The Form OCR QA does not support processing reference documents.

Form OCR QA Window

To open the **Form OCR QA** window, in Exigen Workflow Explorer, double click the **Form OCR QA** icon.

The **Form OCR QA** window appears.

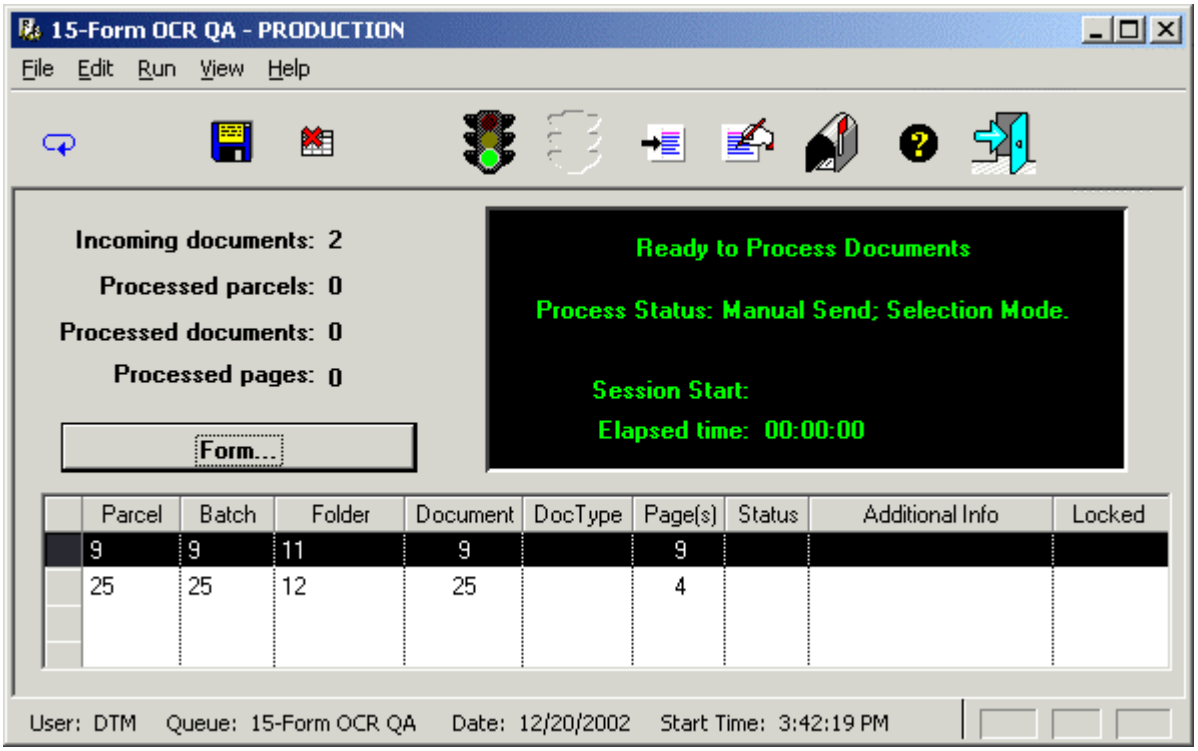


Figure 26: Form OCR QA window

The **Form OCR QA** window consists of the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of incoming batches, processed parcels, documents, and pages. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window that displays the current mode of Form OCR QA Server
- toggle button to display data in either Form view or Column view

The job display in the window depends on whether the common queue option is enabled as follows:

- If the **Get from Common Queue after Send** option is enabled for the node in Workflow Builder, when the user sends a job, the next available job is automatically pulled from the common queue.
- If the **Get from Common Queue after Send** option is not enabled for the node in Workflow Builder, all user jobs in the server queue are displayed.
- If the **Get from Common Queue after Send** option is not enabled for the node in Workflow Builder, the user can enable the common queue option by selecting **Edit > Queue Settings** and **Use common queue.** If this option is selected, the next job is retrieved from the common queue by selecting **Run > Get Next Job.**

For more information on common queues, see Specifying Queue Settings.

The following topics are included in this section:

Performing OCR Verification

To perform OCR verification, click **Start Server.**

The **Performing OCR verification** window appears.

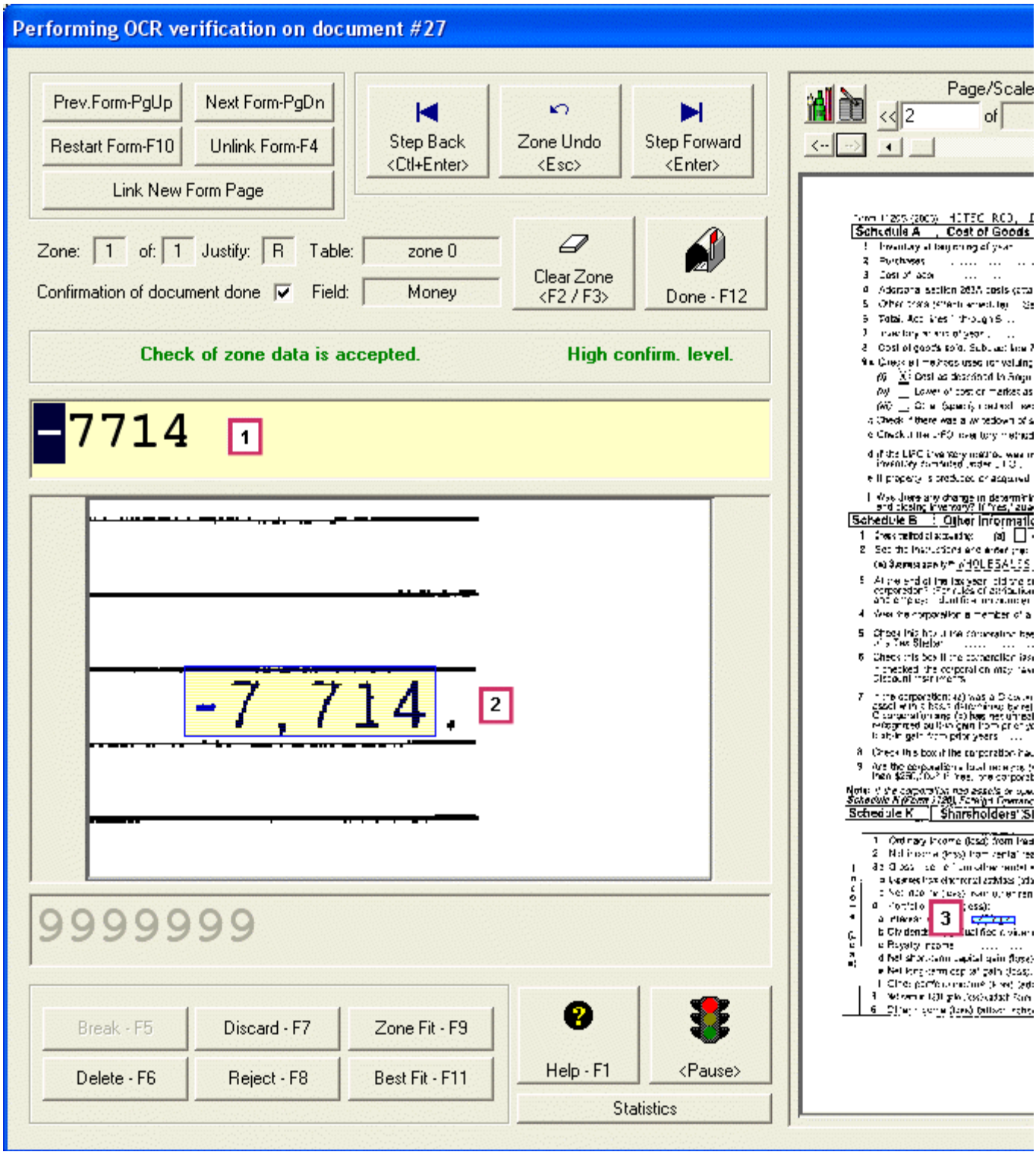


Figure 27: Performing OCR verification window

One side of the **Performing OCR verification** window displays an actual page in a document. The active work zone is selected.

The other side of the window is used to view the zone information and perform any corrections or maintenance to the zone, page, or the entire document. Most of the buttons in the window are associated with shortcut keys, enabling the verification process to be performed without a mouse.

The document viewer can appear on the left or right side of the **Performing OCR verification** window. The document viewer's default position is configured in Configuration Browser. The user can override the setting by selecting **View > Dialog Layout > Left** or **View > Dialog Layout > Right** in the **Form OCR QA** window.

The following buttons at the top left of the window are used to perform verification at the zone template level:

Performing OCR verification, zone template	
Button	**Description**
Prev. Form	Jumps to the previous form template found in the document and displays the first zone in the template. **PGUP** is the shortcut key.
Next Form	Jumps to the next form template found in the document and displays the first zone in the template. **PGDN** is the shortcut key.
Restart Form	Resets all zone values for the current form template and resets verification back to the first zone in the template. **F10** is the shortcut key.
Unlink Form	Unlinks the template and the associated zones from the current page. If a form template signature and its associated zones are assigned in error, this option must be used. **F4** is the shortcut key.
Link New Form Page	Links currently displayed document page to a selected template page as described in Linking a Document Page to a Template Page.

The following buttons located at the top right are used to perform maintenance on the individual zones on each page:

Performing OCR verification, individual zones	
Button	**Description**
Step Back	Jumps back to the previous zone found in the document. **CTRL+ENTER** are the shortcut keys.
Zone Undo	Undoes any changes made to the current zone data. **ESC** is the shortcut key.
Step Forward	Jumps to the next zone found in the document. **ENTER** is the shortcut key.

The following fields display data specific to the current zone:

Performing OCR Verification, current zone data	
Field	**Description**
Zone X of Y	Current zone number in the **X** value and the total number of zones in the template as the **Y** value.
Justify	Indicates whether the zone is defined as right, left, or not justified in the **Justification** field: • **R:** right justified • **L:** left justified

Performing OCR Verification, current zone data	
Field	**Description**
	• **N:** not justified
Table	Database table to be updated by the zone data.
Field	Database field to be updated by the zone data.
Confirmation of document done	If selected, displays a message asking if the document is done. If cleared, no message appears.
Check Box Entry	Selects or clears a check box. If the current zone is designated as a check box, the button appears to the left of the **Done** button. The shortcut key is the **Space bar.** The button is not previously displayed in the **Performing OCR verification** window. 
Clear Zone	Clears the currently selected zone. The shortcut keys are used as follows: • **F2** clears the string in the zone. • **F3** replaces the string with a 0.
Done	Indicates to the system that OCR QA is finished with the current document. The document is automatically sent to the next queue in the workflow to the user COM. If additional documents reside in the Form OCR QA queue, the next one is loaded into the **verification** window. If no additional documents are waiting to be verified, the **Performing OCR verification** window closes and the **Form verification** window appears. You can also use the **F12** key.
Document and parcel information	Displays additional information about the current document or parcel. This field appears only if it is set up in Configuration Browser. For information on setting up this field, see Displaying Additional Document or Parcel Information.
Zone data messages	Generated based on a number of circumstances. They are displayed below the **Done** button. The message on the left pertains to the data read in the entire zone, and the message on the right pertains to each individual character read. **Warning:** If the mask verification is not confirmed, the data must be corrected before you can proceed to the next zone.

The following table describes the zone data messages that can appear on the left:

Zone Data Messages, left	
Message	**Description**
Check of Zone Data has been accepted	Indicates that both the zone mask requirements are satisfied, and that the data in the zone is read and recognized.
Quality Check was not confirmed	Indicates that the zone mask requirements have not been satisfied. If this message appears, you cannot proceed with inspecting the remainder of the document or mark it done until the mask requirements are corrected.
Mask Verification was not	Indicates that zone data are incorrect and do not match the zone mask.

Zone Data Messages, left	
Message	**Description**
confirmed	
Mask Verification is confirmed	Appears once the zone data is corrected and the new data matches the zone mask.
No FORM TEMPLATE assigned to this page	Appears when a page without the template signature is displayed. This information ensures that the page is checked to see if Form OCR Server did not recognize the signature zone.
Zone Content is empty	Appears if the zone does not contain any data.
Mask Verification is not confirmed. Check Length!	Indicates that zone data does not match the zone mask.

The following table describes the zone data messages that can appear on the right:

Zone Data Messages, right	
Message	**Description**
HIGH Confirm. Level	Indicates a high confidence level in Form OCR Server's recognition of the selected character.
LOW Confirm. Level	Indicates a low confidence level in Form OCR Server's recognition of the selected character.
Not Match to Mask	Indicates that the character entered does not match the zone mask.
Out of Mask Bound	Indicates that the cursor has reached the zone mask boundary and no additional characters can be added to the zone value.
New Character	Indicates that an additional character must be added to the zone data.
Corrected Character	Indicates that the selected character was corrected.
Added Character	Indicates that the selected character was added to the zone data.
Image not Defined	Indicates that the selected character has not been defined by Form OCR Server.

The following table describes the boxes in the next portion of the window:

Performing OCR Verification, boxes	
Box	**Description**
Box 1	Data in the current zone. Data not recognized is displayed as a tilde ~. Data recognized at a high confirmation level is displayed in black, and data recognized at a low confirmation level is displayed in red. By selecting each character, the message regarding the confirmation level or status of the character is defined as the messages appear on the right.
Box 2	Portion of the document where the zone was located. A yellow box surrounds the zone and the data inside the box is the same as the data displayed in Box 1.
Box 3	Zone mask for the current zone. As the cursor is moved over each character in Box 1, the corresponding position in the mask is selected in Box 3.

The following table describes the six buttons that perform maintenance at the page level, located at the bottom-left side of the **Performing OCR verification** window:

Performing OCR Verification, maintenance buttons	
Button	**Description**
Break	If the Unlink Form option is used to unlink a form template from a page in the document, used to insert the value SEPARATOR where the template signature zone would be. Routing rules can be set up in the Forms Output queue to route this form for further handling and identification of the correct form template assignment. **F5** is the shortcut key.
Delete	Deletes the page displayed on the right side of the window. **F6** is the shortcut key.
Discard	Discards any modifications made to the page and restores the document back to the original format. **F7** is the shortcut key.
Reject	Places an **X** value in the **QA_REJECT** field in the Document table, which can then be used to send the document to a specific queue via routing rules for further investigation or inspection. **F8** is the shortcut key.
Zone Fit	Magnifies the current zone in the viewer on the right, allowing better identification of the zone value. **F9** is the shortcut key.
Best Fit	Fits the current page in the viewer window, both horizontally and vertically. **F11** is the shortcut key.

Alternatively, to modify display settings for the current document, right click in the Image Viewer and select one of the following commands:

Document display, pop-up menu commands	
Command	**Description**
Best Fit	Fits the current page in the viewer window, both horizontally and vertically.
Fit In Window	Resizes the image to fit horizontally in the window.
Scale	Reduces or enlarges image size. The following options are available: • **25%** • **50%** • **75%** • **100%** • **125%** • **150%** • **175%** • **200%**
Rotate	Rotates an image 90 degrees. The following options are available: • **Left** • **Right**
Contrast	Applies more or less contrast to an image for enhancement purposes. The following options are available: • **More** • **Less**
Invert	Changes the display of the image from black-on-white to white-on-black and vice versa.

Document display, pop-up menu commands	
Command	**Description**
Image Info	Displays document information.

The following tasks can be performed:

- To display help for the **Performing OCR verification** window, click **Help.**
- To pause the Form OCR QA process, click **Pause** and complete work on the current document.

  Form OCR Server is stopped, and the process status changes to “cancelled by the user.”

- To continue the document verification process, click **Start Server.**
- To view form processing statistics, click **Statistics.**

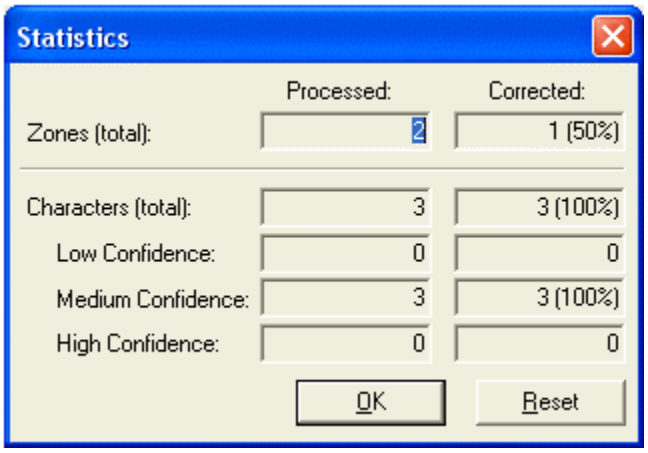


Figure 28: Viewing form processing statistics

The **Statistics** window displays the following information:

- number of zones and characters processed per session
- number and percentage of corrected zones per session
- number and percentage of corrected characters per session
- distribution of characters processed per session based on confidence level
- distribution of characters corrected per session based on confidence level

Reset is used to reset all values to 0.

Statistics on a per document basis can be viewed in the audit log. For more information on audits and audit events, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Appendix D: Audit Data in Exigen Workflow.

Displaying Additional Document or Parcel Information

If additional document or parcel information must be displayed, an additional field is set up in the **Performing OCR verification** window. The new field appears beneath the **Done** button.

To set up a field for displaying additional document or parcel information, proceed as follows:

1. In the **Exigen Workflow Explorer** window, select **Administration Tools > Workflow Tools.**
2. To start Configuration Browser, double click **Configuration Browser** 

.

   For information on Configuration Browser, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 4: Setting Up Exigen Workflow, Viewing and Modifying Configurations.
3. If the **Set View Filter** window is displayed, click **OK.**
4. To create a new section, select **Edit > Add Section.**
5. In the **New Section** window, in the **Name** field, enter **FormOCRQAField.**
6. In the **Workflow ID** field, enter the workflow ID.
7. Click **OK.**

   The **Form OCR QA Fields** section appears in Configuration Browser.
8. To display information on a parcel, in the right pane, in the **Table** item, open the drop-down list, select **BATCHPARCEL,** and click **Apply.**
9. To display information on a document, in the right pane, in the **Table** item, open the drop-down list, select **DOCUMENT,** and click **Apply.**
10. To select the type of information displayed, in the right pane, in the **Field** item, enter a field name defined in Exigen Workflow Project Builder.

    For example, to display parcel status, for the **Table** item, **BATCHPARCEL** is selected, and for the **Field** item, **PARCEL_SUBJECT** is entered.

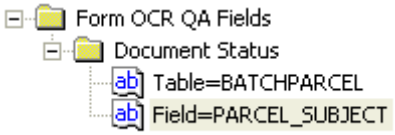


Figure 29: Defining a field for additional information

11. Click **Apply.**
12. To close Configuration Browser, select **File > Exit.**

Linking a Document Page to a Template Page

If no template is linked to a document page or an incorrect template is linked to a document page, the **Link New Form Page** button is used to link the document page to a selected template page.

Pages from both standard templates and Enhanced Form OCR templates can be selected as follows:

- If a standard template page is selected, the default QA information for zones is derived from the Form OCR Server setup.
- If an Enhanced Form OCR template page is selected, the template must be prepared for the QA station and must contain valid default QA information.

For more information on preparing an Enhanced Form OCR template for a QA station, see the *Enhanced Form OCR User's Guide,* Chapter 2: Getting Started, Specifying User Settings.

To link the currently displayed document page to a template page, proceed as follows:

1. Click **Link New Form Page.**

   The **Link Form Template** window appears.

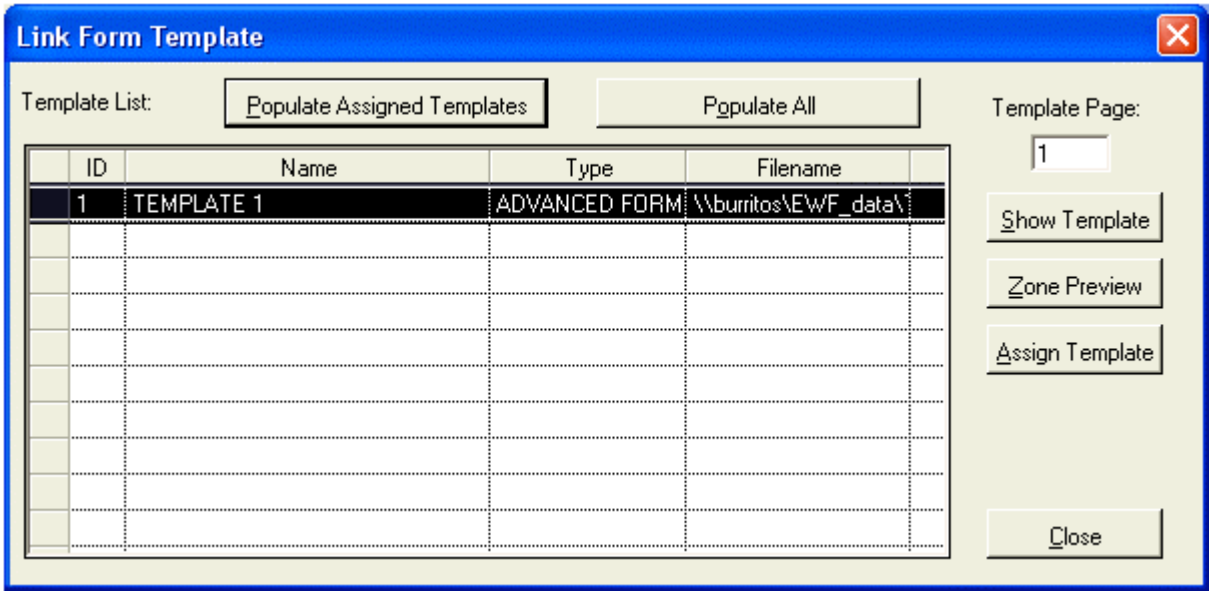


Figure 30: Linking a document page to a template page

2. To display a subset of templates defined in the Template Management Utility **Where Used** tab, click **Populate Assigned Templates.**
3. To display all templates registered in Template Management Utility, click **Populate All.**
4. In the table, select a template.
5. In the **Template Page** field, enter the template page number to be assigned to the currently selected document page.

6. To view the template, click **Show Template.**
7. To view all defined zones on the template page, click **Zone Preview.**

   All defined zones are highlighted.
8. To assign the template page to the currently displayed document page, click **Assign Template.**
9. To close the window, click **Close.**

Chapter 5: Form Index Server

This chapter describes how to run Form Index Server. The following topics are described in this section:

Overview

Form Index Server, which usually follows the Form OCR QA queue on the workflow map, populates the database with data extracted during the Form OCR process. This process also creates parcels and documents based on the settings assigned when the templates were registered in Form OCR Server.

Warning: Form Index Server does not support processing reference documents.

Form Index Server Window

To open the Form Index Server window, in Exigen Workflow Explorer, double click the **Form Index Server** icon.

The **Form Index Server** window appears.

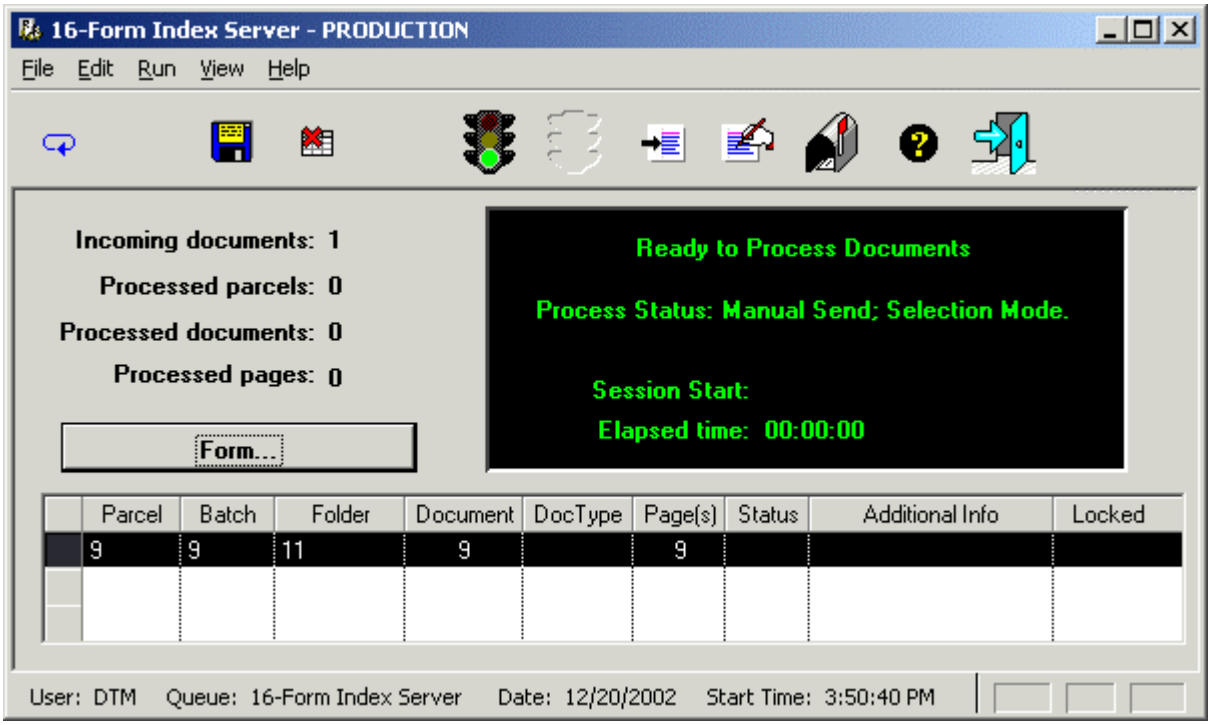


Figure 31: Form Index Server window

The **Form Index Server** window consists of the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of incoming batches, processed parcels, documents, and pages. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displaying the current mode of Form OCR Server
- toggle button to display data in either **Form** view or **Column** view

The job display in the window depends on whether the common queue option is enabled as follows:

- If the **Get from Common Queue after Send** option is enabled for the node in Workflow Builder, when the user sends a job, the next available job is automatically pulled from the common queue.
- If the **Get from Common Queue after Send** option is not enabled for the node in Workflow Builder, all user jobs in the server queue are displayed.
- If the **Get from Common Queue after Send** option is not enabled for the node in Workflow Builder, the user can enable the common queue option by selecting **Edit > Queue Settings** and **Use common queue.** If this option is selected, the next job is retrieved from the common queue by selecting **Run > Get Next Job.**

For more information on common queues, see Specifying Queue Settings.

Running Form Index Server

To run Form Index Server, click **Start Server.**

If the **Auto Send** and **Server Mode** options are selected, the jobs to be processed are loaded by batch into Form Index Server. After the entire batch is processed, the new parcels and documents are sent to the next queue, and Form Index Server starts processing the next batch.

If neither **Auto Send** nor **Server Mode** is chosen, each new parcel must be manually sent to the next queue by clicking **Send.**

The status window displays the processes being performed and the time elapsed.

To stop the server, click **Stop Server.**

Form Index Server can be configured to compare the expected number of documents and parcels in a batch with the actual number of separated documents and parcels. Configuring this feature for Form Index Server is similar to configuring it for Barcode Server. For information on how to verify the number of separated documents and parcels, see Verifying the Number of Separated Documents and Parcels.

For information on maintaining Form Index Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Chapter 6: Full Text Search Preprocessor

This chapter describes how to configure and run Full Text Search Preprocessor. The following topics are described in this section:

Overview

Full Text Search (FTS) Preprocessor extracts text from each page of every document sent through the workflow. It performs Optical Character Recognition (OCR) on images and uses other methods for other file formats, including DOC, PPT, XLS, and PDF. Custom Conversion Engine plugins can be developed for specific formats. By using FTS, you can locate documents in the system based on database information, and you can search for documents based on the words they contain.

As an example of how this feature can be used, consider a large company whose human resources department receives numerous resumes each week. By incorporating FTS into a project called HR Resume, the resumes can be indexed using a social security number or an applicant's name. Later, if a position becomes available in the company's accounting department, a human resources specialist can use the Retrieve object to find all applicants whose resumes contain the word accounting.

FTS Preprocessor

The following prerequisites must be met to use FTS Preprocessor:

1. Ensure that FTS Preprocessor is created in your project.
2. Ensure that FTS Maintenance Utility is configured for your business practice.

To use FTS Preprocessor, proceed as follows:

1. In **Exigen Workflow Explorer,** double click the **FTS Preprocessor** icon.

2. The **FTS Preprocessor** window appears.

   For more information on the FTS Preprocessor window, see FTS Preprocessor Window.

3. To configure FTS Preprocessor, click **Setup.**

For more information on configuring the FTS Preprocessor, see Configuring FTS Preprocessor.

4. Run FTS Preprocessor as described in Running FTS Preprocessor.

FTS Preprocessor Window

To open the **FTS Preprocessor** window, in Exigen Workflow Explorer, double click the **FTS Preprocessor** icon.

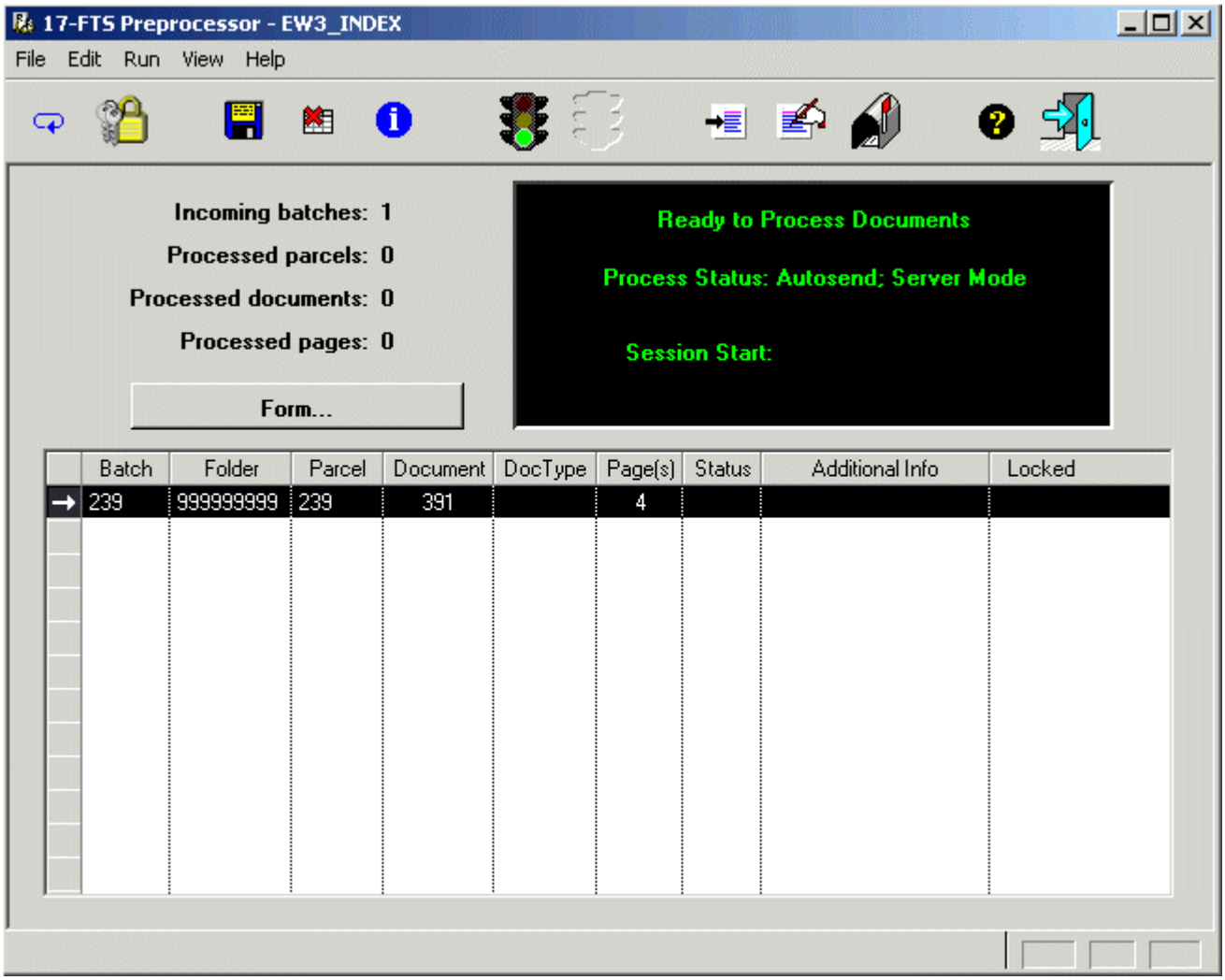


Figure 32: FTS Preprocessor window

The window contains the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars

- information about the number of incoming batches, processed parcels, documents, and pages on the left. Documents with a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displays the current mode of the preprocessor on the right
- toggle button displays data in either **Form** view or **Column** view

Configuring FTS Preprocessor

Before running FTS Preprocessor, you can set up additional commands to enhance the quality of the images and increase the accuracy of the OCR process.

To configure FTS preprocessor, proceed as follows:

1. Select **Run > Setup,** or click **Setup.**

   The **Process Setup** window appears.

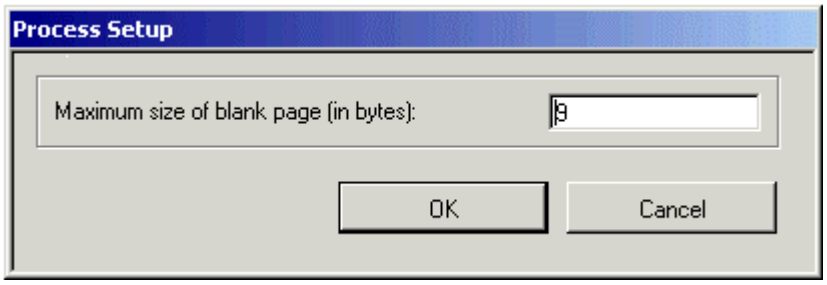
   

   Figure 33: FTS Process Setup window

2. In the **Maximum size of blank page (in bytes):** field, enter an integer value.

   The system ignores all pages whose size is less than the specified number of bytes.

3. To configure the language switch on and off feature before running FTS Preprocessor, edit the `visiclt.ini` file. In section `[fts]` of the `visiclt.ini` file, enter the value **ENG** or **LAT** next to `language` for English or Latvian.

   ```
   ----------------------------------------------------
   [fts]
   language=
   ----------------------------------------------------
   ```

   This feature ensures that Latvian symbols can be used when working with Full Text Search Preprocessor.

   Warning: If the `visiclt.ini` file does not contain this section or entry or if it is set to **ENG,** an application must not use this feature.

4. To configure the ability to switch OLE on and off for Word document indexing before running FTS Preprocessor, edit the `visiclt.ini` file. In section `[fts]`, enter the value **yes** or **no** next to `msword`.

```
--------------------------------------------------
[fts]
msword=
--------------------------------------------------
```

   If the value set is **yes,** the application uses OLE for Word document indexing.

   Warning: If the `visiclt.ini` file does not contain this section or entry, or if it is set to **no,** an application must not use this feature.

Note: FTS Server and FTS Preprocessor use is described in the `ocrserv.ini` file, which is created by FTS Preprocessor after setup.

Running FTS Preprocessor

To run FTS Preprocessor, click **Start Processes,** or select **Run > Start Processes.**

The **Auto Send** function in the **Run** menu routes processed work items to the next queue in the workflow based on the routing rules. If no routing rules exist, **Auto Send** is automatically disabled, requiring a manual send process. If routing rules exist, but the **Auto Send** feature is disabled, a manual send process is also required.

The **Server Mode** function allows jobs sent to FTS Preprocessor to be automatically processed. When you open the object and click **Start,** any jobs sent to FTS Preprocessor are processed immediately. If **Server Mode** is not enabled, you must manually start FTS Preprocessor each time work items are received.

For complete automation, both the **Auto Send** and **Server Mode** options must be selected with the appropriate outgoing routing rules in place. Once started, work items are processed and routed to the next queue without the need for user intervention.

The status window displays the processes being performed and the time elapsed.

To stop FTS Preprocessor, click **Stop Processes** or select **Run > Stop Processes.**

For information on maintaining FTS Preprocessor as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Chapter 7: Full Text Search Server

This chapter introduces the Full Text Search system and explains how to use it. The following topics are described in this section:

System Data Structure

Full Text Search is used to create indexes of words found and created from documents from a workflow. The system consists of two main parts: Full Text Search Preprocessor and Full Text Search Index.

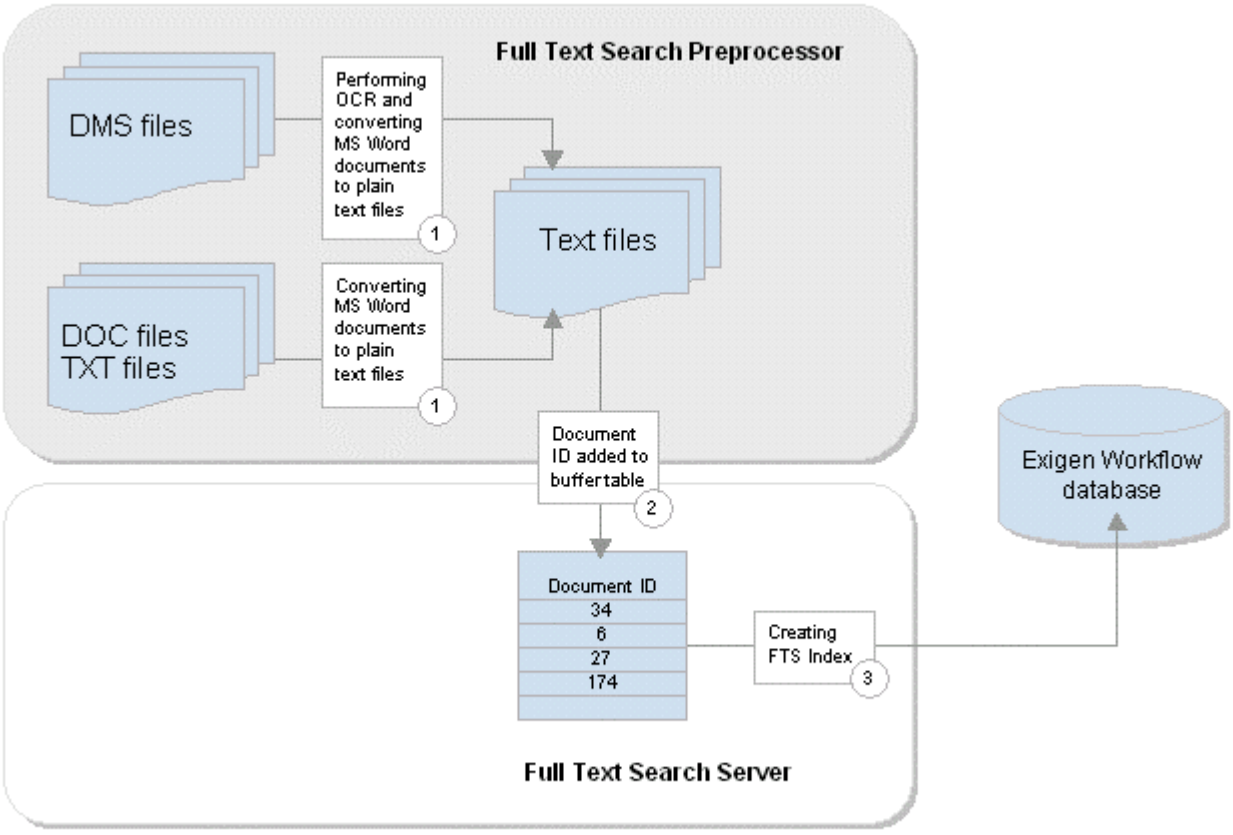


Figure 34: Full Text Search system

Full Text Search processes documents as described in the following procedure, where each step corresponds to a step in the diagram:

1. Files are converted as follows:
   - For DMS files, Full Text Search uses optical character recognition (OCR) to identify words and phrases within documents. Following OCR, the documents are converted into plain text files.
   - DOC and TXT files are converted to plain text files.
2. Document IDs are added to a special buffer table.
3. Full Text Search (FTS) Server reads the document ID in the table and creates the FTS Index.

Installing Full Text Search

Full Text Search is an optional Exigen Workflow component. To install it, select the Full Text Search check box under the Exigen Workflow Optional Components node in the Select Components step of the Exigen Workflow installation.

The following topics are described in this section:

Customizing a Project

The Full Text Search function requires additional tables to be created in the Exigen Workflow database. There are two ways to create these tables:

1. In the **Project Builder,** highlight the project and select **Project > Create FTS Tables.**

   The project has a **Y** in the **Full Text** column in the **Project Builder** window.

2. In the **Project Builder,** click the **Project Maintenance** icon, and in the **Project Table Maintenance** window, select **Maintenance > Create FTS Tables** item.

   An **FT** appears under the **Database Type** field in the **Project Table Maintenance** window.

If you are creating Full Text Search on an existing project, documents created before FTS implementation cannot be located using FTS because they were not subject to OCR when they entered the system.

To delete Full Text Search from a project, select the **Drop FTS Tables** option in one of the following:

- **Project** menu in the **Project Builder** window
- **Maintenance** menu in the **Project Table Maintenance** window

Designing a Workflow

FTS consists of two main parts:

- FTS Preprocessor
- FTS Server

To include these objects in a workflow, proceed as follows:

1. Design a typical workflow.
2. Add an FTS Preprocessor node to the workflow.
3. Link it to other nodes so that documents can be sent to FTS Preprocessor. For example, set a link from a High Volume Scan node to the FTS Preprocessor node.
4. Add an FTS Server node to the workflow. Do not link it to any object, because the server is run in the background.
5. Add a Retrieve node to the workflow.

   Users open the Retrieve node to search documents based on the indexes created with FTS. For more information on FTS document retrieval, see the *Exigen Workflow User's Guide,* Chapter 9: Document Retrieval, Retrieving FTS Documents.

The following figure shows a sample workflow that includes FTS Preprocessor and FTS Server:

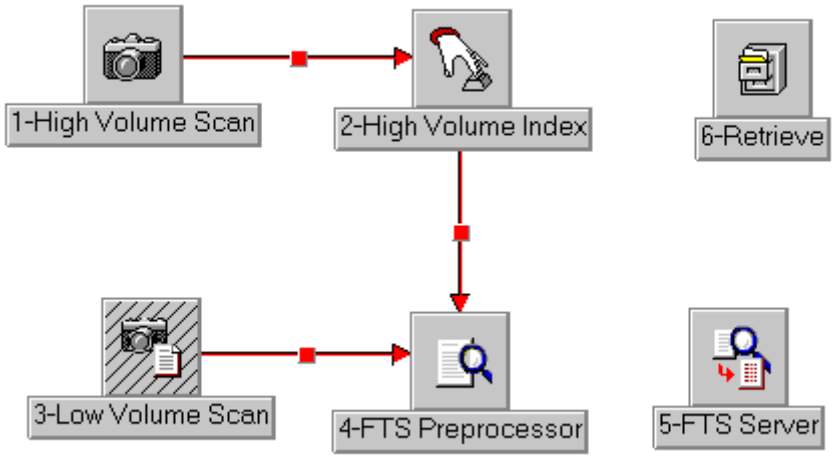


Figure 35: Sample workflow diagram with FTS

Using FTS Server

To use FTS Server, proceed as follows:

1. In **Exigen Workflow Explorer,** double click the **FTS Server** icon.

   The **FTS Server** window appears. For more information on the **FTS Server** window, see FTS Server Window.

2. Run FTS Server as described in Running FTS Server.

FTS Server Window

To open the **FTS Server** window, in Exigen Workflow Explorer, double click the **FTS Server** icon.

The **FTS Server** window appears.

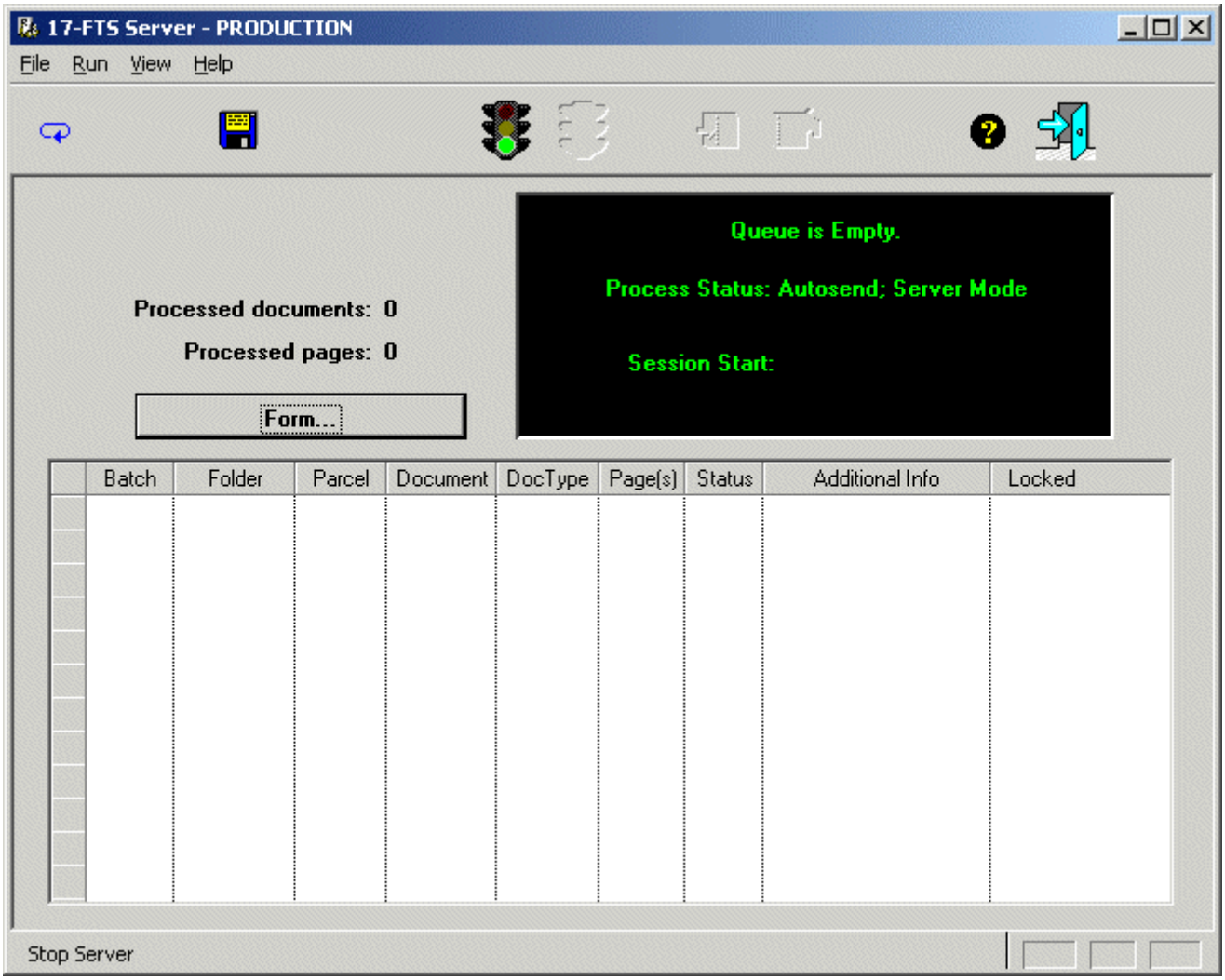


Figure 36: FTS Server window

The window contains the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of processed documents and pages on the left. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displays the current mode of the server on the right
- toggle button displays data in either **Form** view or **Column** view

Running FTS Server

FTS Server runs in the background. When a document is indexed through FTS Preprocessor, its ID is added to a special table that serves as a task for FTS Server. As a batch appears in the

table, FTS Server starts creating the FTS Index. FTS Server can be started automatically when you turn on your workstation, or it can be started from the Exigen Workflow system.

To run FTS Server, click **Start Processes** or select **Run > Start Processes.**

The status window displays the processes being performed and the time elapsed.

To stop the server, click **Stop Processes** or select **Run > Stop Processes.**

FTS Server documents that could not be indexed are displayed in the erroneous documents list, as described in the *Exigen Workflow Administrator's Guide, Part 3: Utilities,* Chapter 5: Full Text Search Maintenance Utility, Viewing Erroneous Documents.

For information on maintaining FTS Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Chapter 8: Image Enhancement Server

This chapter describes how to configure and run Image Enhancement Server, which can be used in place of or in addition to the enhancement settings at the scanning level.

The following topics are described in this section:

Overview

Image Enhancement Server improves the quality of scanned images. The server can be used as an alternative to the image enhancement tools available in the scan settings. By using Image Enhancement Server, you can speed up the scanning process by separating it from the image enhancement process.

Image Enhancement Server Window

To open the **Image Enhancement Server,** in Exigen Workflow Explorer, double click the **Image Enhancement Server** icon.

The **Image Enhancement Server** window appears.

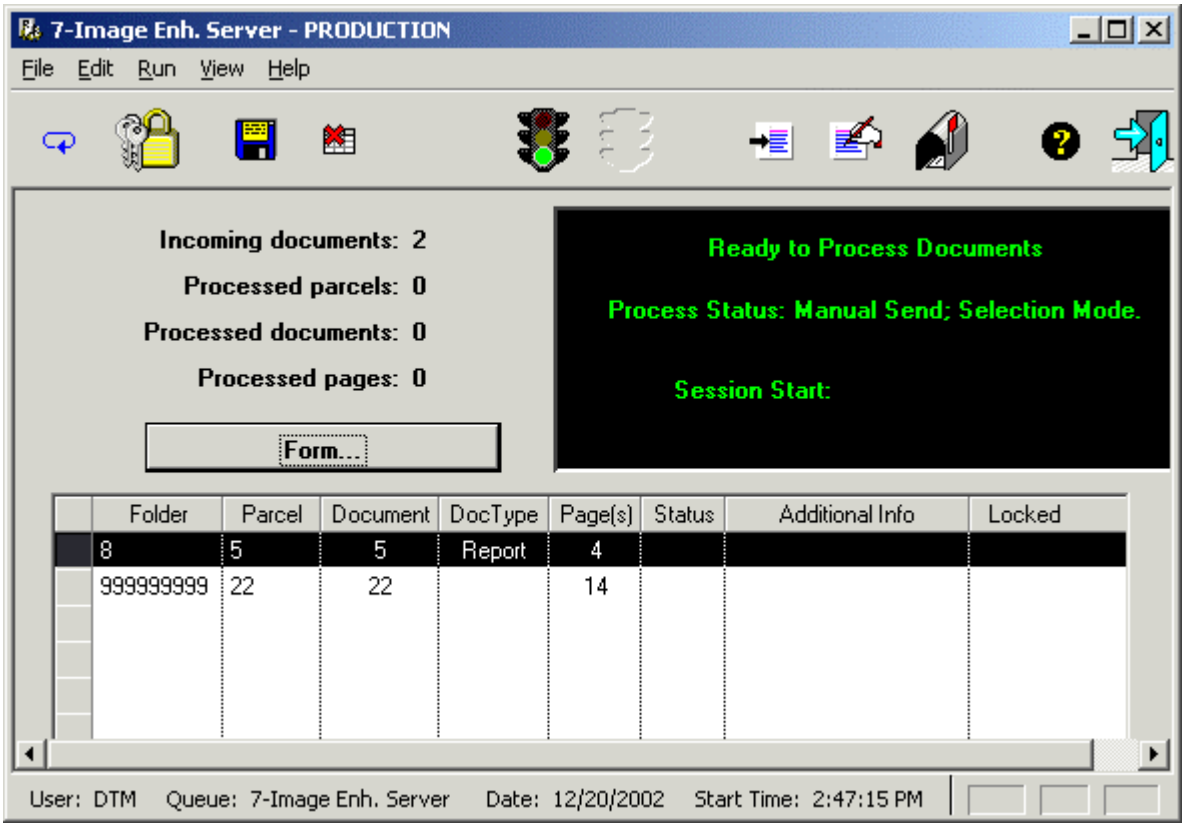


Figure 37: Image Enhancement Server window

The window contains the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of incoming batches, processed parcels, documents, and pages on the left. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displays the current mode of the server on the right
- toggle button displays data in either **Form** view or **Column** view

Configuring Image Enhancement Server

To configure the enhancements, select **Run > Process Setup,** or click the **Process Setup** icon.

The **Process Setup** window appears.

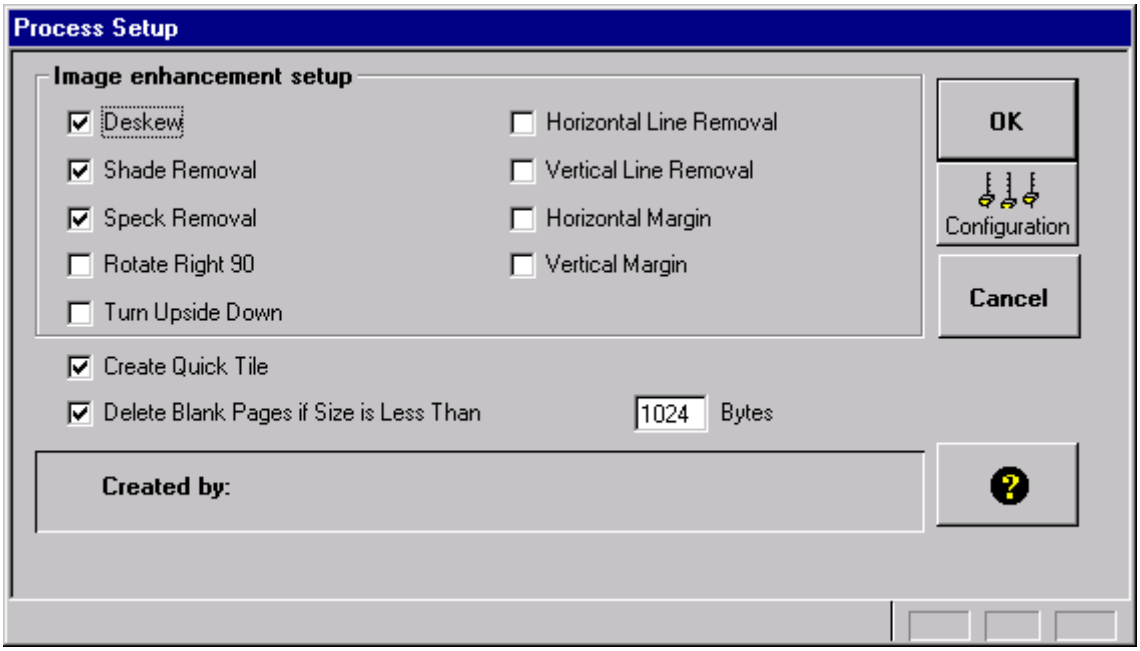


Figure 38: Process Setup window

The following table describes the image enhancement options:

Process Setup, image enhancements	
Option	**Description**
Deskew	Straightens the page in the Image Viewer.
Shade Removal	Removes any shading from on the page.
Speck Removal	Removes any specks or noise from the page.
Rotate Right 90	Rotates the pages in the document clockwise 90 degrees.
Turn Upside Down	Rotates the pages in the document 180 degrees.
Horizontal Line Removal	Removes any horizontal lines, not letters, from the page.
Vertical Line Removal	Removes any vertical lines, not letters from the page.
Horizontal Margin	Adjusts the image horizontally based on a set margin size.
Vertical Margin	Adjusts the image vertically based on a set margin size.
Create Quick Tile	Creates thumbnail views of each page of the image.
Del. Blank Pages If Size is Less than:	Sets a condition for blank page deletion. In the **Bytes** field enter the number of bytes you want to set as a limit. Any page whose size in bytes is less than the number entered is deleted from the document.
Created By:	Value is generated by the system and identifies the date and time the last enhancement configuration was created.

The options in the **Image Enhancement Setup** section instruct the server to perform the selected functions. Specific parameters for the following Image Enhancement Options must be assigned in the **Image Filtering Settings** dialog:

- **Shade Removal**
- **Speck Removal**
- **Horizontal Line Removal**
- **Vertical Line Removal**
- **Horizontal Margin**
- **Vertical Margin**

Configuring Image Filtering Settings

The **Image Filtering Settings** window sets the parameters for the settings in the **Process Setup** window.

To configure image filtering settings, proceed as follows:

1. To open the **Image Filtering Settings** window, in the **Process Setup** window, click **Configuration.**

   The **Image Filtering Settings** window appears.

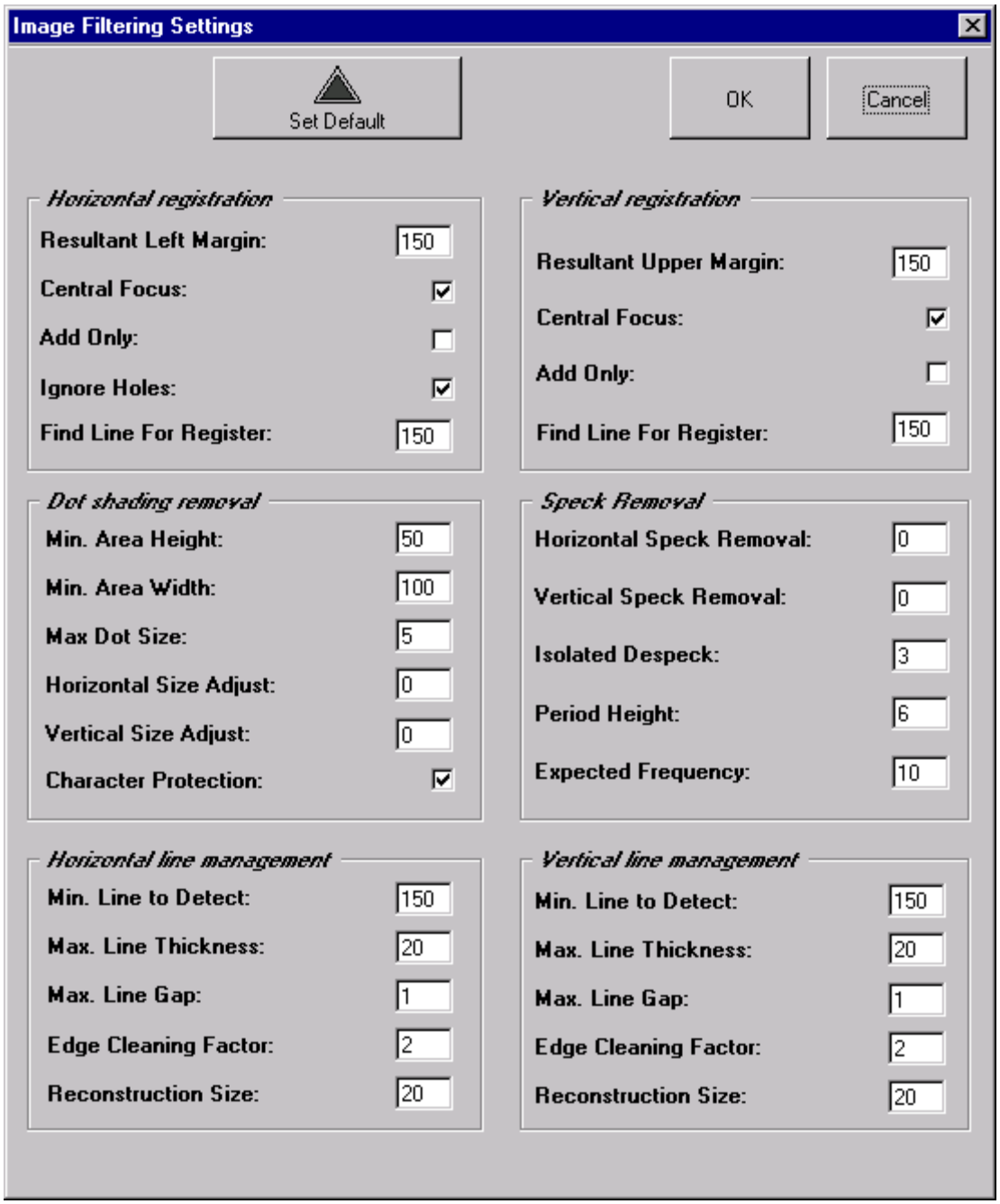


Figure 39: Image Filtering Settings window

Each section in the **Image Filtering Settings** window performs the settings for one enhancement function.

2. To use the default settings, click **Set Default.** Otherwise, set the appropriate value for each enhancement parameter.

   Horizontal registration positions text horizontally on the page by providing a consistent left margin.

Horizontal registration	
Setting	**Description**
Resultant Left Margin	Number of pixels for the left margin after processing.
Central Focus	Register the image using only the middle portion of the image border. This feature must be used to ignore letterheads and logos.
Add Only	Expand the current margin of the image to the size specified in the **Resultant Left Margin** field. If the current margin is larger than the **Resultant Left Margin** field, no portion of the image can be cropped.
Ignore Holes	Ignore binder holes that may exist on the left side of the images.
Find Line For Register	Used for precise registration of forms. The value entered prompts the system to search horizontally for a vertical-line segment larger than the value. The text is shifted so that the line is shifted to the left edge of the image, based on the value entered in the **Resultant Left Margin** field.

Vertical registration positions text vertically on the page by providing a consistent upper margin.

Vertical registration	
Setting	**Description**
Resultant Upper Margin	Number of pixels for the upper margin after processing. A zero value places the text flush with the top of the image.
Central Focus	Register the image using only the middle portion of the image border. This feature must be used to ignore letterheads and logos.
Add Only	Expand the current margin of the image to the size specified in the **Resultant Upper Margin** field. If the current margin is larger than the **Resultant Upper Margin** field, no portion of the image can be cropped.
Find Line for Register	Used for precise registration of forms. The value entered prompts the system to search vertically for a vertical-line segment larger than the value. The text is shifted so that the line is shifted to the upper edge of the image based on the value entered in the **Resultant Upper Margin** field.

Dot Shading Removal removes areas of dot shading created by dithering in black and white images.

Dot shading removal	
Setting	**Description**
Min. Area Height	Height, in pixels, of the smallest dot-shaded area to be processed. The default value is 50.
Min. Area Width	Width, in pixels, of the smallest dot-shaded area to be processed. The default value is 100.
Max Dot Size	Maximum size, in pixels, that makes up the dot-shading. The default value is 5.
Horizontal Size Adjust	Number of pixels to be used as a horizontal adjustment value by the dot-shading removal function. For example, if some dots in the shade are 2 pixels wider than the Max Dot Size, entering a value of 2 instructs the system to remove dots that are 7 pixels wide. This number can also be a negative.

Dot shading removal	
Setting	**Description**
Vertical Size Adjust	Number of pixels to be used as a vertical adjustment value by the dot-shading removal function. For example, if some dots in the shade are 2 pixels bigger than the Max Dot Size, entering a value of 2 instructs the system to remove dots that are 7 pixels tall. This number can also be a negative.
Character Protection	Protect portions of characters from being removed.

Speck Removal cleans the image by removing any specks smaller than the parameters assigned.

Speck removal	
Setting	**Description**
Horizontal Speck Removal	Deletes groups of horizontal lines less than the number of pixels entered.
Vertical Speck Removal	Deletes groups of vertical lines less than the number of pixels entered.
Isolated Despeck	Deletes all specks and leaves anything else less than the number of pixels entered.
Period Height	Height, in pixels, of periods found in the image. Only specks less than this value are deleted. Therefore, periods remain in the image.
Expected Frequency	Approximate frequency in pixels of the speck location in a document.

Horizontal line management sets the parameters for the deletion of horizontal lines found in the image.

Horizontal line management	
Setting	**Description**
Min. Line to Detect	Minimum size, in pixels, of horizontal lines to be deleted. This value must be large enough to ensure that horizontal lines such as the cross of a "T" are not removed.
Max. Line Thickness	Maximum thickness, in pixels, of horizontal lines to be deleted. The default value is 20.
Max Line Gap	Size of the gap, in pixels, to be ignored so that a line is still considered a continuous line. This feature is useful when the image quality is poor and portions of the lines are not visible.
Edge Cleaning Factor	Cleans up the edges of the lines being removed. Enter the extra number of pixels you want to be cleaned here.
Reconstruction Size	Maximum width, in pixels, of characters to be reconstructed if line removal removes intersected characters.

Vertical line management sets parameters for the deletion of vertical lines found in the image.

Vertical line management	
Name	**Description**
Min. Line to Detect	Minimum size, in pixels, of vertical lines to be deleted. This value must be large enough to ensure that vertical lines such as the vertical portions of the letter "H" are not removed.
Max. Line Thickness	Maximum thickness, in pixels, of vertical lines to be deleted. The default value is 20.
Max Line Gap	Size of the gap, in pixels, to be ignored so that a line is still considered a continuous line. This feature is useful when the image quality is poor and portions of the lines are not visible.
Edge Cleaning Factor	This function cleans the edges of the lines being removed. Enter the extra number of pixels you want to be cleaned.
Reconstruction Size	Maximum width, in pixels, of characters to be reconstructed if line removal removes intersected characters.

3. To apply these settings, click **OK.**

Running Image Enhancement Server

To run Image Enhancement Server, click **Start Server.**

The **Auto Send** function in the **Run** menu routes processed work items to the next queue in the workflow based on the routing rules. If no routing rules exist, **Auto Send** is automatically disabled, requiring a manual send process. If routing rules do exist but the **Auto Send** feature is disabled, a manual send process is also required.

The **Server Mode** function allows jobs sent to the server to be automatically processed. When you open the object and click **Start Server,** any jobs sent are processed immediately. If **Server Mode** is not enabled, you must manually start it each time work items are received.

For complete automation, both options must be selected with the appropriate outgoing routing rules in place. Once started, work items are processed and routed to the next queue without the need for user intervention.

The status window displays the processes being performed and the time elapsed.

To stop the server, click **Stop Server.**

For information on maintaining Image Enhancement Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Chapter 9: Import Server

This chapter describes how to configure and run Import Server. The following topics are described in this section:

Overview

Import Server can import documents into the Exigen Workflow repository without scanning and indexing the imported documents. Import Server supports the following import options:

- importing without conversion as described in *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 4: Setting Up Exigen Workflow, Specifying a Default Document Type for a Task
- importing images using internal conversion
- importing using conversion by native applications as described in Printing through Native Applications
- importing using additional third party software conversion tools

Imported documents can be converted to DMS format and sent to a selected workflow node in separate parcels for further processing. Alternatively, some document types can be imported without converting to DMS. In this case, the original application is used for viewing those documents. For example, a PDF document can be imported and Adobe Acrobat Reader can be used to view it in the workflow.

Import Server enables a user to import several image files as one DMS document with many pages, where each page contains one imported image.

Documents can be converted to DMS by printing using their native applications, which must be installed on the workstation that runs Import Server.

The following types of documents can be converted to DMS by printing using a native application:

Document formats that can be converted to DMS using a native application	
Document format	**Native application**
TXT	Word.
DOC	Word.
RTF	Word.
XLS	Excel.
HTML	Word.
PDF	Adobe Acrobat.

For more information on printing through the native applications, see Printing through Native Applications.

Import Server may require the following third party software to perform specific conversions from the original format to the converted format:

Third party software	Original format	Converted format
Word and NED Image Printer Driver	.doc, rtf., .htm., and .txt	.tif or .dms
Excel and NED Image Printer Driver	.xls	.tif or .dms
Adobe Libraries and NED Image Printer Driver	.pdf	.tif or .dms

The following file types can be converted to .dms format without additional software:

- .dms
- .gif
- .jpg
- .bmp
- the following .tif file variations:
  - uncompressed
  - CCITT 1D
  - CCITT G3
  - CCITT G4
  - LZW
  - JPEG7
  - PackBits

The importing configuration records must be correctly configured in the **Import Setup** window to obtain parameters such as the location of the source files, the importable documents type, and import method.

To improve the document flow, it is possible to import documents together with the indexing information. In this case, the users can omit indexing the imported documents in the workflow after importing if full indexing information is provided. Indexing information and the path to the source documents must be stored in a simple text file.

Exigen Workflow also supports importing indexing information separately without documents.

By default, Import Server assigns the document type IMP to imported documents when the document type is not specified in the Import Server configuration even if the IMP document type is not defined in the system. It can cause problems if these imported documents are used by Application Services. If Application Services processes imported documents that are assigned the IMP document type, the administrator must manually define and add the IMP document type to the system.

Note: Import Server can import documents into one project from another only if both projects are in the same database.

Import Server Window

To open the **Import Server** window, in **Exigen Workflow Explorer,** double click the **Import Server**  icon.

The **Import Server** window appears.

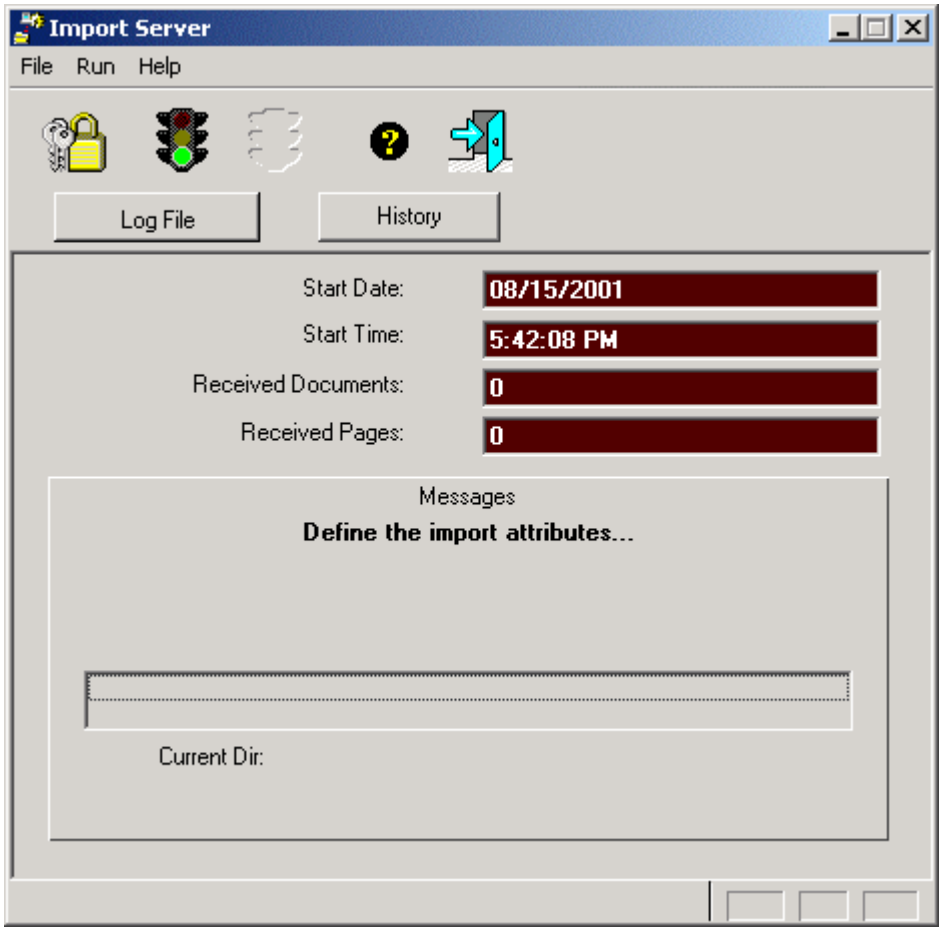


Figure 40: Import Server window

The Import Server window contains the following fields and options:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the current session of Import Server below the button bar

The following table describes the **Import Server** window current session statistics:

Import Server, current session statistics	
Statistics	**Description**
Start Date	Date when the current session was started.
Start Time	Time when the current session was started.
Received Documents	Total number of documents processed by Import Server.
Received Pages	Total number of pages processed by Import Server.
Messages	System messages concerning the actions to be taken or the current processing status.
Current Dir	Directory where the imported files are located. Each individual file is displayed above the **Current Dir** field while it is processed.

Configuring Import Setup Attributes

Before importing documents, you must provide the following information:

- location of the source documents and indexing text files
- import method
- source files type
- database fields populated with the indexing information provided in the text files

Multiple dialog windows are used to perform the import. The selections made during configuration determine which dialog windows appear later. All possible dialog window sequences are described in this section.

To start configuring Import Server, select **File > Setup** or click **Setup.**

The **Import Setup** window appears.

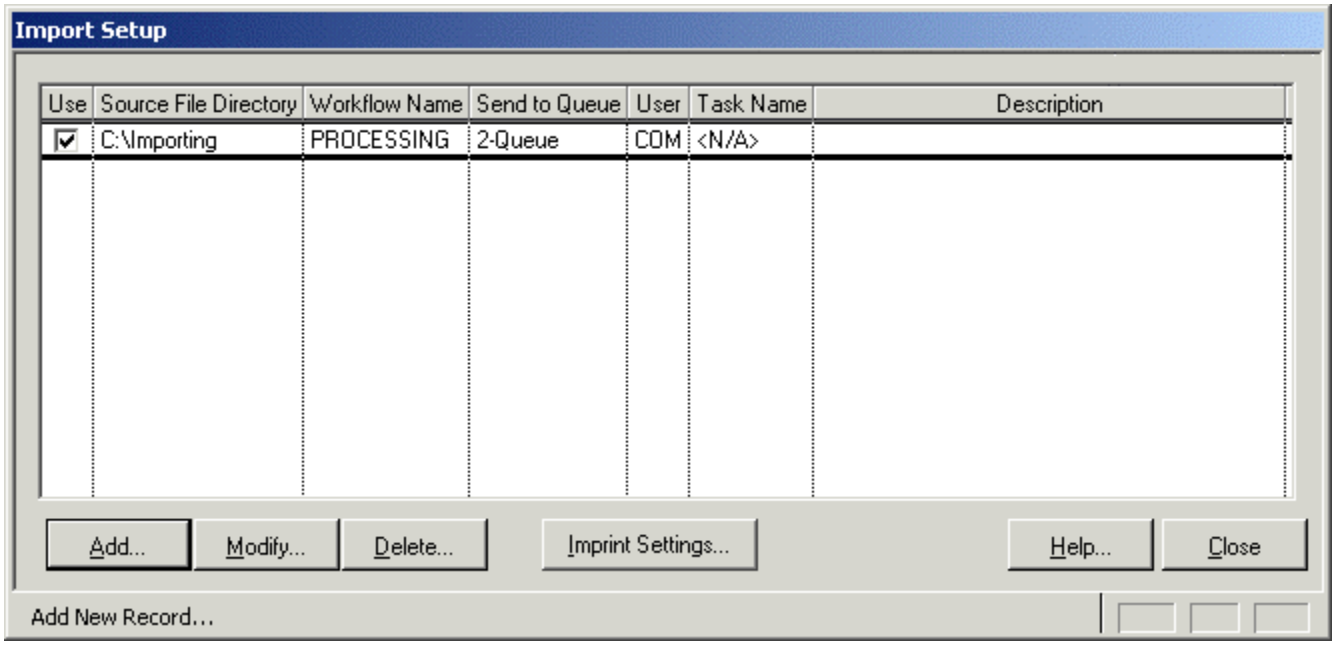


Figure 41: Import Setup window

The **Import Setup** window lists all defined importing configuration records.

An import configuration record is a line in the table that contains all the information required for the particular import session. Users must create at least one import configuration record to import documents.

The following table describes the parameters in the import configuration records table:

Import configuration records	
Name	**Description**
Use	Activates an importing configuration. The selected importing configuration record is used when Import Server is run.
Source File Directory	Location of the index file, if indexing information is imported, or the location of source files, if documents are imported without indexing information.
Workflow Name	Target workflow where data is sent after import.
Send to Queue and **User** columns	Where and to whom the imported data is sent after import.
Task Name	Task associated with imported data. The task is the application used to open and view imported documents. If **N/A** is selected, all imported documents are converted to the DMS format and viewed with Image Viewer in the workflow.
Description	Identification assigned to the specific import configuration record.

The **Import Setup** window has the following command buttons:

Import Setup buttons	
Buttons	**Description**
Add	Adds a new import setup record.
Modify	Modifies an existing setup record.
Delete	Removes an existing record.
Imprint Settings	Sets the imprint type and alignment for imported documents. An electronic imprint is placed on each page of the document image. The default location of the imprint is the top left-hand corner of the document image. For more information on imprint sessions, see Specifying Imprint Settings.
Help	Opens help.
Close	Closes the current window and returns to the **Import Server** window, from where you can start importing after selecting an import configuration record.

Specifying Imprint Settings

To specify imprint settings for a particular importing configuration record, proceed as follows:

1. In **Import Setup** window, select a configuration record to which the imprint settings are applied.
2. In the **Import Setup** window, click **Imprint Settings.**

   The **Import Setup - Imprint Settings** window appears.

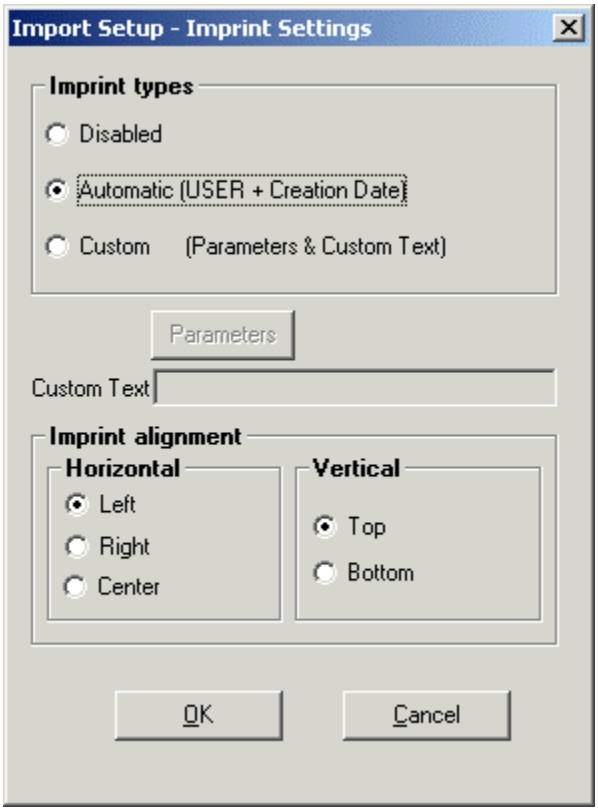


Figure 42: Imprint Settings window

The following table describes the three options available for setting the type:

Imprint Setting, setting type	
Type	**Description**
Disabled	Does not imprint any information.
Automatic	Imprints the user ID and creation time on each page of the document image.
Custom	Imprints the custom text specified in the **Custom Text** field. The text cannot exceed 60 characters. By using the **Custom** option you can also add multiple parameters to the imprint text. For example, this can be creation date, user name, workstation name, and many other parameters. To add custom imprint parameters, a user can click **Parameters** and select the appropriate fields in the **Parameters for Imprint** window.

The following table lists horizontal imprint alignment options:

Horizontal alignment	
Option	**Description**
Left	Positions the imprint on the left.
Right	Positions the imprint on the right.
Center	Centers the imprint.

The following table lists vertical imprint alignment options:

Vertical alignment	
Option	**Description**
Top	Positions the imprint at the top of the page.
Bottom	Positions the imprint at the bottom of the page.

3. To apply the imprint settings, click **OK.**

Adding or Modifying an Import Setup Record

The following topics are described in this section:

- Creating a New Importing Configuration Record
- Creating Settings for Importing Document Files Only
- Creating Settings for Importing Indexing Information Only
- Creating Settings for Importing Document Files and Indexing Information
- Populating Table Fields

Creating a New Importing Configuration Record

During the importing session, Import Server uses the selected record in the **Import Setup** window as a source of configuration settings importing process.

The following topics are described in this section:

- Entering Importing Session Information
- Printing through Native Applications
- Defining the Import Method

To create a new importing configuration record, proceed as follows:

1. Open the **Import Setup** window.
2. Click **Add.**

   The **Import Setup - Source and Destination Setup** window appears.

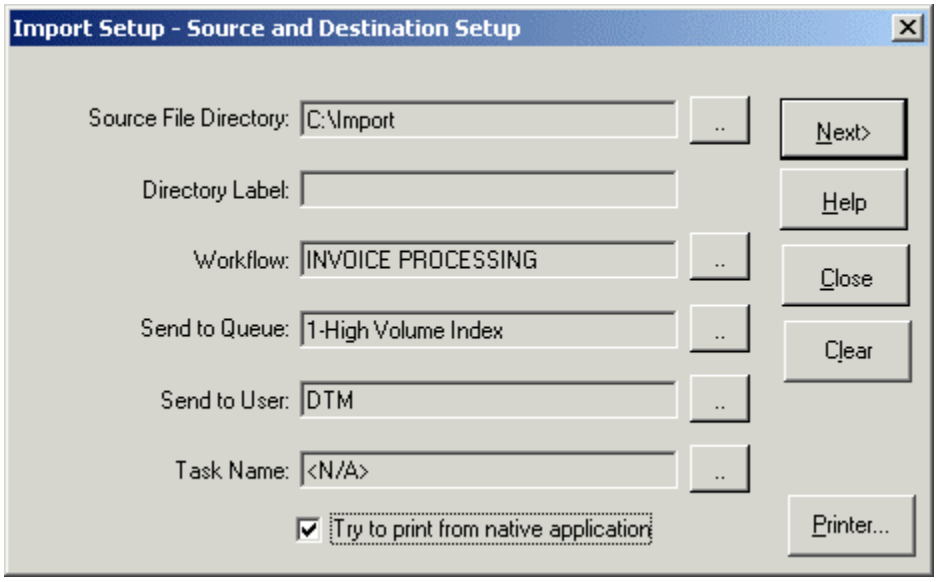


Figure 43: Import Setup - Source and Destination Setup window with full information

Entering Importing Session Information

In the **Import Setup - Source and Destination Setup** window, provide general information for the particular importing session.

The **Source and Destination Setup** window is also displayed if you modify an existing importing configuration record.

If the same input directory is used for multiple Import Servers, the Import Servers must be configured so that they do not attempt to import the same files simultaneously. For example, one server imports only DMS files and another imports only DOC files.

To specify importing session information, proceed as follows:

1. To select the directory where the source files are located, click the browse button .. next to the **Source File directory** field.
2. In the **Directory Label** field, enter the identifying description of the import setup record.

   This field is optional.
3. Click the browse button next to the **Workflow** field.

   The **Setup** window displays a list of all workflows available in the database.
4. Select the workflow that you want to receive the imported data.
5. In the **Setup** window, click the browse button next to the **Send to Queue** field.

   A list of all available queues in the selected workflow is displayed.
6. Select the target queue to which you want to send the imported documents.

If you import documents without the indexing information, it is recommended that you send the documents to the High Volume Index queue. Otherwise, the imported documents cannot be retrieved and viewed by other users that do not have access to the selected target queue.

7. To select a user who is to receive the imported documents, click the browse button next to the **Send to User** field.
8. To list all tasks set up in the database, click the browse button next to the **Task Name** field.

   A task is the application that is used to open and view the document later in the workflow.

9. To assign it to the new setup record, click on a task.

   The default value is **N/A,** not applicable, which means that the source documents are converted to the DMS format and Image Viewer is used for viewing and editing those documents.

10. To convert DOC, RTF, XLS, HTML, and PDF documents to DMS format, select the **Try to print from native application** check box.

    For more information on printing through native applications, see Printing through Native Applications.

11. To clear all fields in the **Source and Destination Setup** window, click **Clear.**
12. To close the window, click **Close.**

    If you are adding a new import configuration record, do not close the window, because all data is lost after clicking **Close.** This does not apply when you are modifying a record.

13. To open the help topic about this window, click **Help.**
14. To go to the next setup dialog, click **Next.**

    The **Import Setup** - **Input Sources Selection** window appears.

    For information on the **Import Setup – Input Sources Selection** window, see Defining the Import Method.

Printing through Native Applications

DOC, RTF, XLS, HTML, and PDF documents can be converted and imported as DMS files through a specialized printer driver.

To set up printing using a specialized printer driver, proceed as follows:

1. To import DOC, RTF, XLS, HTML, and PDF documents as DMS files, install a specialized printer driver on your workstation.

   The following printer drivers are supported by Import Server for converting the documents:

   - NED Image Printer
   - Informatik Image Driver

Note: NED Image printer has to be installed before printing Office and PDF files.

At least one of the preceding drivers must be installed before proceeding.

The NED Image Printer is optional third party software that must be ordered from Exigen.

2. To install NED Image Printer, follow the instructions described in the NED Image Printer driver's `readme.txt` file.
3. After NED Image Printer is installed, select **Start > Settings > Printers.**
4. Right click **NED Image Printer** and select **Properties.**

   The **NED Image Printer Properties** window appears.
5. Select the **Advanced** tab.

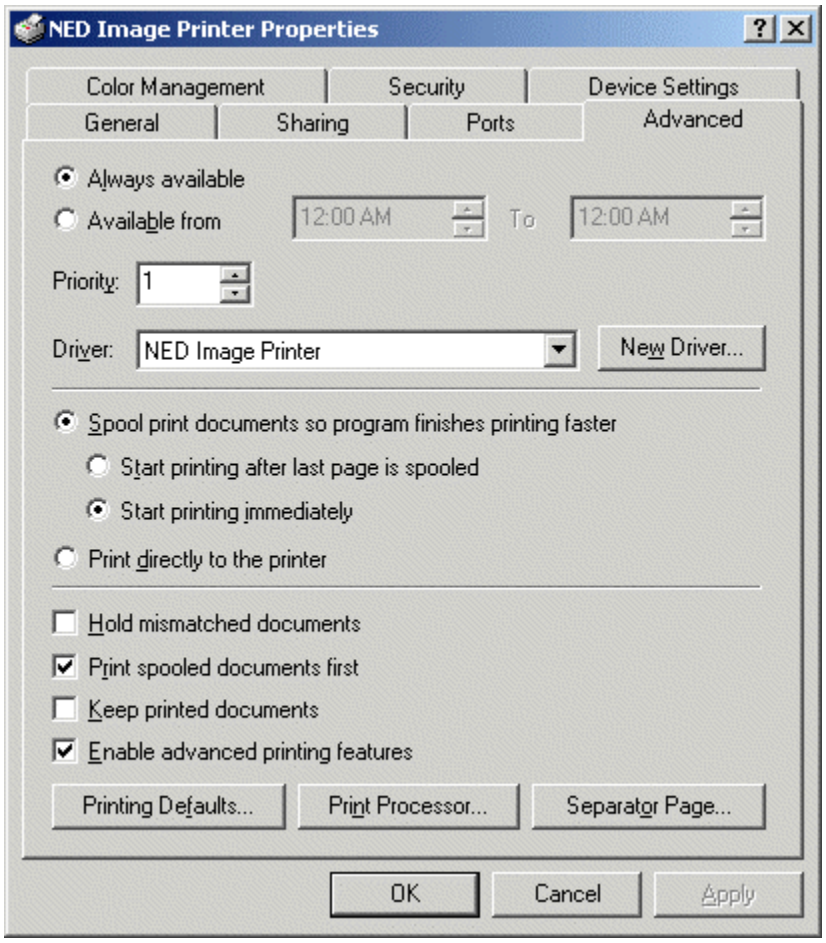


Figure 44: NED Image Printer Properties window

6. Select the **Print directly to the printer** option.
7. Click **OK.**
8. To import DOC, RTF, XLS, HTML, and PDF files as DMS documents, in the **Source and Destination Setup** window, select the **Try to print from native application** check box.

   The **Printer** button appears.

9. To select the printer driver for converting documents to the DMS format, click **Printer.**

   The **Conversion Setup** window appears.

10. In the **Conversion Setup** window, select either the NED Image Printer or the Informatik Image Driver and click **OK.**

    These printer drivers are available for selection only after they are correctly installed on your workstation. Import Server does not support any other printer drivers.

    If you are using NED Image Printer, observe the following rules:

    - Do not select a print quality of 100x100 dpi for color images.
    - Note that a great deal of free hard drive space is required when printing color documents, for example, up to 10 MB per page for a resolution of 200x200 dpi.
    - Excel files can be printed only at a dpi resolution of 600x600.

Defining the Import Method

The **Import Setup - Input Sources Selection** window defines the import method used.

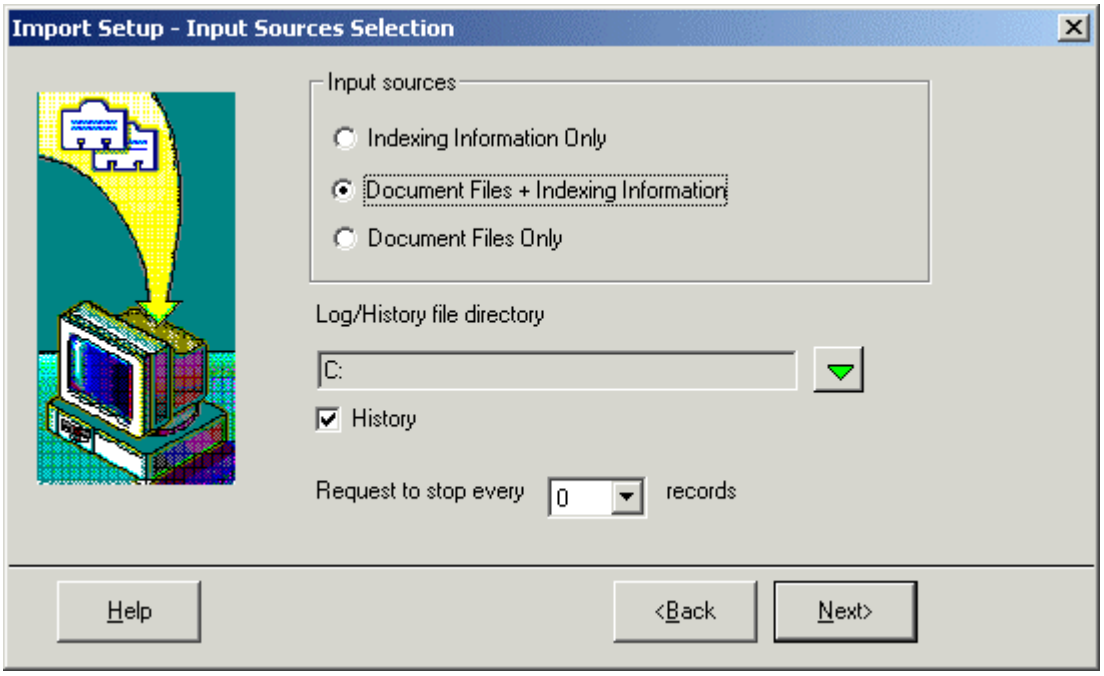


Figure 45: Import Setup - Input Sources Selection window

The **Input Sources Selection** window contains the following options and buttons:

Import Setup, Input Sources options	
Option	**Description**
Indexing Information Only	Only indexing information is imported from text files. The **Source File Directory** field contains the full path to the text files with all indexing data. No documents are imported in this case. You can import date and time values as indexing information. Time must be in the `hh:mm:ss` format, where `hh` is a number with a two-digit hour value between 0 and 23 inclusive, `mm` is a number with a two-digit minute value between 00 and 59 inclusive, and `ss` is a number with a two-digit second value between 00 and 59 inclusive. American time format `hh:mm:ss AM` or `hh:mm:ss PM` is also supported, for example, `10-27-2003,10:48:11 AM`
Document Files + Indexing Information	Indicates source documents are imported according to the path specified in the text files located in the source directory and the indexing information is also extracted from these text files. The following is an example of the text file that contains indexing information and the path to the importable document. `220101,Brown,Jenny,C:/EWF/2201/data1.doc`
Document Files Only	Only documents are imported. The **Source File Directory** field contains a full path to the document location. Text files with additional information are not required in this case.
History	Creates a history file. For more information on the **History** check box, see Viewing Import Server Log and History Files. You can select where you want the log and history files to be located by using the browse button. 
Request to stop every X records	Indicates when to pause the import process. Once the specified number of import setup records is processed, the server pauses, and you can either stop or continue the process.
Help, Back, and **Next**	Navigation and help buttons. • **Next** displays new dialog window if the option selected in the **Input Sources** section. • **Back** displays the previous window. • **Help** displays help information.

Creating Settings for Importing Document Files Only

If the **Document Files Only** option is selected, the **Import Setup – Document File Processing Setup** window appears.

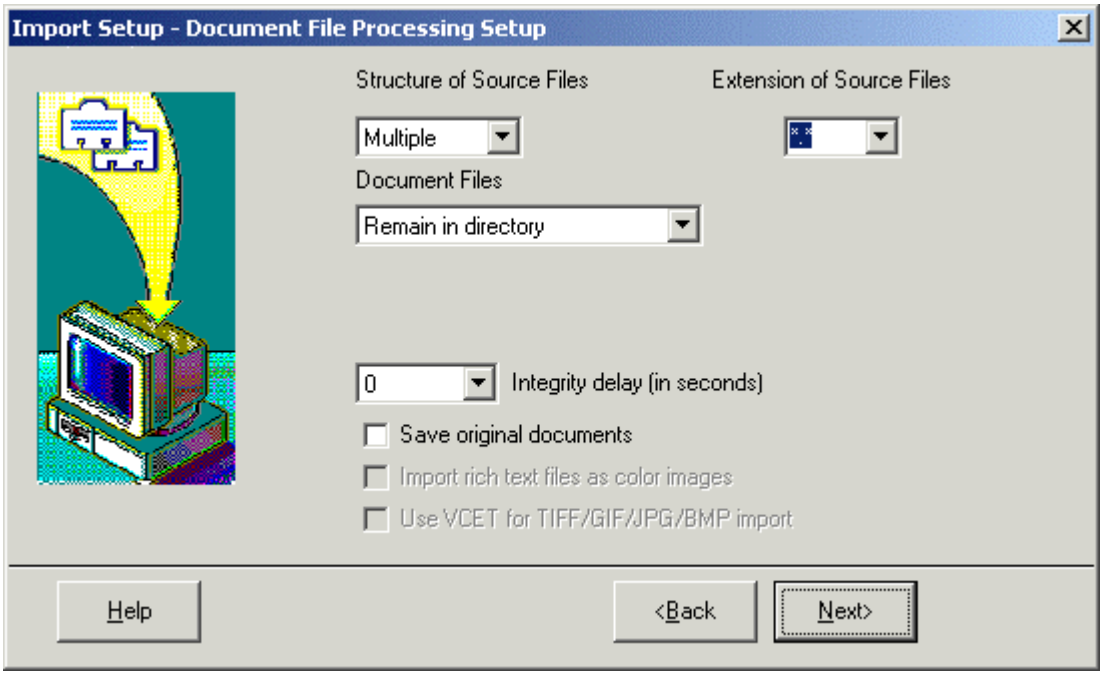


Figure 46: Import Setup - Document File Processing Setup window

The **Extension of Source Files** list box is used to specify the import document type. If you select the ***.*** type, Import Server imports all supported files from the source directory.

The **Structure of Source Files** list box is used to define the structure of the source files.

The **Single** option is used to import image files of the following types:

- TIFF
- JPG
- BMP
- GIF
- DIB
- DCX

Selecting the **Single** option enables you to import several images as one DMS document.

To import multiple image files as one DMS document, proceed as follows:

1. Copy all image files that you want to import as one document into the source folder.
2. Change the extensions of the image files successively to *001, 002, 003,* and so on.
3. Give the same name to all image files.

   The following is an example set of image files that are to be imported as one DMS document:

   ```
   image.001
   ```

```
image.002

image.003

image.004
```

The number in the image file extension corresponds to the page number in the imported DMS document.

4. To import only these image files, in the **Extension of Source Files** list box, select **001.**

   These image files are also imported if you select ***.*** in the **Extension of Source Files** list box.

The **Multiple** option enables importing files of the following type:

- TIFF
- DOC
- WPD
- HTML
- TXT
- WRI
- DMS
- XLS
- PDF
- DCX

The **Document Files** list box is used to select the action to be performed with the files once the import process is completed. The following options are available:

Document Files Processing Setup	
Option	**Description**
Remain in directory	Source files remain in the directory where they are located after import.
Delete	Source files are deleted from the source directory once the import process is completed.
Move	Source files are moved to a different directory. If **Move** is clicked, the **Recycle Directory** field appears. You can click the browse button to specify the destination directory where the files are moved. 
Integrity delay (in seconds)	Import Server processes files only with modification time older than the selected value.

Document Files Processing Setup	
Option	**Description**
Save original documents	Saves the original documents. While retrieving these documents, the users are able to view the original document with the dedicated application. Selecting the **Save original documents** check box is useful for task documents such as Word and Excel documents, if the task name is not specified in the **Source and Destination Setup** window. If document versioning is enabled in the project, the **Save original documents** option sets the original document as the first document version. The **Save original documents** functionality is not supported in environments that require documents to be committed to the Centera storage system. After a document goes through appropriate format transformations during the import process, the system is able to commit the document to all supported storage devices, including Centera.
Import rich text files as color images	Imports RTF files as color images.
Use VCET for TIFF/GIF/JPG/BMP import	Enabled if VCET Conversion Engine is installed on your computer. It is selected to use conversion through VCET.

Note: The **Import rich text files as color images** check box is disabled when printing from native application is enabled.

When all settings are set, the import setup process for document files only is complete.

To save the setup, click **Finish.**

If the **Remain in Directory** option was selected, proceed as follows:

1. To go to the next setup window, click **Next.**

   The **Import Setup – Document File Selection Setup** window appears.

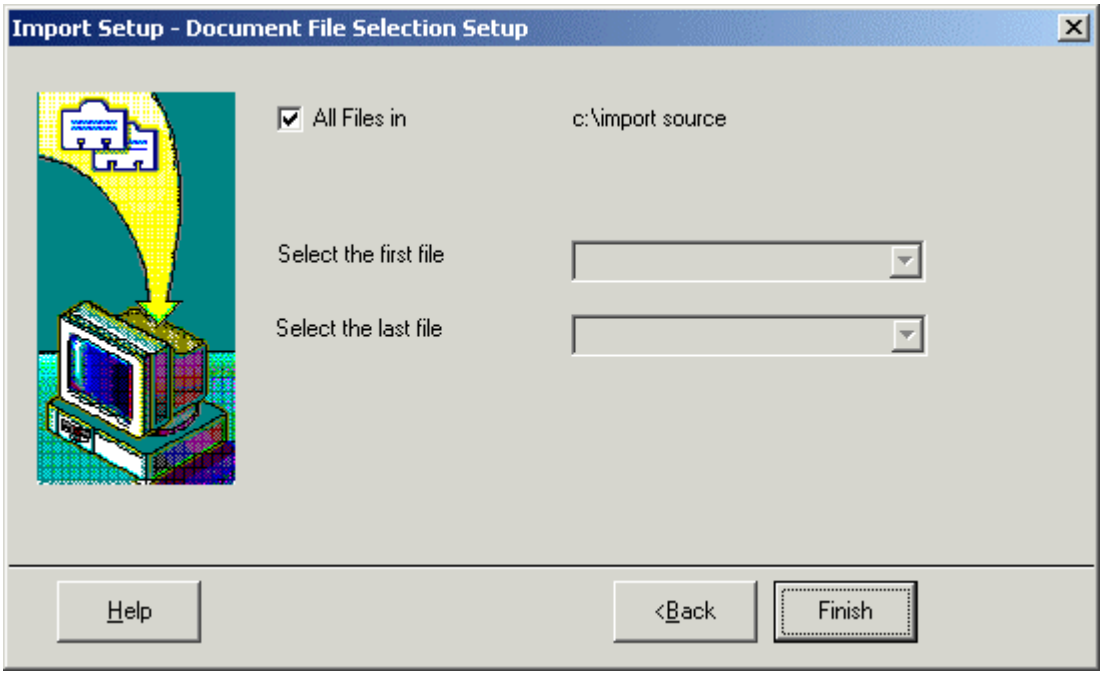


Figure 47: Import Setup - Document File Selection Setup window

2. In the **Import Setup – Document File Selection Setup** window, enter appropriate values as described in the following table:

Document File Selection Setup window	
Option	**Description**
All Files in	If selected, all source files of the selected type are imported.
Select the first file	If the **All Files in** box is cleared, this list box is used to specify the first file in the source folder for importing.
Select the last file	If the **All Files in** box is cleared, this list box is used to specify the last file in the source folder for importing.

3. Click **Finish.**

Creating Settings for Importing Indexing Information Only

By importing indexing information only, you can create empty folders and subfolders with the information extracted from the text files located in the source directory.

The indexing text files can be any text files in the source folder.

To import indexing information without any documents, proceed as follows:

1. In the **Input Sources Selection** window, select **Indexing Information Only.**
2. Click **Next.**

   The **Import Setup - Index File Setup** window appears.

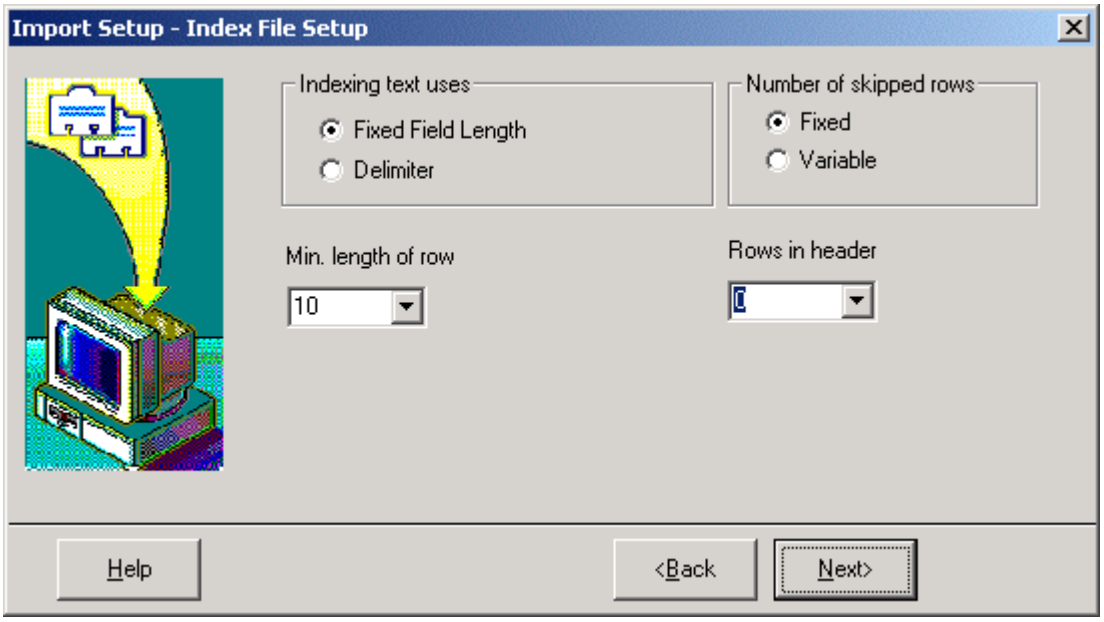


Figure 48: Import Setup - Index File Setup window

3. In the **Indexing text uses** section, select whether the source index file has a **Fixed Field Length** or uses a **Delimiter.**

   The list box that appears below this section depends on the selection.

   The following table lists the **Indexing text uses** options:

Indexing text uses options	
Option	**Description**
Fixed Field Length	If selected, the length of each record in the indexing files must be the same as the length of the corresponding table field that is populated with the indexing information. For example, if a folder in the corresponding workflow has three fields with field length 3, 10, and 5 respectively, and you want to create new folders by extracting information from the text file, the indexing text file must contain one line for each folder with the following pattern: aaabbbbbbbbbbccccc where aaa represents for the record of the 3 character field, bbbbbbbbbb represents the record of the 10 character field, and ccccc represents the record of the 5 character field for the new folder. The user must use the same pattern for all indexing text files.
Delimiter	If selected, records in the indexing text file are separated by a delimiter selected in the **Delimiter** list box. In this case, the length of records can vary in the indexing files. For example, if a folder in the corresponding workflow has three fields with field length 3, 10, and 5 respectively, and you want to create new folders by extracting information from the text file, the indexing text file must contain one line for each folder with the following pattern:

Indexing text uses options	
Option	**Description**

	`aaa,bbbbbbbbbb,ccccc`
	where , is the selected delimiter, `aaa` represents the record of the 3 character field, `bbbbbbbbbb` represents the record of the 10 character field, and `ccccc` represents the record of the 5 character field for the new folder. Records in the indexing file can be shorter than the field length in the folder table.
	If "," is specified as the delimiter, and the parameters start and end with quotation marks, the initial and final quotation marks are removed. For example, if the following parameters are used:
	`"INVOICE","3002"`
	the result is as follows:
	INVOICE
	3002

The selection in the **Number of skipped rows** section changes the list box below it.

The following table lists the **Number of skipped rows** options:

Number of skipped rows options	
Option	**Description**
Fixed	If selected, Import Server skips n lines in the indexing file before each line containing indexing information, where n is the number selected in the **Rows in header** list box.
Variable	If selected, Import Server skips all lines in the indexing file that start with the identifier selected in the **Header Selection** list box.

4. To proceed to the next setup dialog, click **Next.**

   The **Import Setup – Index File Processing Setup** appears.

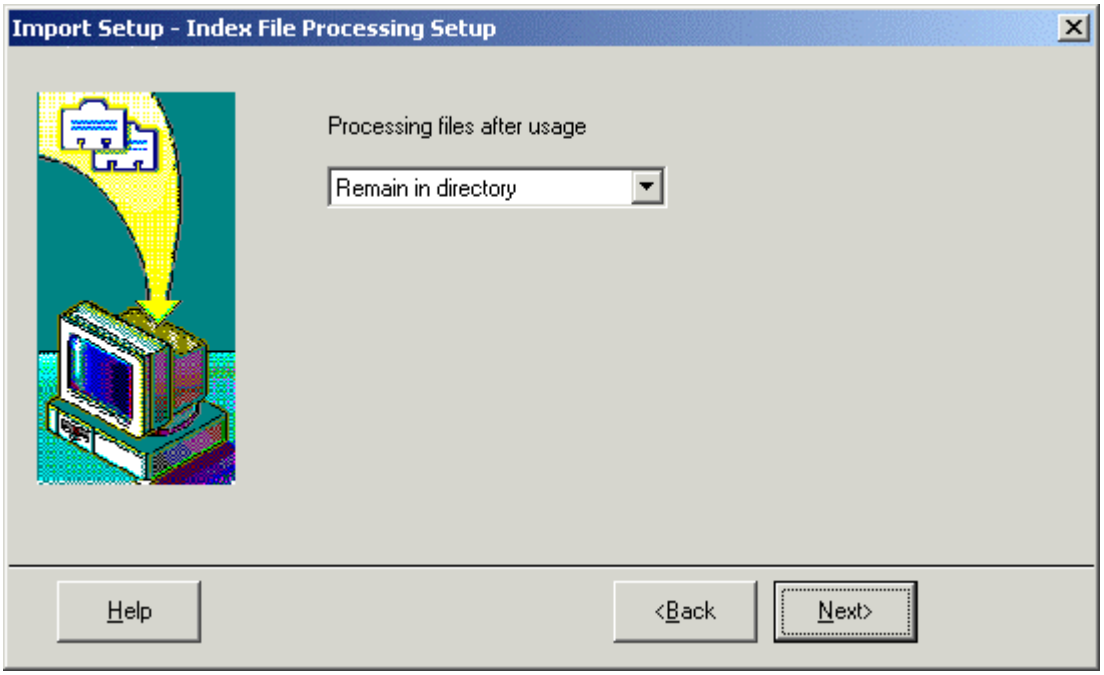


Figure 49: Import Setup - Index File Processing Setup window

The **Processing files after usage** list box is used to determine what happens to the index files once the import process is completed. The following table lists available options:

Processing files after usage options	
Option	**Description**
Remain In Directory	Source files remain in the directory where they are located.
Delete	Source files are deleted once the import process is completed.
Move	Source files are moved to a different directory.

If you select **Move,** the **Recycle Directory** field appears.

5. To locate the directory where the files are moved, click the browse button  .
6. If the **Remain in Directory** option was selected, to go to the next setup window, click **Next.**

   The **Import Setup – Document File Selection Setup** window appears.

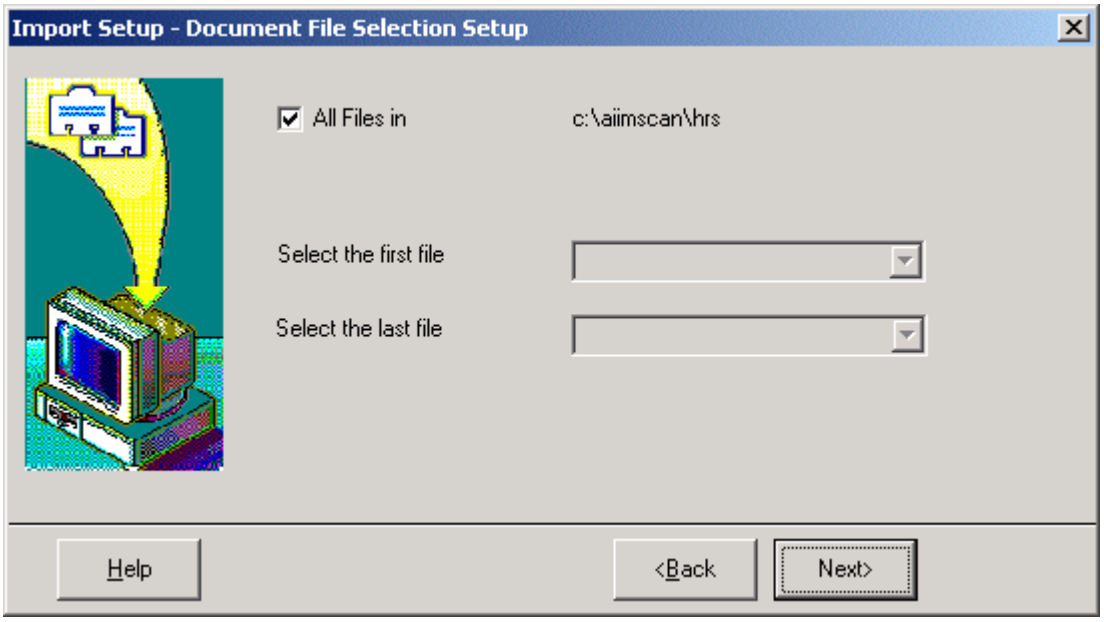


Figure 50: Import Setup - Document File Selection Setup window

7. To extract the indexing information from all text files in the source folder, select **All Files in.**
8. To extract the indexing information only from a range of text files in the source folder, clear the **All Files in** check box and identify the first file and the last file in the range of files.
9. To proceed to the **Tables and Fields Setup** window, click **Next.**

   For more information on the **Tables and Fields Setup** window, see Populating Table Fields.

Creating Settings for Importing Document Files and Indexing Information

To import documents with indexing information, proceed as follows:

1. In the **Input Sources Selection** window, select **Document Files + Indexing Information.**
2. Click **Next.**

   The **Import Setup - Index File Setup** window appears.

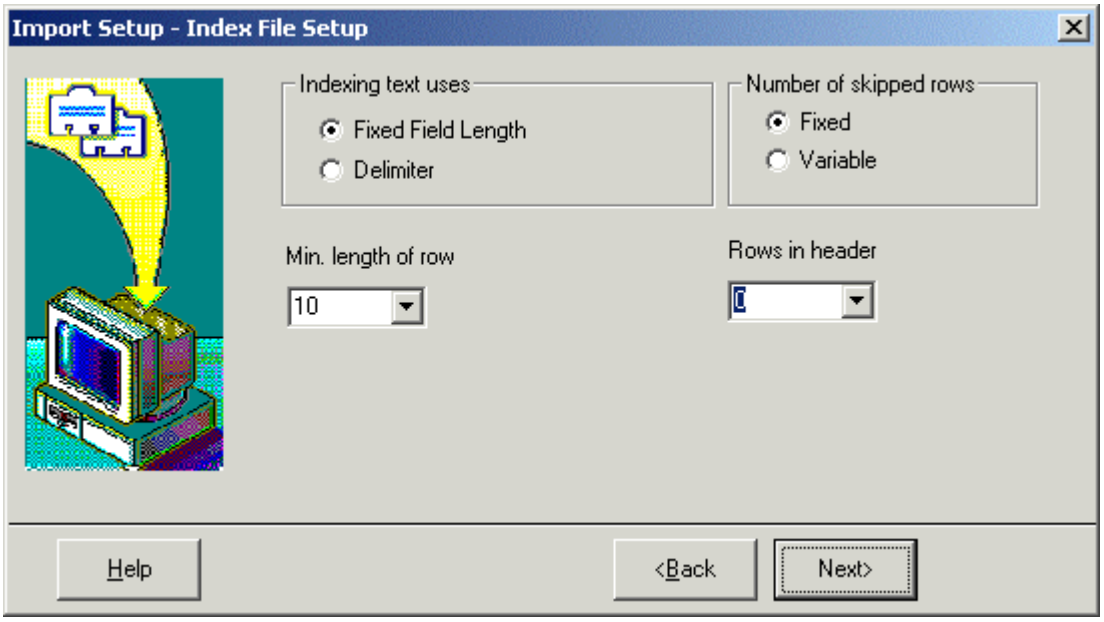


Figure 51: Import Setup - Index File Setup window

3. Configure parameters as required for your importing session.

   The following table describes parameters in the **Index File Setup** window:

Index File Setup window	
Option	**Description**

Fixed Field Length	If selected, the length of each record in the indexing files must be the same as the length of the corresponding table field that is populated with the indexing information. The indexing file must also contain the path to the importable source document.
	
	For example, if a folder in the corresponding workflow has three fields with field length 3, 10, and 5 respectively, and you want to import documents into folders by extracting information from the text file, the indexing text file must contain one line for each document with the following pattern:
	
	`aaabbbbbbbbbbccccc<path>`
	
	where `aaa` represents the record of the 3 character field, `bbbbbbbbbb` represents the record of the 10 character field, `ccccc` represents the record of the 5 character field for the new folder, and `<path>` is a path to the importable source document, for example, `C:\IMPORT\source.doc`. You can also specify the path to the source document relatively to the index file location, for example:
	
	`.\SOURCE\source.doc`
	
	The path to the document must be assigned with the A_FILE_PATH field in the DOCUMENT table as described in Populating Table Fields. Otherwise, an error occurs during the import.
	
	The user must use the same pattern for all indexing text files.

Index File Setup window	
Option	**Description**

Delimiter	If selected, records in the indexing text file are separated by a delimiter selected in the **Delimiter** list box. In this case, the length of records can vary in the indexing files. The indexing file must also contain the path to the importable source document.
	
	For example, if a folder in the corresponding workflow has three fields with field length 3, 10, and 5 respectively, and you want to import documents into folders by extracting information from the text file, the indexing text file must contain one line for each document with the following pattern:
	
	`aaa,bbbbbbbbbb,ccccc,<path>`
	
	where , is the selected delimiter, `aaa` represents the record of the 3 character field, `bbbbbbbbbb` represents the record of the 10 character field, `ccccc` represents the record of the 5 character field for the new folder, and `<path>` is path to the importable source document, for example, `C:\IMPORT\source.doc`. You can also specify the path to the source document relatively to the index file location, for example:
	
	`.\SOURCE\source.doc`
	
	If "," is specified as the delimiter, and the parameters start and end with quotation marks, the initial and final quotation marks are removed. For example, if the following parameters are used:
	`"INVOICE","c:\file1.tif"`
	the result is as follows:
	
	INVOICE
	c:\file1.tif
	
	The path to the document must be assigned with the A_FILE_PATH field in the DOCUMENT table as described in Populating Table Fields. Otherwise, an error occurs during the import.
	
	Records in the indexing file can be shorter than the field length in the folder table.

Fixed	If selected, Import Server skips n lines in the indexing file before each line containing indexing information, where n is the number selected in the **Rows in header** list box.
Variable	If selected, Import Server skips all lines in the indexing file that start with the identifier selected in the **Header Selection** list box.

4. To go to the next setup dialog, click **Next.**

   The **Import Setup - Document and Index File Processing Setup** window appears.

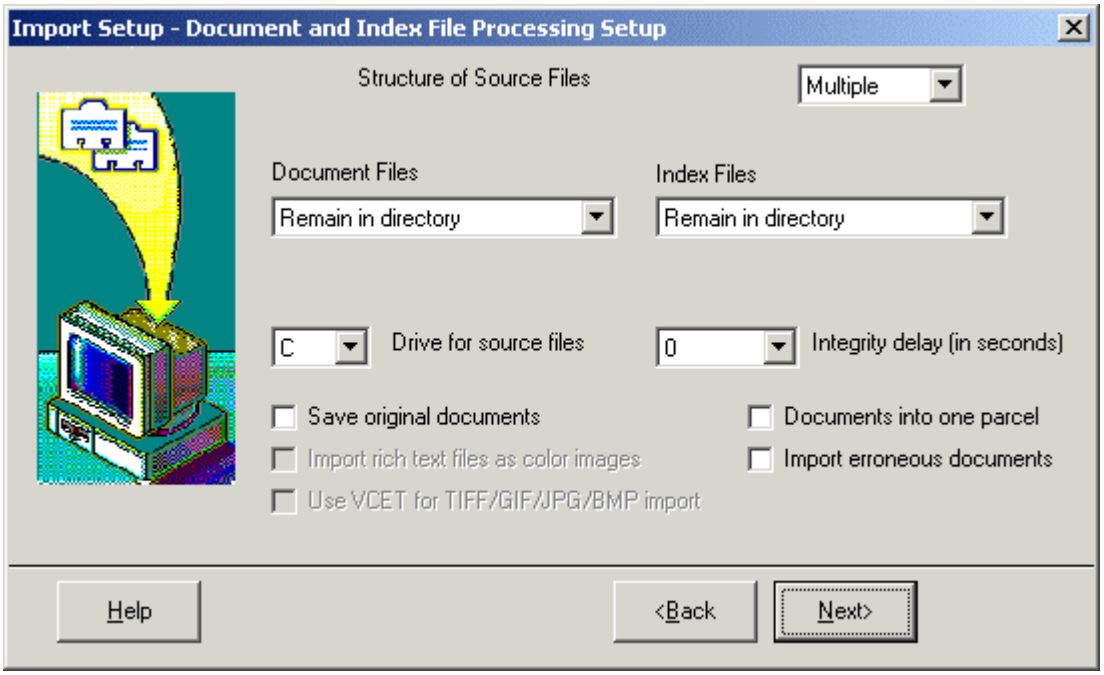


Figure 52: Import Setup - Document and Index File Processing Setup window

The **Structure of Source Files** list box is used to define the structure of the source files.

The **Single** option allows importing image files of the following types:

- TIFF
- JPG
- BMP
- GIF
- DIB
- DCX

If the **Single** option is selected, you can also import several images as one DMS document.

To import multiple image files as one DMS document, proceed as follows:

1. In the **Structure of Source Files** list box, select the **Single** option.
2. Copy all image files that you want to import as one document into the source document location.
3. Change the extensions of the image files successively to *001, 002, 003*, and so on.
4. Assign the same name to all image files.

   The following is an example set of image files that are to be imported as one DMS document:

   ```
   image.001

   image.002
   ```

```
image.003

image.004
```

The number in the image file extension corresponds to the page number in the imported DMS document.

5. In the indexing text file, define a full path to the first file in the image files set as in the following example:

```
C:\Source\image.001
```

Do not define a path to the rest of image files with the same name.

The **Multiple** option enables importing files of the following types:

- TIFF
- DOC
- WPD
- HTML
- TXT
- WRI
- DMS
- XLS
- PDF
- DCX

6. To specify how document files are handled after import, in the **Document Files** list box, select one of the following options:

Document Files options	
Option	**Description**
Remain in Directory	Files remain in the directory where they are located.
Delete	Files are deleted when the import process is completed.
Move	Files are moved to a different directory.

7. To specify how index files are handled after import, in the **Index Files** list box, select an appropriate option.

The options for index files are the same as those for document files.

If **Move** is selected for document files or index files, the **Recycle Directory** field appears.

8. To specify the directory to which files are moved, click the browse button  .

Only one directory can be selected. If **Move** is selected for both list boxes, source documents and indexing files are moved to the same location.

9. To specify a drive for source files, in the **Drive for source files** list box, select an appropriate letter.

The location of source files is determined as follows:

- If the full path is provided, the full path is used.
- If a relative path is provided in `\<directory>\<document>` format, the letter in the **Drive for source files** box is added to the path as follows:

  <drive letter:>\<directory>\<document>

- If a relative path is provided in `.\<directory>\<document>` format, the path is interpreted as follows:

  <current directory>\<directory>\<document>

When files are modified, an integrity delay may be required to ensure that file modifications are completed before file import. The integrity delay specifies the minimum interval in seconds that must elapse before the file is imported.

10. To specify an integrity delay, enter a number in the **Integrity delay (in seconds)** field.
11. To specify additional import options, select appropriate options listed in the following table:

Import options	
Option	**Description**
Save original documents	Saves original task documents such as Word and Excel files if the task name is not specified in the **Source and Destination Setup** window. When the documents are retrieved, they can be viewed using the appropriate external application.
Import rich text files as color images	Imports RTF files as color images.
Use VCET for TIFF/GIF/JPG/BMP import	Converts using VCET. Enabled only if VCET Conversion Engine is installed on your computer.
Documents into one parcel	If the indexing file contains information about more than one document, imports all documents specified in this indexing file as one parcel. The folder and parcel information is read from the first successfully indexed line in the index file and is the same for all documents in the parcel.
Import erroneous documents	Imports all documents that cannot be converted to the DMS format as binary files.

12. If the **Remain in directory** option is selected in the **Index Files** list box, to open the **Document File Selection Setup** window, click **Next.**
13. If the **Move** or **Delete** option is selected in the **Index Files** list box, to open the **Tables and Fields Setup** window, click **Next.**

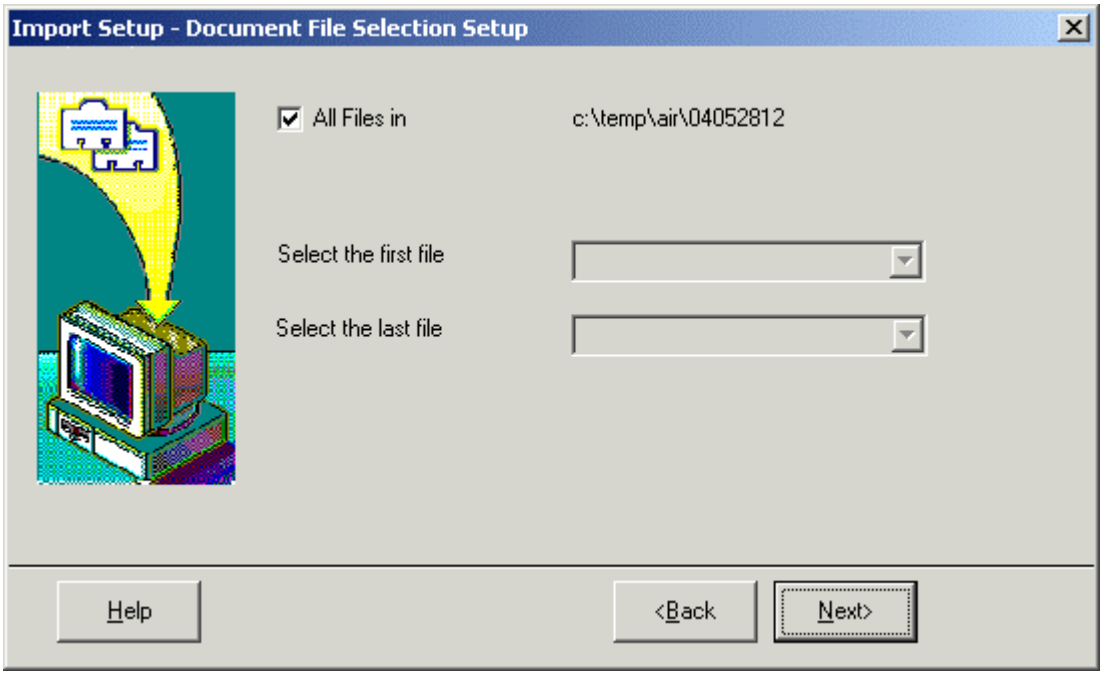


Figure 53: Import Setup - Document File Selection Setup window

14. To process all text files in the source directory, select **All Files in.**
15. To process only a range of text files in the source directory, clear the **All Files in** check box, select the first file, and select the last file of the range of files.
16. To proceed to the **Tables and Fields Setup** window, click **Next.**

Populating Table Fields

The **Tables and Fields Setup** window determines which database fields are populated with the data from the source index files.

To import documents together with indexing information, add the A_FILE_PATH field from the DOCUMENT table in the **Tables and Fields Setup** window and assign it to the document's path specified in the indexing text file. Otherwise, an error occurs during the importing. Other table fields are not required during indexing.

This section describes how to add tables and fields in the **Tables and Fields Setup** window and how to populate them with the information from the indexing text files.

The Import Server node number is inserted into the NODE_ID_FROM field if Import Server is run in the same workflow as the target workflow. A 0 is inserted in NODE_ID_FROM field if Import Server is run in a different workflow from the target workflow.

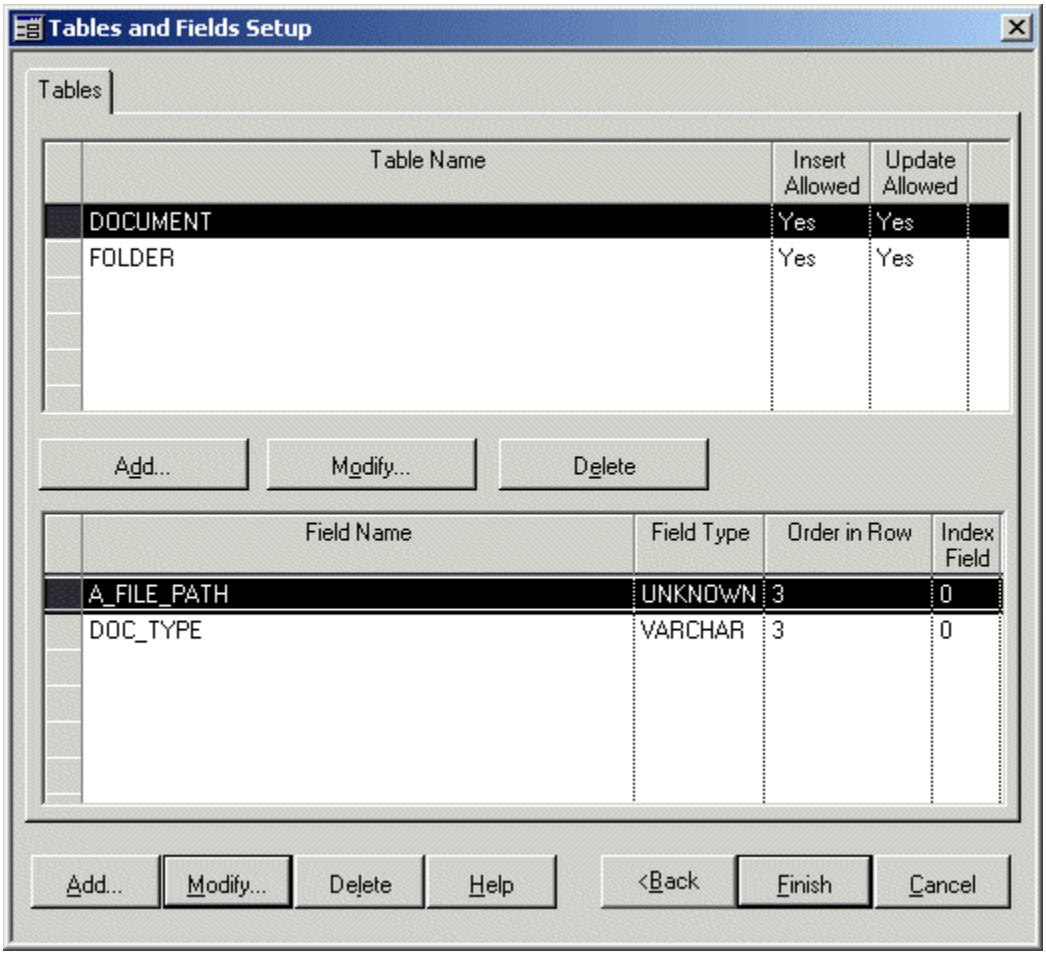


Figure 54: Tables and Fields Setup window

The top part of the window displays the tables that are affected by the indexing information. Initially there are no tables selected. The user must select tables to be populated with the information from the source index files.

The following table describes the **Table and Fields Setup** window:

Table and Fields Setup window	
Data	**Description**
Table Name	Tables that are selected for receiving information from the source index files.
Insert Allowed	Incoming data can insert records into the table.
Update Allowed	Incoming data can update records already existing in the table.

To add a table, proceed as follows:

1. To add a new table to the list, click **Add.**

   The **Add New Table** window appears.

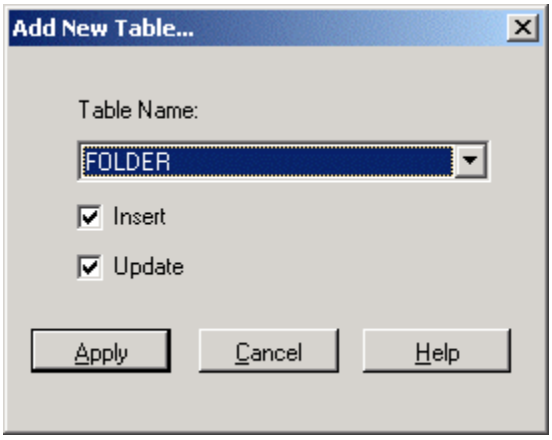


Figure 55: Add New Table window

2. In the **Table Name** list box, select a table that you want to receive the indexing information. The following tables are available:
   - FOLDER
   - SUBFOLDER
   - BATCHPARCEL
   - DOCUMENT

   If you selected to import only the indexing information without documents, the BATCHPARCEL and DOCUMENT tables are not available.
3. To allow incoming records to be inserted in the selected table, select the **Insert** box.
4. To allow existing records to be updated, select the **Update** box.

Note: For DOCUMENT and BATCHPARCEL tables, the **Insert** and **Update** options are selected automatically.

5. To add the new table to the list, click **Apply.**
6. To exit the window without adding anything, click **Close.**
7. To open the online help, click **Help.**
8. To change the **Insert** and **Update** settings only for an existing table record, highlight the record and click **Modify.**
9. To change the table name in an existing record, delete the record and add a new one into the system.
10. To delete a record, highlight it and click **Delete.**

    The bottom part of the **Tables and Fields Setup** window displays the table fields that receive the indexing information. Each table field corresponds to a fixed place in the indexing text file. Initially no fields are selected.

To add a new table field, proceed as follows:

1. Select a table in the top part of the table.

When you select a table record, the fields that are already configured to receive indexing information are displayed in the lower part of the window.

If the index file structure is set to **Fixed Field Length** format, the lower part of the table contains the columns in the following table:

Fixed Field Length columns	
Column	**Description**
Field Name	Field that is assigned to a particular place in the source indexing file.
Field Type	Field type.
Start Pos	Starting position of the value for the corresponding field in the incoming index file. This parameter can be set automatically by using the **Browse** option.
# of Char	Number of characters to be extracted from the index file for the corresponding field. This parameter can be set automatically using the **Browse** option.
Index Field	Index field. Number 1 indicates that the field is used for indexing in Exigen Workflow. Number 0 indicates that the field is not used for indexing.

If the index file structure is set to **Delimiter** format, the lower part of the table contains the columns described in the following table:

Fixed Field Length columns	
Column	**Description**
Field Name	Field that is assigned to a particular place in the source indexing file.
Field Type	Field type.
Order in Row	Which record in the line of the indexing file corresponds to the value of this field. This parameter can be set automatically by using the **Browse** option.
Index Field	Index field. Number 1 indicates that the field is used for indexing in Exigen Workflow. Number 0 indicates that the field is not used for indexing.

2. Click **Add.**

The **Add New Field** window appears.

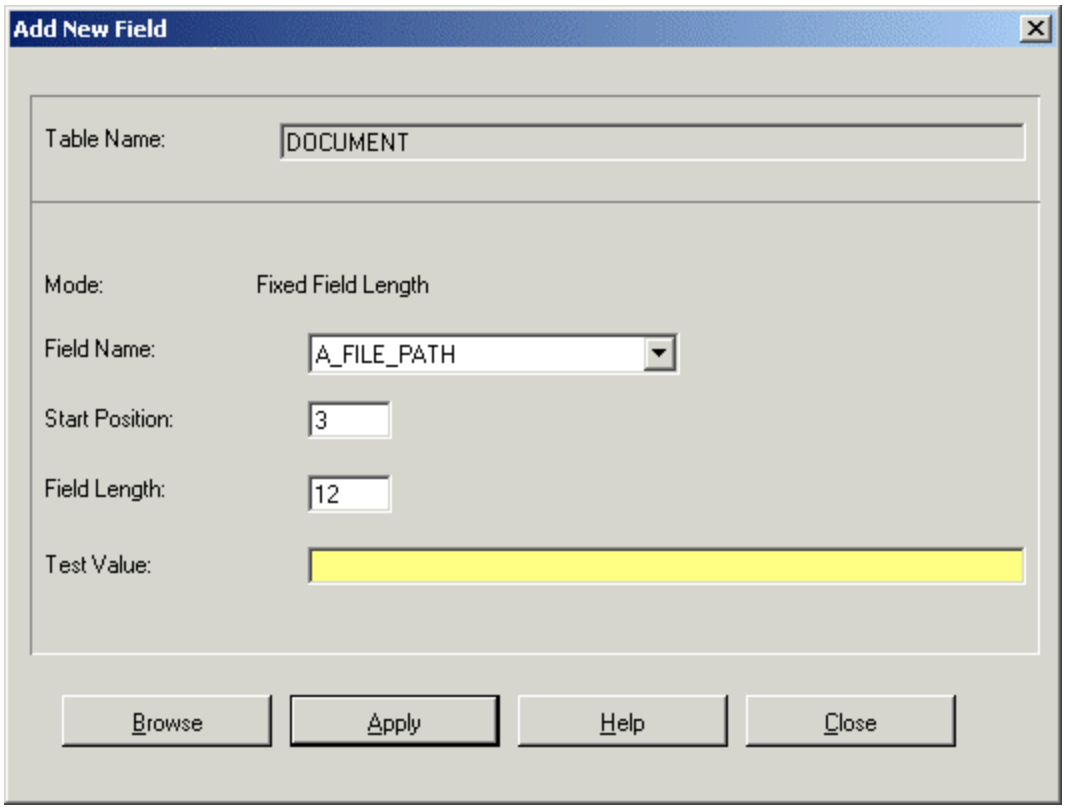


Figure 56: Add New Field window with Fixed Field Length format selected

If the **Fixed Field Length** format is selected, the **Add New Field** window contains the fields listed in the following table:

Add New Field, Fixed Field Length format	
Field	**Description**
Table Name	Selected table.
Mode	Index file structure, in this case, **Fixed Field Length.**
Field Name	Selected field to be populated with the information from the indexing file.
Start Position	Starting position in the index file from where the data is to be extracted. This parameter can be set automatically using the **Browse** feature.
Field Length	Length of the field to be extracted. Import Server always suggests the proper value for this field.
Test Value	Test data extracted from the index file using the **Browse** feature.

If the index file structure is **Delimiter,** the **Add New Field** window contains slightly different parameters.

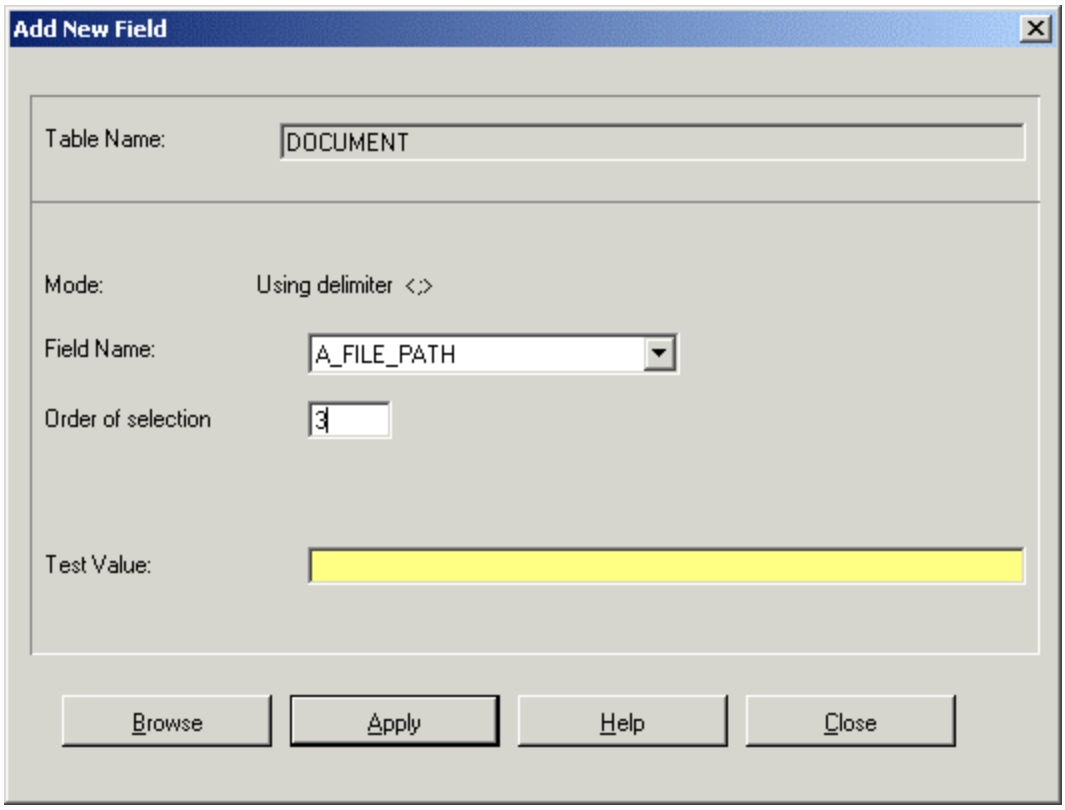


Figure 57: Add New Field window with Delimiter format selected

The information and entry fields of the window are described in the following table:

Add New Field, Delimiter format	
Field name	**Description**
Table Name	Table name.
Mode	Index file structure, in this case, **Delimiter.** It also displays the delimiter symbol shown in the <>.
Field Name	Selected field that is to be populated with the information from the indexing file.
Order of selection	Which record in the line of the indexing file corresponds to the value of this field. This parameter can be set automatically using the **Browse** feature.
Test Value	Test data extracted from the index file using the **Browse** feature.

3. In the **Field Name** list box, select a field.
4. Specify which part of the indexing text file corresponds to the value of this field.
5. Click **Browse.**

   The **Datafile Browser** window appears.

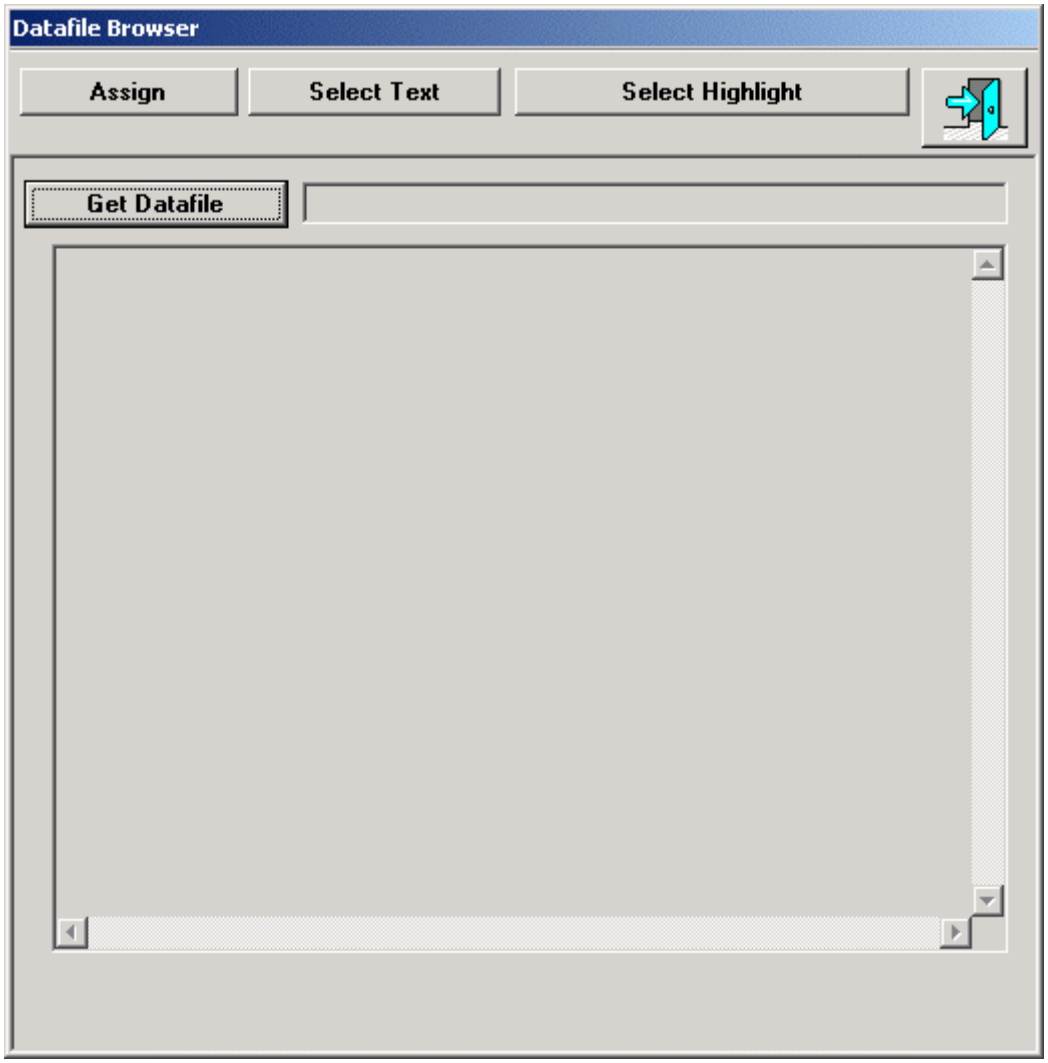


Figure 58: Datafile Browser window

6. To open the standard **Open File** dialog, click **Get Datafile.**
7. In the source directory, select any indexing file and click **OK.**

   The contents of the file are displayed.
8. Select the portion of the text file that corresponds to the value of the field.
9. To assign the portion of the text file to the value of the field, click **Assign.**
10. To display only the selected portion of the indexing file, click **Select Highlight.**
11. To display the whole indexing file, click **Select Text.**
12. When a portion of a text is assigned to the field value, click **Exit.**

    The assigned text appears in the **Test Value** field.

Note: Using the **Browse** function is not compulsory, because all parameters in the **Add New Field** window can be configured manually. Using **Browse** allows automatic configuration of new field's parameters by highlighting portions of text in the indexing file.

13. Click **Finish.**

    The new field appears in the lower part of the **Tables and Fields Setup** window.

14. To modify a field record in the **Tables and Fields Setup** window, highlight the record and click **Modify.**

Creating an Empty Parcel with Import Server

Your business case might need to create a parcel with an empty document and with indexing information. An empty document means that it has no image file. The parcel is merged later with the parcel containing the appropriate documents.

Exigen Workflow provides the option to create a parcel with an empty document if an empty image path is specified in the indexing information for Import Server.

The system uses the A_PARCEL_STATUS field in the BATCHPARCEL table as a flag for Import Server. If this field is defined in the system and indexing information contains only indexing values without the path to documents, Import Server creates a parcel with the indexing information and sets the A_PARCEL_STATUS field value to EMPTY PARCEL and creates a document with no image in it. If the path to documents is specified, Import Server works in the standard way: it creates a parcel with documents containing images.

To activate this feature, add the A_PARCEL_STATUS field with type VARCHAR and length 12 to the BATCHPARCEL table. For information on adding custom fields, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration*, Chapter 3: Creating Projects, Creating a New Project.

Running Import Server

To start the import process, proceed as follows:

1. Open the **Import Setup** window.
2. To select the importing configuration records you want to run, in the first **Import Setup** window, select the boxes to the left of the **Source File Directory** column.

   A check mark appears to the left of each selected record.

3. To return to the **Import Server** window, click **Close.**
4. To begin the import process, click **Start Server.**

   The names of the files being processed are displayed at the bottom of the window.

Note: Import Server may not respond to user activities during the conversion of large image files.

5. To stop the process, click **Stop Server** at any time.

To check the results of the import operation, if you are importing indexing information, proceed as follows:

1. Open the **Administrator** utility.
2. Select the project where the data was imported.
3. Click **Table Maintenance** and double click the table that was updated with the imported data.
4. In the **Search for Table Records** window, click **Find Record.**

For information on maintaining Import Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Viewing Import Server Log and History Files

Each time Import Server is started, a log file is created for each import record. If the **History** box is selected for an individual setup record, a history file is also created.

1. To view the log file, click **Log File.**
2. To view the history file, click **History.**

   The results window displays the source file directory.
3. To view the associated text file for either the log or history file, highlight the desired source file and click **Read.**

   A text file appears providing a status of the last import session.
4. To clear the file, click **Clear.**
5. To return to the **Import Server** window without changing the text file, click **Close.**

Exporting Setup Data

To export all import setup data in a specified file, proceed as follows:

1. In the **File** menu of the **Import Server** window, select the **Export Setup…** item.

   The **Export Setup Data** window appears.

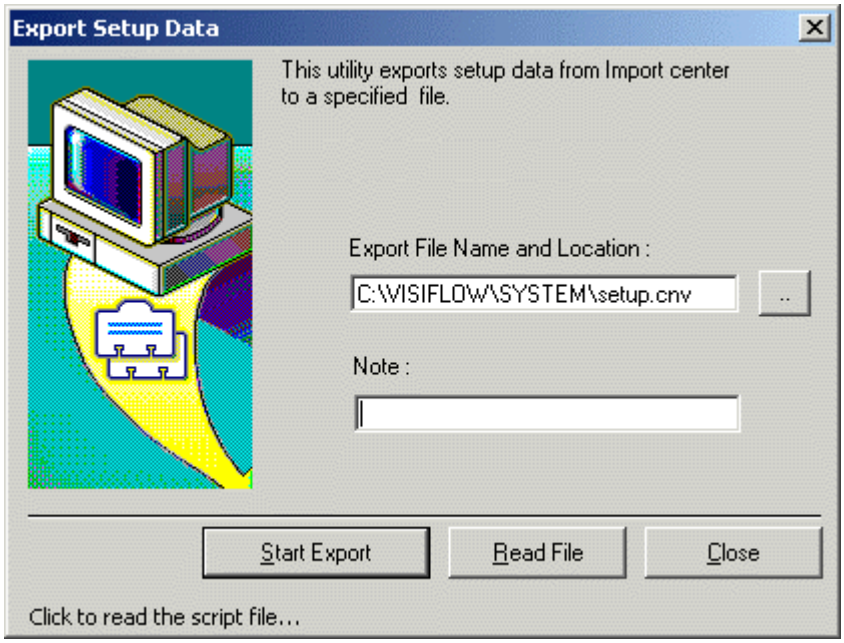


Figure 59: Export Setup Data window

2. In the **Export File Name and Location** field, specify the name of the file where you want to save the data.
3. In the **Note** field, enter an optional short description of this setup data.
4. To start exporting, click **Start Export.**
5. To open the export file using a text editor such as Notepad, click **Read File.**
6. To exit this dialog, click **Close.**

Note: The records of **Import Setup** can only be accessed on the local machine where they were created.

Chapter 10: Distribution Server

This chapter describes how to configure Distribution Server and use it to distribute image files from one project to another.

The following topics are described in this section:

Overview

Distribution Server distributes parcels and documents scanned in one project or workflow to other projects. The source and target projects can exist in either the same database or different databases. Distribution Server exports only current document versions.

Documents must be indexed prior to their distribution so that their records can be identified by Distribution Server. For example, if you are scanning documents to be distributed to both the Human Resources and Accounts Payable projects, you can use barcode separator sheets to distinguish Resumes from Invoices. When you are configuring the Process Setup, you can indicate that Resumes must be distributed to the Human Resources project and invoices to the Accounts Payable project.

Distribution Server Window

To open the **Distribution Server** window, in Exigen Workflow Explorer, double click the **Distribution Server** icon.

The **Distribution Server** window appears.

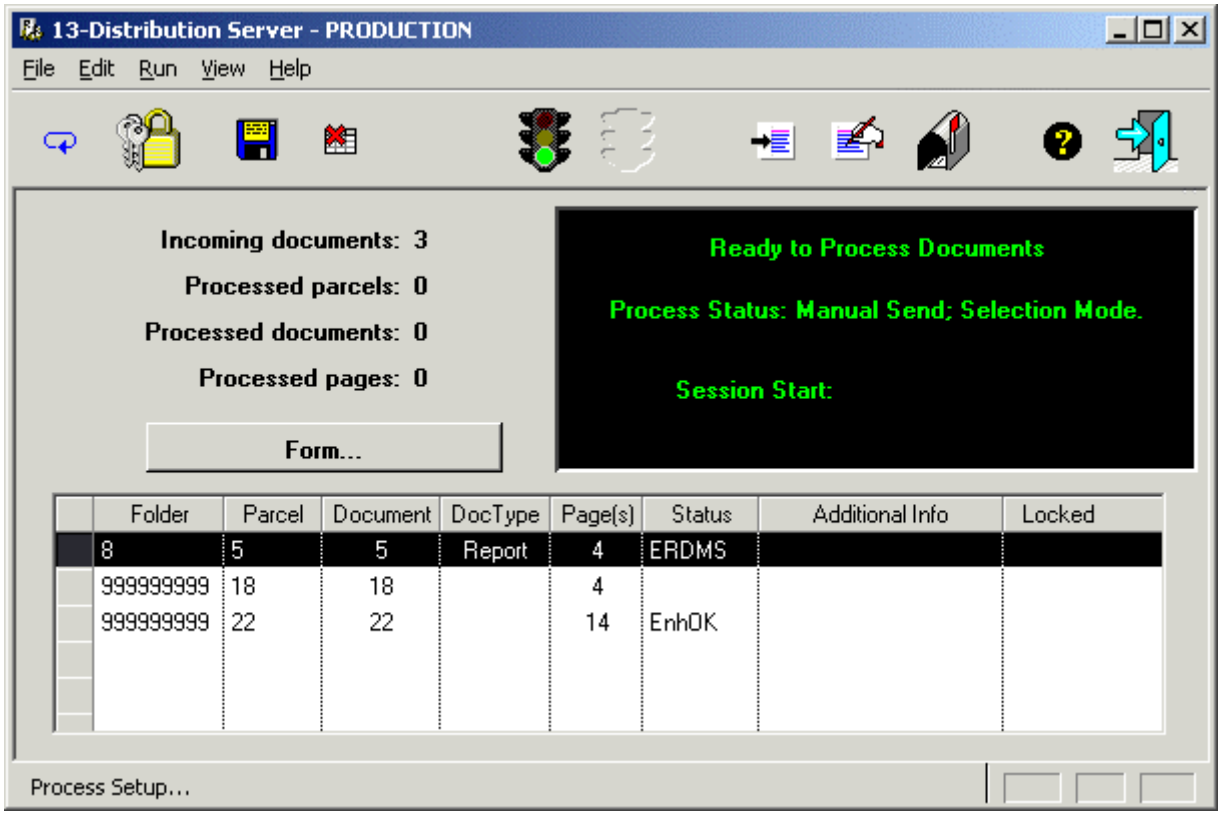


Figure 60: Distribution Server window

The window contains the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of incoming batches, processed parcels, documents, and pages on the left. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displays the current mode of the server on the right
- toggle button displays data in either **Form** view or **Column** view

Configuring Distribution Server

Before running Distribution Server, you must configure the source and target information. This process determines the source and destination locations of the document records and image files.

The following topics are described in this section:

- Setting Up Distribution Server
- Specifying Export Configurations

- Specifying Settings for the Target Exigen Workflow Database and Project

Setting Up Distribution Server

To configure Distribution Server, select **Run > Process Setup,** or click the following:

The **Setup** window appears.

Because of its large window size, the **Setup** window is represented in the following figures in three views:

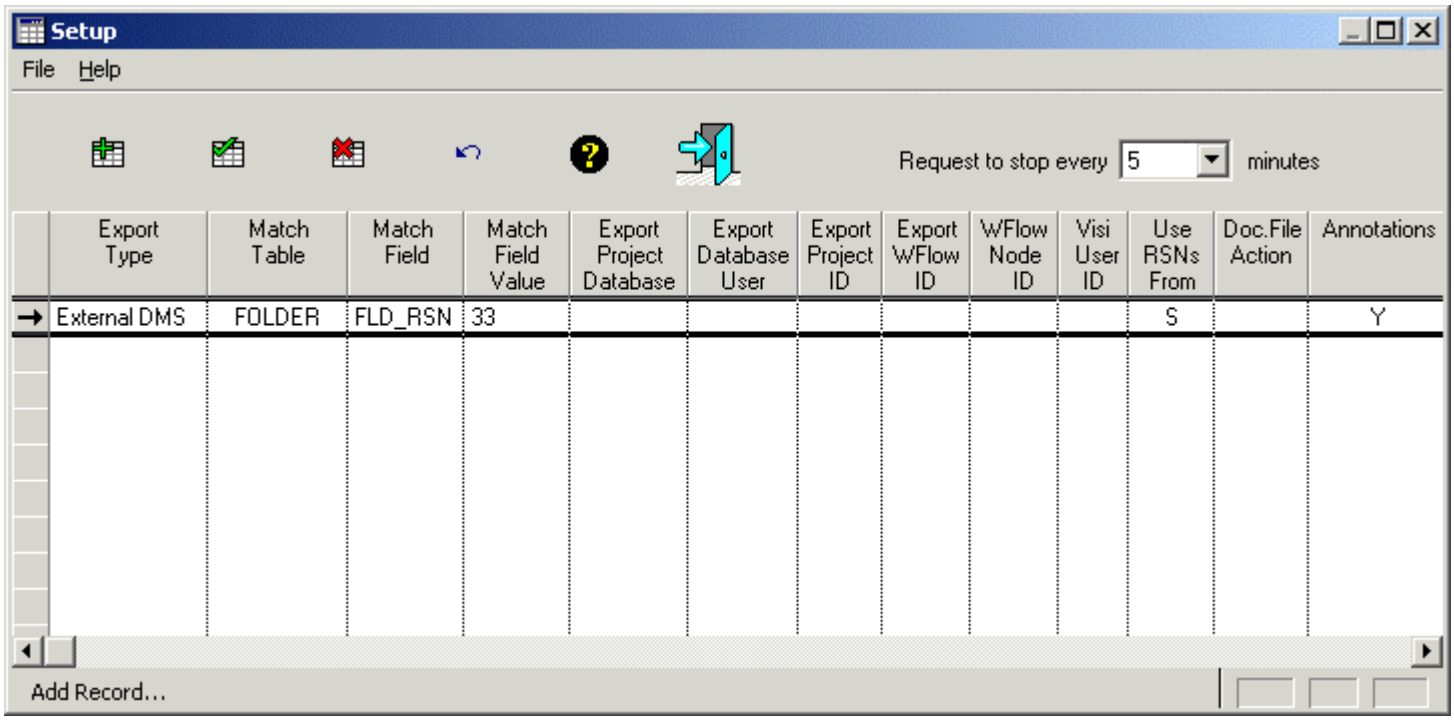


Figure 61: Setup window, first view

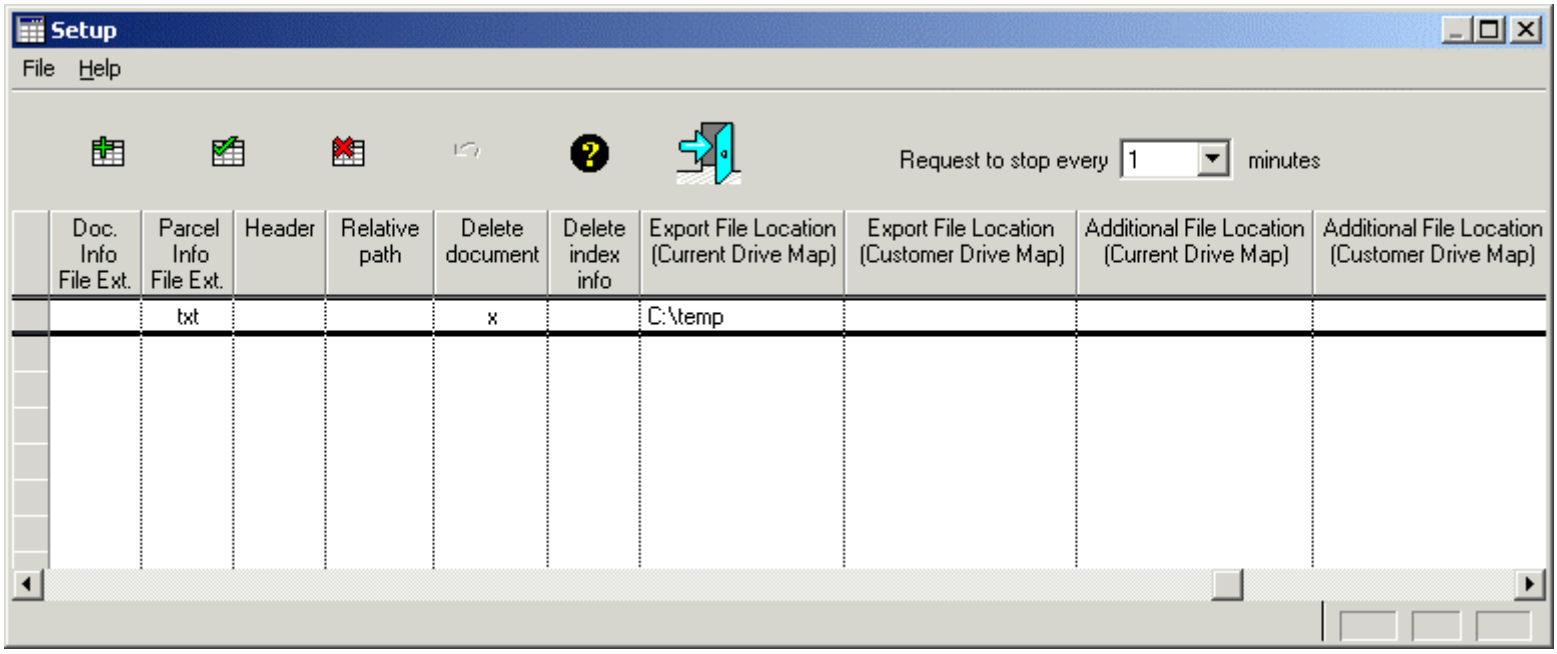


Figure 62: Setup window, second view

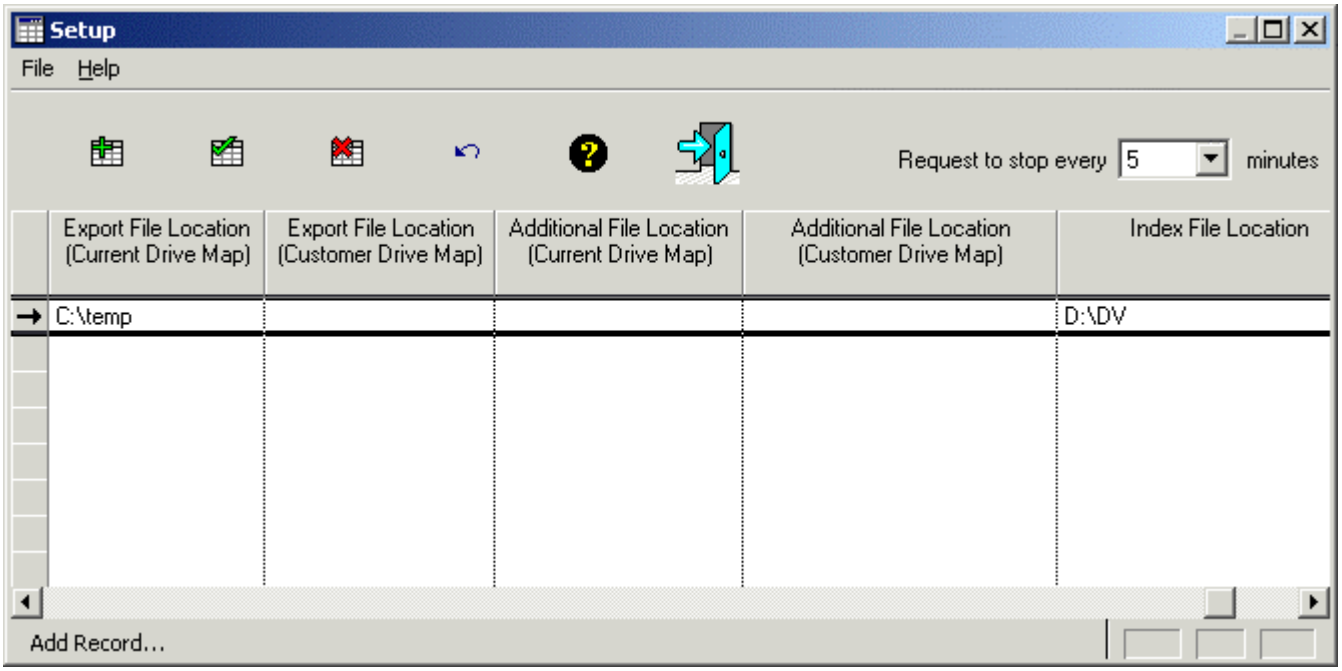


Figure 63: Setup window, third view

To navigate to the second and third views, use the horizontal scrollbar at the bottom of the window. The button bar across the top of the window remains the same, regardless of the view.

The **Setup** window contains a button bar and a table of export configuration records.

In line with the example described previously, add two export configuration records in this table. For example, you can add an export record that describes exporting resumes to the Human Resources project. A second record describes exporting invoices to the Accounts Payable project.

The **Setup** window buttons are used to perform the following functions:

Setup window buttons	
Button	**Description**
	Adds a new export configuration. The **Export Setup** window appears as described in Specifying Export Configurations. A black arrow appears in the column to the left of the **Export Type** field, indicating that you can add the new record to this row. 
	Modifies an existing export configuration. The **Export Setup** window appears as described in Specifying Export Configurations.
	Deletes a selected export configuration record from the table.
	Reverts to the last saved configuration version.
	Opens the Help file for the **Setup** window.
	Exits the **Setup** window.

The **Request to stop every n minutes** field specifies the interval in minutes, and a dialog for stopping Distribution Server is displayed. For example, if 5 is specified in the **Request to stop every n minutes** field and Distribution Server is started, a dialog appears every 5 minutes, allowing the user to stop, interrupt, or continue server operation.

Note: The **Request to stop every n minutes** option is useful when processing large documents having 100 or more pages.

The columns in the **Setup** window table display the configuration settings. Some columns contain information only if the export type is **DMS** or **External DMS.**

The **Setup** window columns are the following:

Setup window columns	
Column	**Description**
Export Type	File type into which the exported image file is converted. The export type can be one of the following: • **Single structure:** series of single-page TIFF files. TIFF file names are constructed as the DMS file name, followed by an underscore _ and four-digit page number, for example, 00000675_0001.TIF. • **Multi structure:** multipage TIFF file. • **Adobe PDF:** Adobe PDF file. • **DMS:** Exigen Workflow DMS file. • **External DMS:** Exigen Workflow DMS file that is exported from an Exigen Workflow system for import into another Exigen Workflow system. For example, an external DMS file can be sent via email to another city where Exigen Workflow is used.
Match Table	Table in which the match field value is located.
Match Field	Field name from which the match field value is being extracted.
Match Field Value	Distributes documents to the corresponding project if the data from the Match Table and Match Field are equal to the Match Field Value. The Match Field Value is a unique, user-defined value that differentiates between the Distribution Server configurations if they are performing distribution for different projects. This information must match the value in the scanning project. The combination of Match Field Value, Match Table, and Match Field must be unique for each Setup record used.
Annotations	How document annotations are kept. Annotations can be kept as separate objects or merged into the document. If the export type is DMS, annotations are always kept as separate objects.
Doc Info File Ext.	Extension of the document information file.
Parcel Info File Ext.	Extension of a parcel information file.
Export File Location (Current Drive Map)	Directory location where the exported documents are stored. This is a mandatory field and must contain a valid directory string or export is not successful. You can view database records, but no images are found and displayed. If export type is DMS, the export file location is set in the Target setup of the **Export database setup** window, and it must point to the location of the target project file, which is the main directory for folders labeled date-and-time that store DMS files. For information on the **Export database setup** window, see Specifying Settings for the Target Exigen Workflow Database and Project.

If export to DMS is set up, information appears in the following columns of the **Setup** window:

Setup window export to DMS columns	
Column	**Description**
Export Project Database	Exigen Workflow database containing the target project.

Setup window export to DMS columns	
Column	**Description**
Export Database User	Exigen Workflow database user ID for the target project database.
Export Project ID	Three-character project ID of the target project.
Export WFlow ID	Numeric workflow ID of the target workflow.
WFlow Node ID	Workflow node ID of the target workflow.
Visi User ID	User ID required to assign the documents to the target workflow.
Use RSNs From	Indicates whether the RSN, such as internal numbers assigned to each folder, document, batch, parcel, and other records in the database, is retained from the source project or a new RSN is created in the target project.
Doc. File Action	Removes the original image file from the source project.
Export File Location (Customer Drive Map)	Directory location where the exported documents are stored. This parameter shows the same directory location as it appears to the target computer to which documents are exported.
Additional File Location (Current Drive Map)	Additional directory location if the image files to be distributed reside on an additional drive.
Additional File Location (Customer Drive Map)	Displays an additional directory location as it appears to the target computer to which documents are exported. This location is displayed if the image files residing on the additional file location are to be distributed to a drive map location different than the export file location.

If export to external DMS is set up, information appears in the following additional columns of the **Setup** window:

Setup window export to external DMS columns	
Column	**Description**
Header	Indicates whether a header is exported with the external DMS file. The header describes the file's indexing information, listing table and field information used by Import Server. An x indicates that a header is used.
Relative path	Variable string that is added to the beginning of the exported file's relative path. For example, if the user knows that the exported file is to be placed on drive c, this field contains c: This facilitates the location of the file by Import Server.
Delete document	Indicates whether the source file is deleted from the current Exigen Workflow system after export. An x indicates deletion.
Delete index info	Indicates whether the source file's indexing structure is deleted from the current Exigen Workflow system after the export. For example, if the document was the last item in a particular subfolder, that subfolder is deleted. An x indicates deletion.

Specifying Export Configurations

The **Export Setup** window is used to add or modify an export configuration.

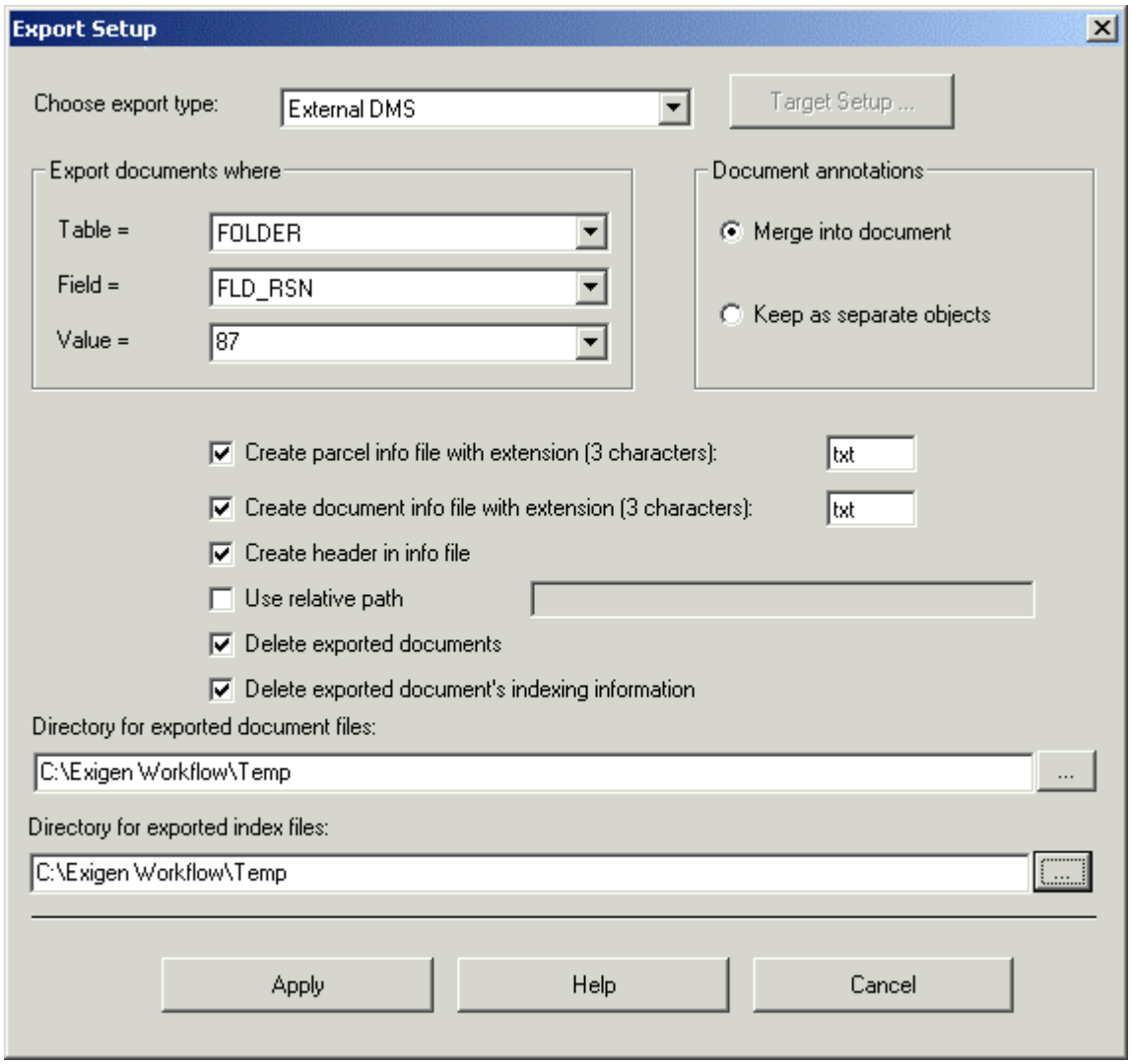


Figure 64: Export Setup window

This section describes how to add or modify an export configuration using the following procedures:

- Specifying the Export Type and Selecting Export Files
- Creating Information Files
- Specifying Directories for Exported Files

Specifying the Export Type and Selecting Export Files

To specify the export type and select the files to be exported, proceed as follows:

1. Open the **Export Setup** window.
2. To specify the export type, select a value in the **Choose export type** field.

   This is the file type into which the exported DMS image files are converted.

Note: Task documents created with Word or other third-party applications are not converted.

The export type can be one of the following:

Export types	
Name	**Description**
Single structure	Series of single-page TIFF files.
Multi structure	Multipage TIFF file.
Adobe PDF	Adobe PDF file.
DMS	Exigen Workflow DMS file.
External DMS	Exigen Workflow DMS file for export from the current Exigen Workflow system.

If the export type is **DMS,** the **Target Setup** button is enabled.

3. If the export type is **DMS,** click **Target Setup** and specify settings for the target project that receives exported documents.

   For more information on the **Export database setup** window, see Specifying Settings for the Target Exigen Workflow Database and Project.

   If the documents to be exported include task documents, and the export type is **Single structure, Multi structure,** or **Adobe PDF,** the task documents are copied by default to the target directory without conversion.

4. To specify that task documents are skipped during export, proceed as follows:
   1. Open the `visiclt.ini` file.
   2. At the end of the file, add the following:

      ```
      [setup_exp]
      TaskFiles=S
      ```

      The S value ensures that task files are not copied to the target directory. After processing, these task files have the flag **ExpSK,** which appears in the **Status** column of the **Distribution Server** window.

      If TaskFiles is set to C, the task documents are copied to the target directory and the flag is **ExpOK.**

Note: The option to skip or copy task files applies only if the export type is **Single structure, Multi structure,** or **Adobe PDF.**

5. To select the table where the value identifying the document is located, in the **Table** field, select one of the following:
   - **FOLDER**

- **BATCHPARCEL**
- **DOCUMENT**

6. To select the field name and value identifying the document to be exported, enter values in the **Field** and **Value** fields.
7. To export all documents from Distribution Server, specify the following configuration:

Settings for exporting all documents	
Field	**Value**
Table	**DOCUMENT**
Field	**IMAGE_LOCATION**
Value	**ALL**

8. To specify a setting for document annotations, in the **Document Annotations** area, select either of the following options:

Document annotations options	
Name	**Description**
Keep as separate objects	All annotations added to the document are retained as separate graphical objects in the resulting file. They can be selected and changed individually. If the **Export Type** is **DMS,** annotations are always kept as separate objects.
Merge into a document	All graphical objects are merged into the resulting file, forming only one layer. In this case, graphical objects cannot be selected or changed separately. If the export type is **Adobe PDF** or **External DMS,** all annotations are merged into the resulting file.

Creating Information Files

To create information files, proceed as follows:

1. To create a parcel information file, select **Create parcel info file with extension (3 characters)** and enter a file extension, for example, *txt.*

   During export, one file per exported parcel is created that lists database information for the documents contained in each specific parcel. The file name is the parcel ID and the extension that is entered.

2. To create a document information file, select the appropriate check box and enter a file extension, for example, *txt.*

   For each exported document, one file with the given extension is created that contains information about the exported document. The file name is derived from the DMS file name.

3. To create a header in the exported information file, select **Create header in info file.**

Specifying Directories for Exported Files

To specify the directories for exported files, proceed as follows:

1. To indicate the exported file's relative path, select **Use relative path.**
2. To indicate a prefix for the relative path, enter it in the field next to **Use relative path.**

For example, if it is known that the exported file is to be stored in a particular folder, the folder name is entered.

3. To delete the source document in the Exigen Workflow system upon export, select **Delete exported documents.**
4. To delete the exported document's indexing information, select **Delete exported document's indexing information.**

   Indexing information is deleted only if the folder and subfolder information is not used by any other document.
5. To select a directory for the exported files, click the browse button next to the **Directory for exported document files** field.
6. To select a directory for the exported index files, click the browse button next to the **Directory for exported index files** field.

   If no directory is selected, the index files are exported by default to the directory displayed in the **Directory for exported document files** field.
7. To save the settings, click **Apply.**

Note: **Apply** is enabled only if all mandatory fields contain valid information.

Specifying Settings for the Target Exigen Workflow Database and Project

If you selected the DMS export format, you must specify settings for the target Exigen Workflow database and project in the **Export database setup** window.

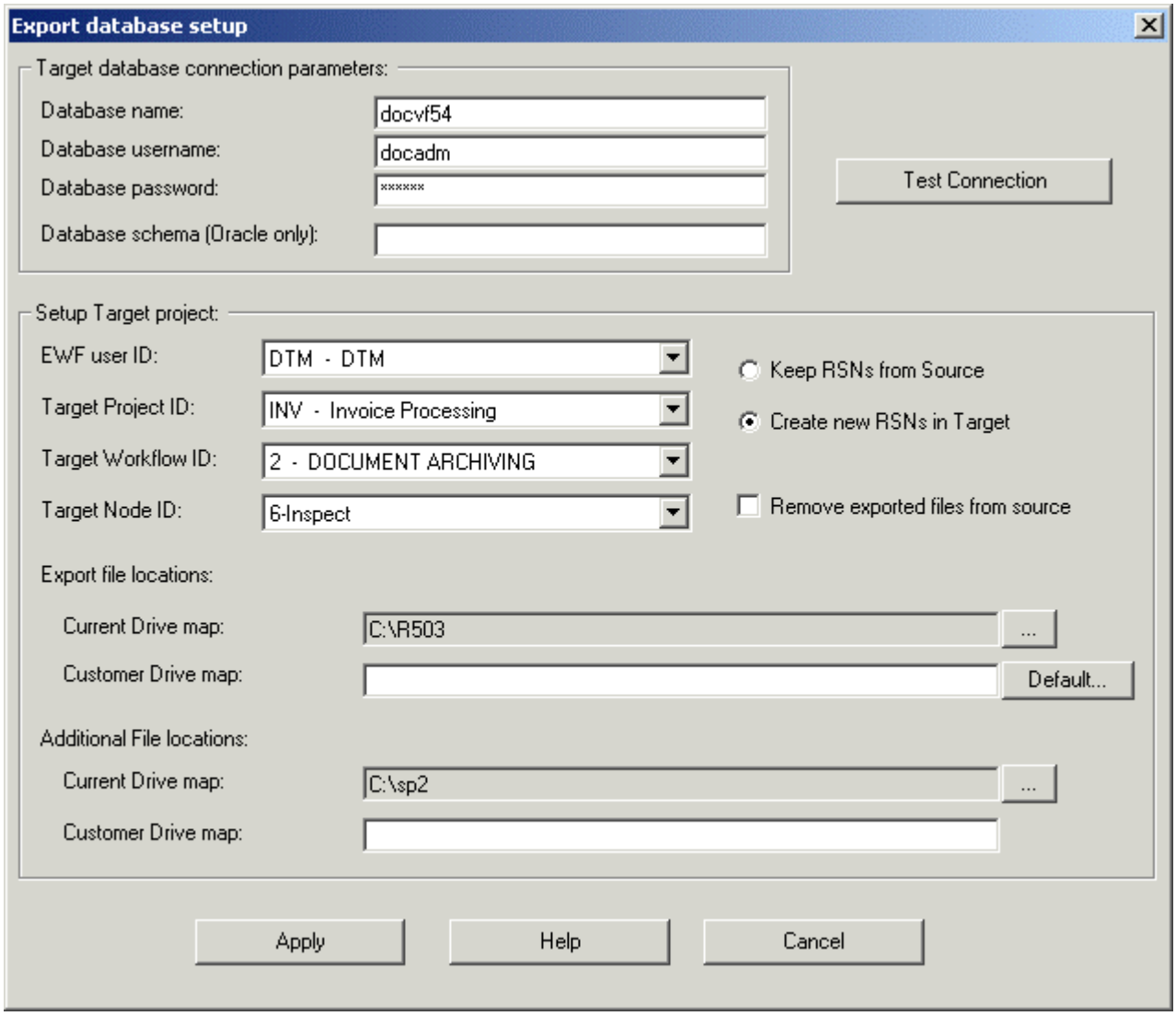


Figure 65: Export Setup database

To specify settings for the target Exigen Workflow database and project, proceed as follows:

1. In the **Export database setup** window, set the target database connection parameters:
   - Enter the database containing the target project.
   - Enter the database user ID for the target project database.
   - Enter the database password for the target project database.
   - If an Oracle database is used and the Exigen Workflow tables in the target database are not in the user's schema, enter a database schema.

- To make sure that the data you entered is correct, click **Test Connection.**

Note: The target project parameters are enabled only if the test is successful. Otherwise, you are not allowed to complete the setup.

2. Set the target project parameters:
   - Select the user ID to assign the documents to in the target workflow.
   - Select the target project ID. As soon as you select the project ID, the path to the location of the corresponding project appears in the **Customer Drive map** field.
   - Select the workflow ID of the target workflow.
3. Select the workflow node ID of the target workflow.
4. Decide whether you want to use the RSN, or internal numbers assigned to each folder, document, batch, parcel, and other records in the database, from the source project or from the target project by selecting the appropriate radio button. Select the source project only if the target project does not contain any document records because duplicate numbers cannot be inserted in the document RSN field in the target project. In case of a violation, data is not updated and erroneous data can be created.
5. Specify where the export files in the source project must be placed. To remove these files from the export project, select the Remove exported files from source check box.
6. Specify the export file locations:
   - Select a directory location where the exported documents are stored. This is a mandatory field and must contain a valid directory string; otherwise, export is not successful. You can view database records, but no images are found and displayed.
   - Enter a directory location where the exported documents are stored. This parameter shows the same directory location as it appears to the target computer.

Note: Both parameters **Current Drive Map** and **Customer Drive Map** must point to the same physical location on the disk or network. In most cases, this means that they must be equal. They cannot be equal when the export directory is seen differently from the target project than from the source project. For example, project A must export DMS files to project Z. Each project resides on a different computer. Project Z has configured the DMS storage location on a network directory, which is mapped as the disk M, but project A has mapped the DMS storage location on a network directory as disk P. When viewed from the workflow, DMS files are opened relative to each computer's current drive mapping. To ensure that drive maps are correct when exporting, the file paths must be changed from P in project A, and to M in project Z.

7. If the distributed image files reside on an additional drive, specify the additional file locations:
   - Select an additional directory location for the current drive map.
   - Enter an additional directory location for the customer drive map.
8. These fields are not mandatory.
9. To save the settings, click **Apply.**

Note: **Apply** is enabled only if all mandatory fields are filled in and they contain valid information.

Running Distribution Server

The following topics are included in this section:

Starting Distribution Server

To start Distribution Server, click **Start Server.**

The **Auto Send** function from the **Run** menu routes processed work items to the next queue in the workflow based on the routing rules. If no routing rules exist, **Auto Send** is automatically disabled, requiring a manual send process. If routing rules do exist but the **Auto Send** feature is disabled, a manual send process is also required.

The **Server Mode** function allows jobs sent to the server to be automatically processed. When the object is opened and you select **Start,** any jobs sent are processed immediately. If **Server Mode** is not enabled, you must manually start the server each time the work items are received.

For complete automation, both options must be selected with the appropriate outgoing routing rules in place. Once started, work items are processed and routed to the next queue without the need for user intervention. The status window displays the processes being performed and the time elapsed.

For information on maintaining Distribution Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Stopping Distribution Server

To stop Distribution Server, click **Stop Server.**

If a large document of 100 or more pages is processed, the **Distribution Server** window becomes blank.

To ensure that Distribution Server can be stopped, interrupted, and restarted when processing large documents, specify a time interval in the **Request to stop every n minutes** field as described in Setting Up Distribution Server.

If the **Request to stop every n minutes** option is used and the server processes a large document, the **Request to Stop Server** dialog appears at the specified intervals.

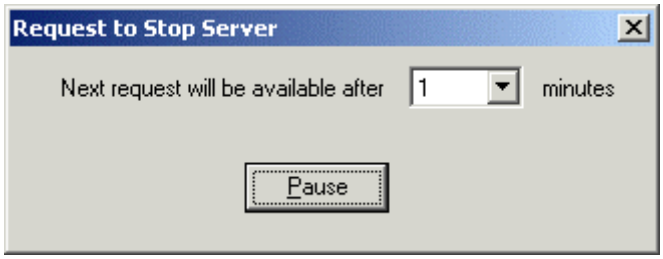


Figure 66: Dialog for stopping Distribution Server

The **Request to Stop Server** dialog remains open for 5 seconds. If no actions are taken during this time, Distribution Server continues processing documents.

To pause and configure frequency at which the Distribution Server stops, proceed as follows:

1. In the **Request to Stop Server** dialog, click **Pause.**

   The **Request to Stop Server** dialog changes.

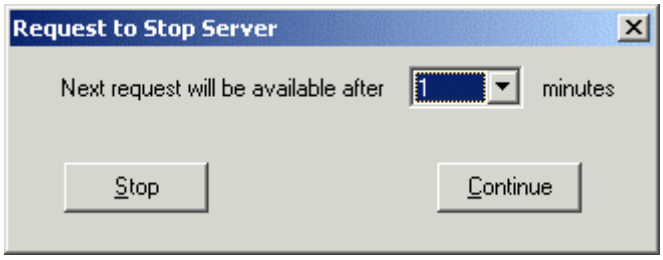


Figure 67: Dialog for stopping Distribution Server with additional buttons

2. In the **Next request will be available after n minutes** list box, select the time after which the **Request to Stop Server** dialog reappears.
3. To stop Distribution Server, click **Stop.**
4. To continue processing, click **Continue.**

Info Files Format

The description files are created if the following fields in the **Setup** window have any non-blank values:

- **Parcel Info File Ext.**
- **Doc. Info File Ext.**

Parcel Info Files

These files contain one line for each document that was exported from the given parcel.

Values are comma-delimited. In the event of an empty value, a single space is written.

The values are as follows:

1. Parcel ID of the parcel being exported, such as parcel ID in the source project. If in the source project the parcel ID is 64, but in the target project it is 80, 64 is written to the file.
2. Document file name without extension. The file names are from those of the target project.
3. File extension of the exported file.
4. Finally, two trailing commas without spaces are added to indicate termination of the line.

Document Info Files

Each file contains only one line of text. Values are separated with vertical bars |.

The number of values in the line depends on the number of additional fields used in the project. In particular, these are fields which have value **A** in the field **FIELDSTATUS** in the **SYSCOLUMNS** table of the project.

1. If **FLD_RSN** of the given document is not '999999999', for example, default folders are not used, all additional folder field values for the document are written to the following file: `SYSCOLUMNS.TBNAME='FOLDER'.`
2. If **SUB_FLD_RSN** of the given document is not '999999999', all additional subfolder field values for the given document are written to the following file: `SYSCOLUMNS.TBNAME='SUBFOLDER'.`
3. All additional field values of the batchparcel of the given document are written to the following file:

   `SYSCOLUMNS.TBNAME='BATCHPARCEL'.`
4. The values of additional fields of the document and the values of the following mandatory fields are written as follows:
   - document type
   - document description
   - document scan date
   - number of image pages in document
   - full path to the document in the target project

   The order of fields can differ.

Note: In all four steps, the order of the values is the same as in the tables from which they come. See SQL clause `'ORDER BY ORDER IN TABLE'`.

To determine the indexing fields sequence, in the **Export Setup** window, select **Create header in info file.**

Chapter 11: Escalation Server and Log

This chapter describes how to set up and run Escalation Server and display and interpret the Escalation log data.

The following topics are described in this section:

Overview

Escalation Server routes work items and email to users defined in those queues in the workflow that are escalation enabled. It locates and executes the escalation process based on the criteria set in the workflow nodes. Once the escalation process has occurred, the **Escalation Log** views the work items that are moved.

For instructions on configuring escalation in a queue, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 5: Designing a Workflow, Escalation Tab.

For information on maintaining Escalation Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Escalation Server Window

To open the **Escalation Server** window, in **Exigen Workflow Explorer,** double click the **Escalation Server** icon.

The **Escalation Server** window appears.

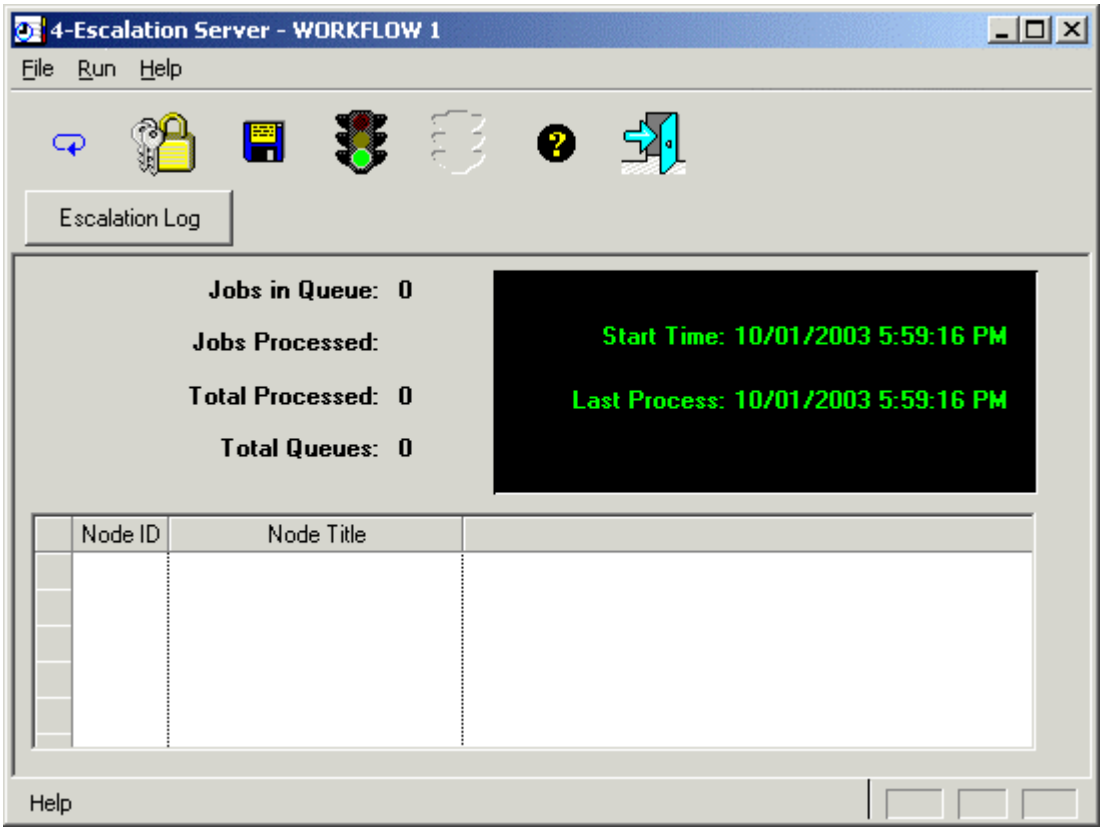


Figure 68: Escalation Server window

The **Escalation Server** window consists of the following features and information:

- button and menu bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of work items in the queue currently being processed and the number of jobs processed for that queue
- information about the start time
- information about the total number of jobs processed since Escalation Server was started
- information about total queues
- table of nodes information

Note: To ensure that the server runs continuously, the **Keep running after started** option in the **Escalation Settings** dialog must be selected. For more information on escalation settings, see Specifying Escalation Server Settings.

Escalation Server window, field values	
Field	**Description**
Jobs in Queue	Identifies the number of jobs being escalated in the queue.
Jobs Processed	Identifies the number of jobs processed in the current queue.
Start Time	Date and time when the current session of Escalation Server began.

Escalation Server window, field values	
Field	**Description**
Last Process	Date and time when Escalation Server performed the last action.
Total Processed	Total number of jobs processed in the current session of Escalation Server.
Total Queues	Number of queues in the workflow configured to use the Escalation process.
Node	Current node ID being escalated.
Node Title	Current node name being escalated.

Configuring Escalation

The following topics are described in this section:

Configuring Execution Times

To configure escalation execution times, edit the `[setup_escalation]` section in the `visiclt.ini` file:

```
[setup_escalation]
EscTimes=9:00 AM, 11:50 AM, 3:30 PM, 6:00 PM
```

In this example, escalation occurs every working day at 9:00 AM, 11:50 AM, 3:30 PM, and 6:00 PM.

Excluding Non-Business Days and Holidays

To exclude non-business days and holidays, proceed as follows:

1. In the **Table Maintenance** window, select the table **ESC_CAL.**
2. If you do not have the **ESC_CAL** table available, to upgrade your database, in **Project Builder,** run **Check Project Version.**

ESC_CAL table		
Field Name	**Format**	**Description**
CAL_KEY	smallint	Calendar key. Default value is 1.
CAL_DATE	date	Calendar date.

ESC_CAL table		
Field Name	**Format**	**Description**
STATUS	char (3)	Status. The following values can be used: • **SAT:** Saturday is a **non-business** day. The field CAL_DATE can be NULL. • **SUN:** Sunday is a **non-business** day. The field CAL_DATE can be NULL. • **WRK:** the date in CAL_DATE is a business day. • **OFF:** the date in CAL_DATE is a non-business day. **Note:** Non-business days are excluded from escalation calculations, but Escalation Server can run on non-business days.

3. Enter appropriate values as shown in the following example.

ESC_CAL table fields example			
CAL_KEY	**CAL_DATE**	**STATUS**	**Explanation**
1	<NULL>	SAT	Saturday is a non-business day, but Sunday is a business day because the CAL_DATE combined with STATUS equals **SUN.**
1	07/04/2001	OFF	Date 07/04/2001 is a non-business day.
1	07/04/2003	OFF	
1	05/15/2001	WRK	Date 05/15/2001 is a specified business day, used if Saturday is a business day.

The following rules apply when excluding days:

- If at least one record in the ESC_CAL table is assigned **SAT** status, all Saturdays are non-business days.
- If at least one record in the ESC_CAL table is assigned **SUN** status, all Sundays are non-business days.
- The holiday dates must be written for each year, for example, 07/04/2001, 07/04/2003.
- If the ESC_CAL table is empty or does not exist in the database, all calendar days are business days.

Escalation Log Window

Each session of Escalation Server generates a detailed record of the escalated parcels. This information is located in the Escalation Log.

To view the log, click **Escalation Log.** The **Escalation Log Table** window appears.

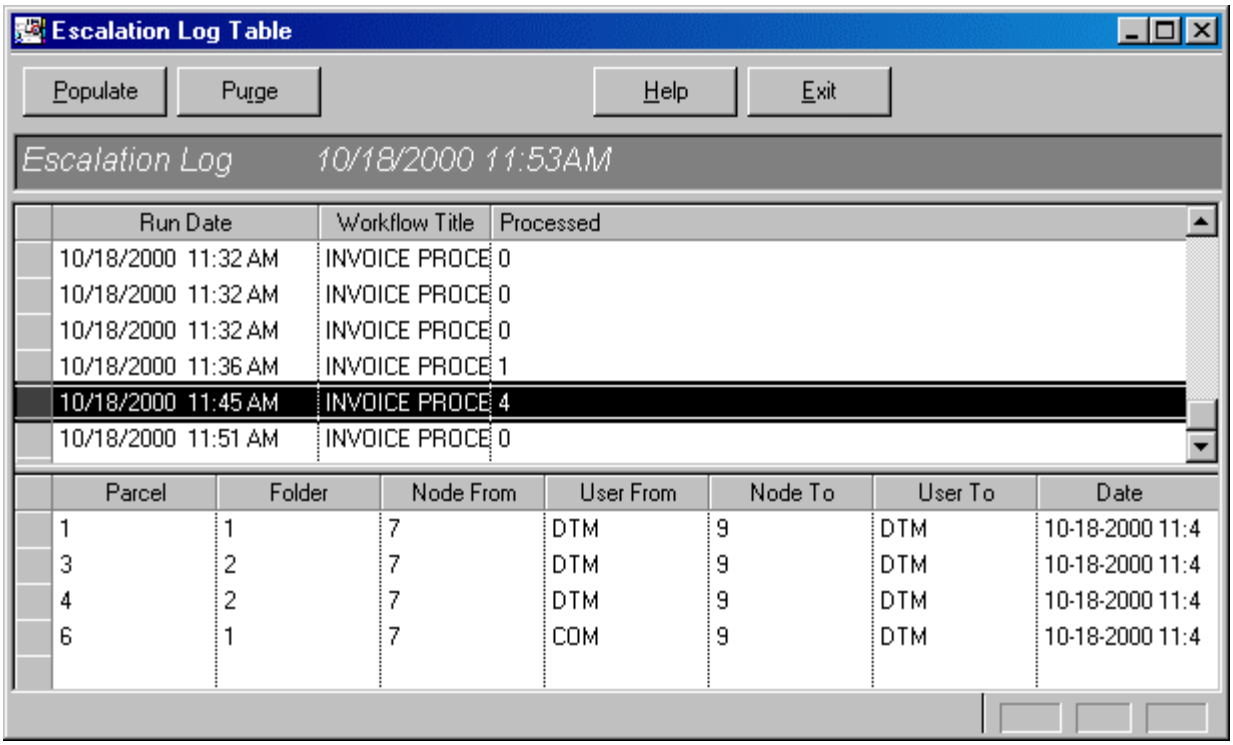


Figure 69: Escalation Log Table

The **Run Date** column displays the date and time when each session of Escalation Server began. The **Workflow Title** column shows in which workflow the escalation process occurred. The **Processed** column shows the total number of work items that were escalated.

To view the detail of the work items for a specific **Run Date,** highlight the run date and click **Populate.** The lower portion of the window displays the requested information. The following table describes the columns listed:

Escalation Log Table	
Column	**Description**
Parcel	Parcel number of the escalated work item.
Folder	Folder number to which the escalated work item is assigned.
Node From	Node ID in which the escalated item was located.
User From	User ID to whom the escalated item was assigned.
Node To	Node ID to which the escalated item was sent.
User To	User ID to whom the escalated item was sent.
Date	Date when the escalation occurred.

To remove run date records from the **Escalation Log** window, highlight the run dates to be deleted and click **Purge.**

Specifying Escalation Server Settings

To specify Escalation Server settings, proceed as follows:

1. Click **Process Setup.**

   The **Escalation Settings** window appears.

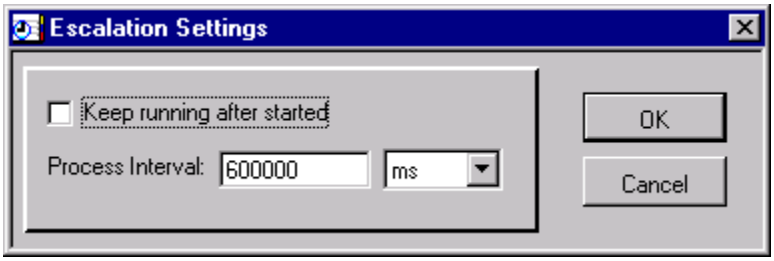


Figure 70: Escalation Settings dialog

2. To ensure that the server runs continuously, select the **Keep running after started** check box.

Note: Escalation Server does not check the **Keep running after started** setting if the `EscTimes` parameter is set in the `visiclt.ini` file as described in Configuring Execution Times.

3. Enter the value for the process interval in which the escalation must be performed.
4. In the **Process Interval** field, enter a number.
5. In the drop-down list that appears, select the units.
6. Click **OK.**

Chapter 12: Document Retention

This section describes how to configure retention policies and use Retention Server to manage the disposal of documents that are out of date.

The following topics are described in this section:

Retention Server Overview

Retention Server is an automatic workflow object that manages the disposal of outdated documents and documents that are marked for deletion.

Retention Server can operate in the following modes:

Retention Server operation modes	
Mode	**Description**
Document recycling	Retention Server deletes workflow documents from the document recycling bin. The **recycling bin** is a logical container for Exigen Workflow documents that are marked for deletion. Documents are physically removed from the database and document storage systems only when Retention Server deletes them from the recycling bin. For document recycling operation mode, the Retention Server software license is not required.

Retention Server operation modes	
Mode	**Description**
Retention collection disposal	Retention Server deletes workflow documents that pass the retention period calculated from the cut off date according to defined retention policies. Disposable documents are compiled into retention collections. When a new retention collection is created, the person responsible for Retention Server maintenance receives an email from Retention Server and makes one of the following decisions: • approves the collection for disposal • freezes the collection • modifies the contents of the collection A **retention policy** is a set of rules used by Retention Server to create retention collections. Using the Administrator utility, administrators define retention policies and assign them to a document type or a document collection created with Exigen Publisher Collector. A document's **cut off date** is the date from which the retention period is calculated for the document. For example, if the cut off date is November 6, 2006, and the retention period is 20 days, the document is sent to the retention collection if Retention Server is run on November 26, 2006 or later. For retention collection disposal operation mode, the Retention Server software license is required.

For ERM document disposal, corresponding records and files in the ERM storage project can also be removed, if there is no dependency for existing ERM documents. As an ERM storage file can contain several ERM documents, storage is removed only upon removal of the last ERM document referring to that storage file. For more information on ERM documents, see Chapter 14: Configuring Enterprise Report Management.

Enabling Document Retention

To enable document retention in a workflow, proceed as follows:

1. Create a Retention Server node in the workflow.

   For information on creating workflow nodes, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 5: Designing a Workflow.

2. Create a mechanism for defining a cut off date for the documents in the workflow.

   A document's cut off date is stored in the DOCUMENT table in the CUTOFF_DATE field. A common mechanism for setting the document cut off date is by using Exigen Workflow events.

   For information on setting up Exigen Workflow events, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 4: Setting Up Exigen Workflow, Setting Up Events.

3. Define and activate the retention policies for the documents in the workflow as described in Configuring Retention Policies.

4. Start Retention Server.

Configuring Retention Policies

The following topics are described in this section:

Managing the Policy List

All actions related to the document retention policy configuration are performed in the **Policy list** window.

To open the **Policy list** window, proceed as follows:

1. In Exigen Workflow Explorer, select **Administration Tools > Workflow Tools > Administrator.**

   The **Administrator Utilities** window appears.

2. Select **Administrator > Retention Setup.**

   The **Select project** window appears.

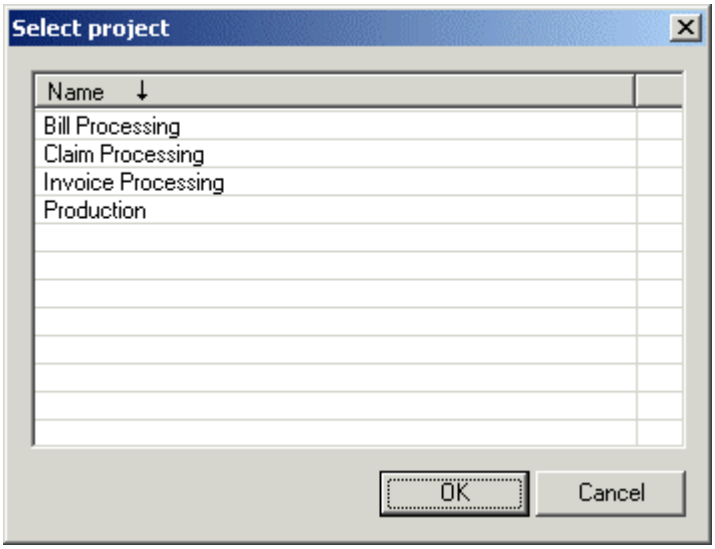


Figure 71: Project list

3. In the **Select project** window, select the project in which to create or modify the retention policies, and click **OK.**

   The **Policy list** window appears.

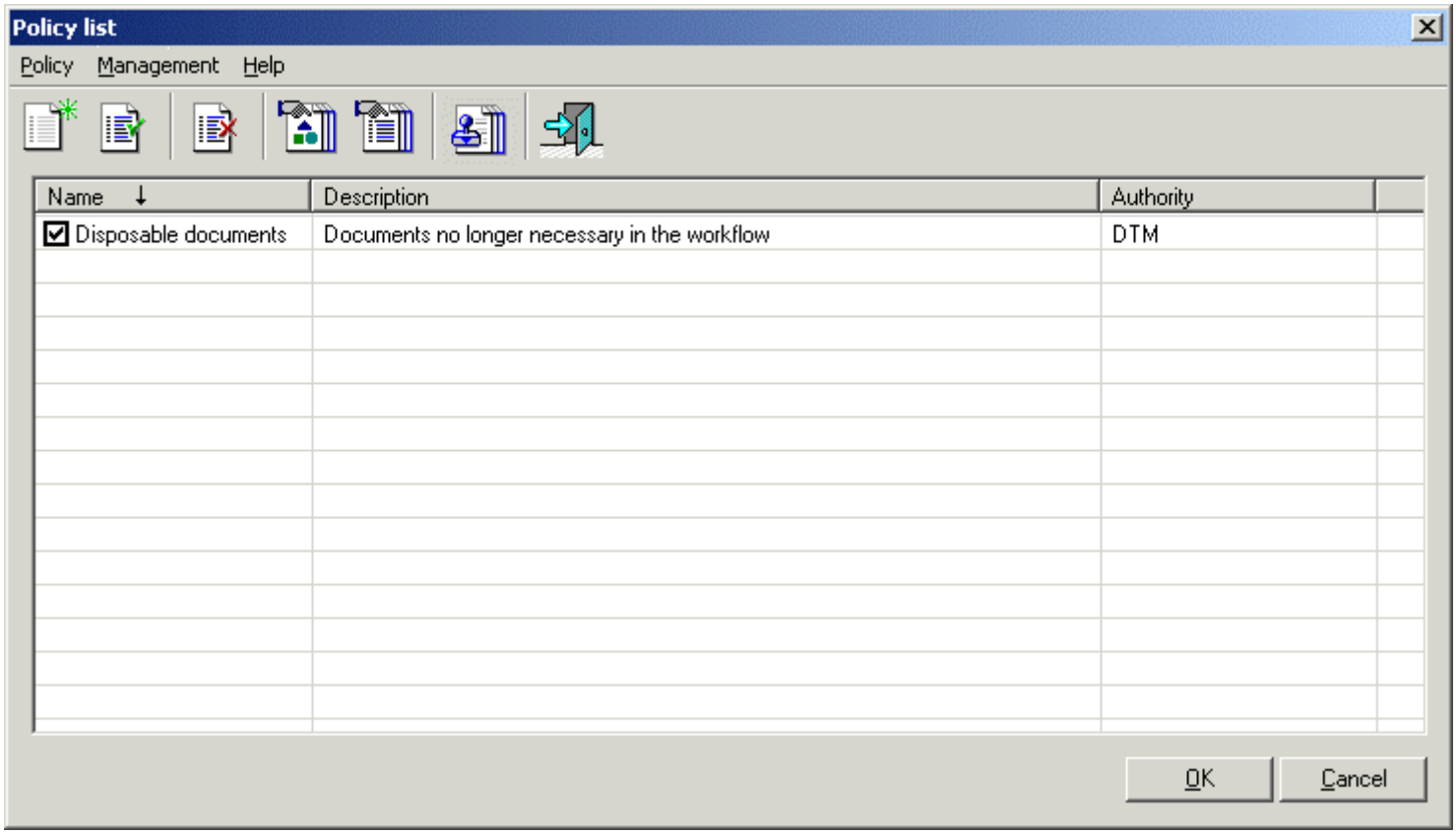


Figure 72: Retention policies list

The **Policy list** window displays all retention policies defined for the selected project.

The following table describes the columns in the **Policy list** window:

Policy list window columns	
Column	**Description**
Name	Policy name. The check box in this column identifies whether the policy is currently active.
Description	Policy description.
Authority	User responsible for approving the disposal of documents.

The following table describes the buttons and menu options in the **Policy list** window:

Policy list window buttons and menu options		
Button	**Menu option**	**Description**
	**Policy > New policy**	Creates a new policy. For information on creating new policies, see Creating and Modifying Retention Policies.
	**Policy > Edit policy**	Modifies the information of the selected policy. For information on modifying policies, see Creating and Modifying Retention Polices.
	**Policy > Delete policy**	Deletes the selected retention collection.
	**Management > Document type**	Displays a list of all document types to which existing retention policies can be assigned as described in Managing Document Type Policies.
	**Management > Collection**	Displays a list of all document collections to which existing retention policies can be assigned as described in Managing Document Collection Retention Policies.
	**Management > Disposal**	Opens the **Approve document disposal** window. For information on approving, freezing, and modifying retention collections, see Approving Retention Collections.
	**Policy > Exit**	Closes the **Policy list** window.

4. To apply any changes made in the **Policy list** window, click **OK.**
5. To close the **Policy list** window without applying the changes, click **Cancel.**

Creating and Modifying Retention Policies

To create a new retention policy, proceed as follows:

1. In the **Policy list** window, select **Policy > New policy.**

   The **New policy** window appears.

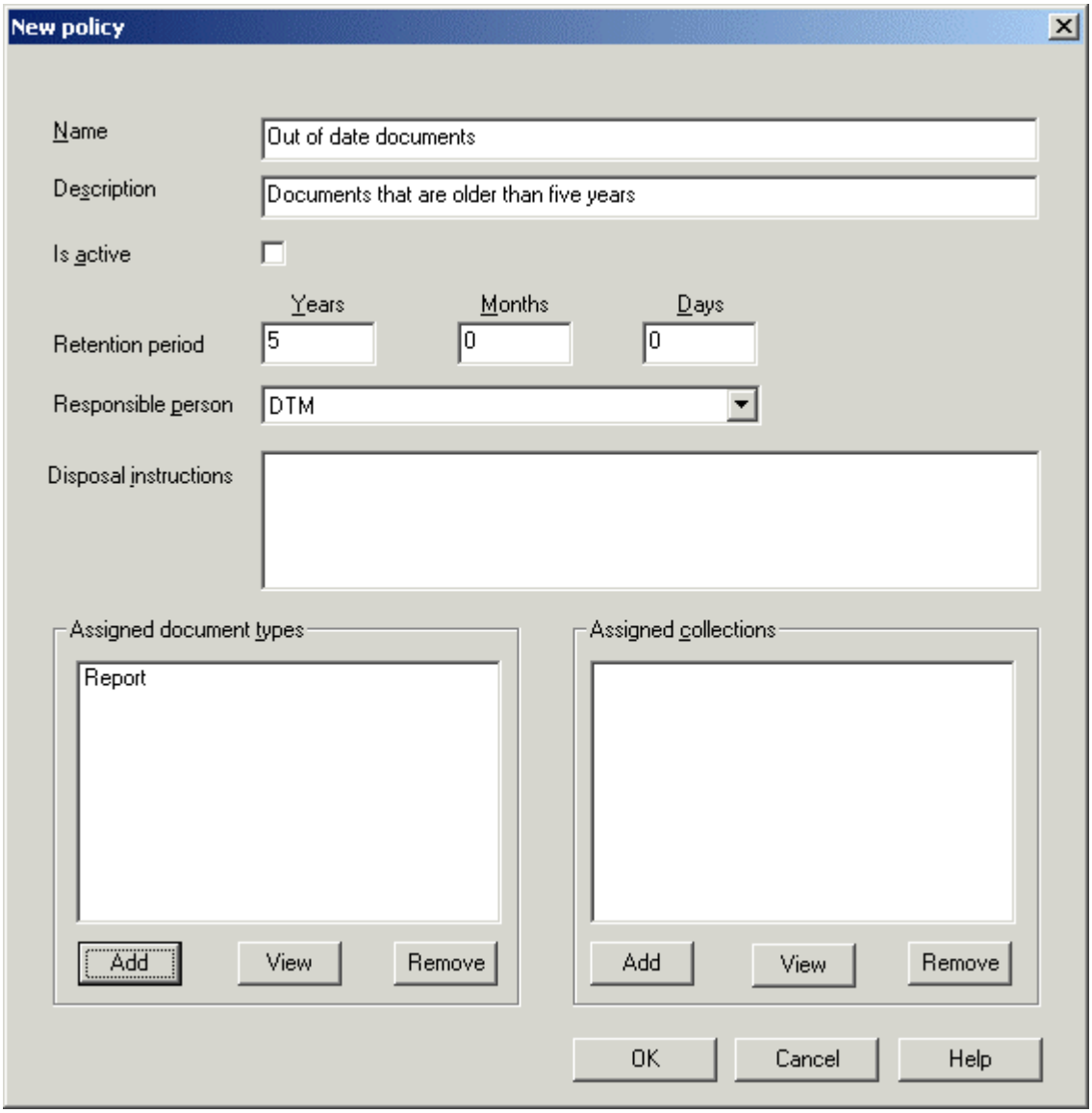


Figure 73: New policy window

If you modify a retention policy, the same window appears.

2. In the **Name** field, enter the name of the policy.
3. In the **Description** field, enter a short description of the policy.

   This field is optional.
4. To enable the policy, select the **Is active** check box.
5. In the **Retention period** fields, specify the retention period of the policy.

   The retention period is the time after which the documents assigned to this policy are disposable, starting from the cut off date.

6. In the **Responsible person** list, select the user responsible for approving the retention collections for disposal.

   The responsible person receives an email from Retention Server when a new retention collection is created.

7. In the **Disposal instructions** field, enter the instructions for the responsible person about the policy.

   This field is optional.

8. To assign the policy to a document type, in the **Assigned document types** box, click **Add.**

   The **Select document type** window appears.

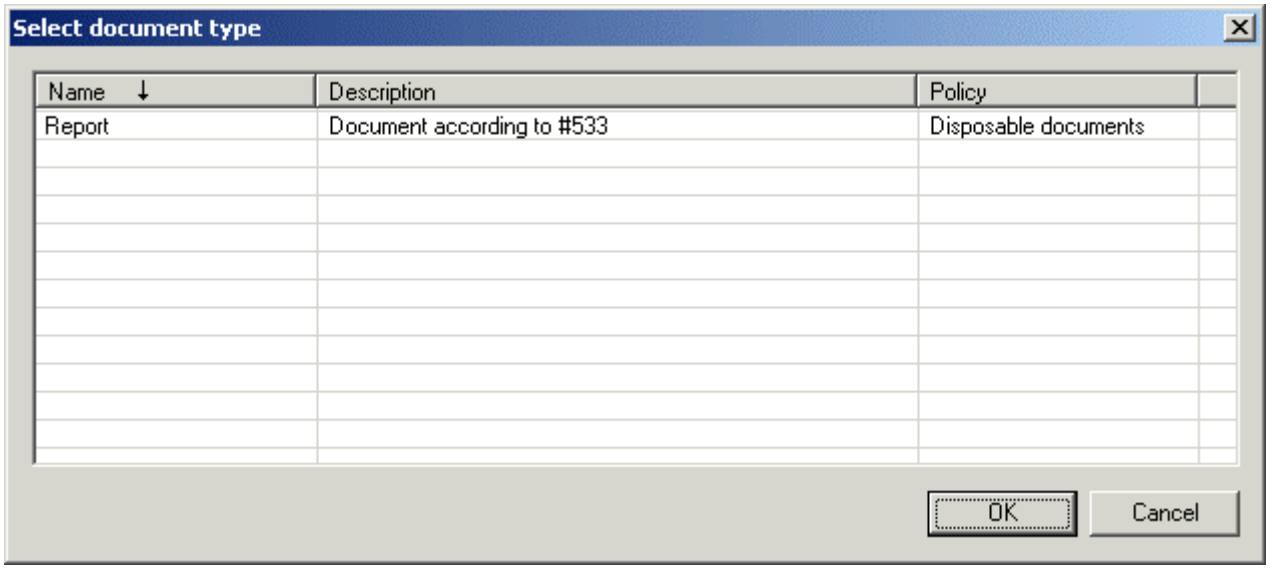


Figure 74: Assigning the policy to a document type

The following table describes the columns in the **Select document type** window:

Select document type window columns	
Column	**Description**
Name	Document type name.
Description	Document type description.
Policy	Policy currently assigned to the document type.

9. Select a document type and click **OK.**

   The retention policy is assigned to the selected document type. Assigning a retention policy to a document type means that the retention policy applies to all documents of the selected document type.

10. To view the information about the selected document type, in the **New policy** window in the **Assigned document types** box, click **View.**

11. To remove an assigned document type from the policy, in the **Assigned document types** box, select the document type and click **Remove.**

12. To assign the policy to a document collection created with Exigen Publisher Collector, in the **Assigned collections** box, click **Add.**

    The **Select collection** window appears.

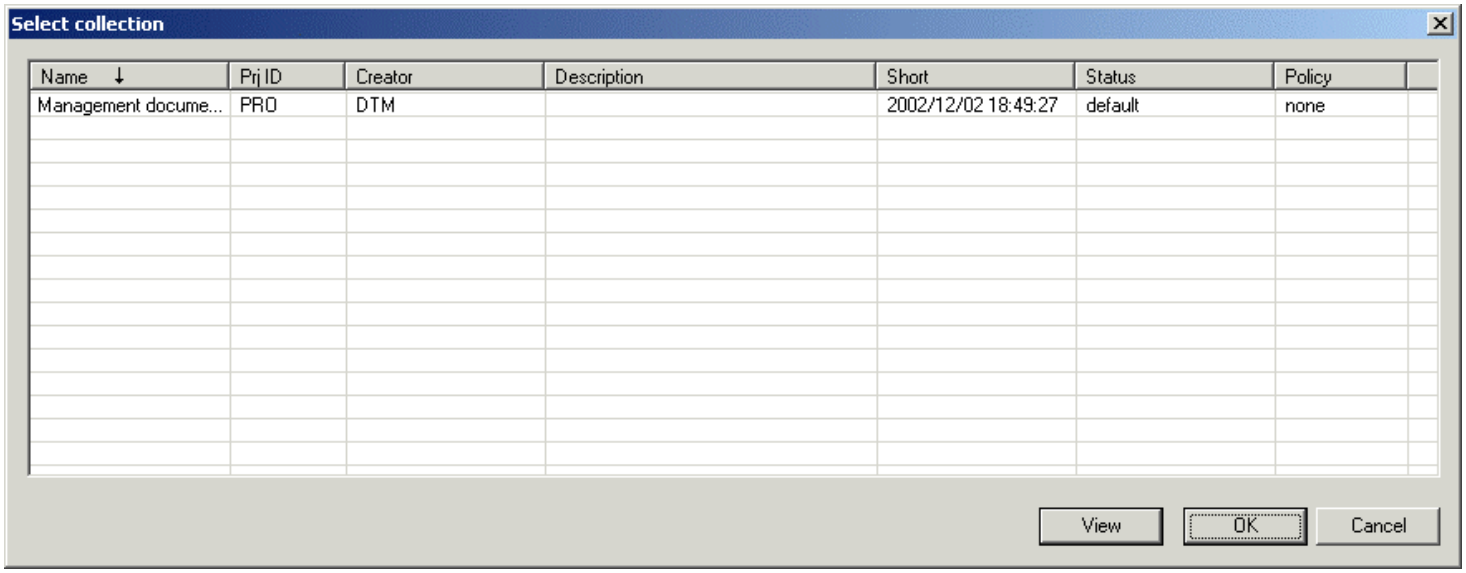


Figure 75: Assigning the policy to a document collection

13. In the **Select collection** window, select a document collection and click **OK.**

    The retention policy is assigned to the selected document collection. Assigning a retention policy to a document collection means that the retention policy applies to all documents in the selected document collection.

14. To view the information about the selected document collection, in the **New policy** window in the **Assigned collections** box, click **View.**
15. To remove an assigned document collection from the policy, in the **Assigned collections** box, select the document collection and click **Remove.**
16. To create the defined policy, in the **New policy** window, click **OK.**

    The new policy appears in the **Policy list** window.

17. To activate the policy, in the **Policy list** window, select the check box in the **Name** column, or in the **New policy** window, select the **Is active** check box.

Managing Document Type Retention Policies

The **Policy list** window is used to assign existing retention policies directly to document types.

To assign retention policies to document types, proceed as follows:

1. In the **Policy list** window, click **Manage document type policies**  **.**

The **Document type policy management** window appears.

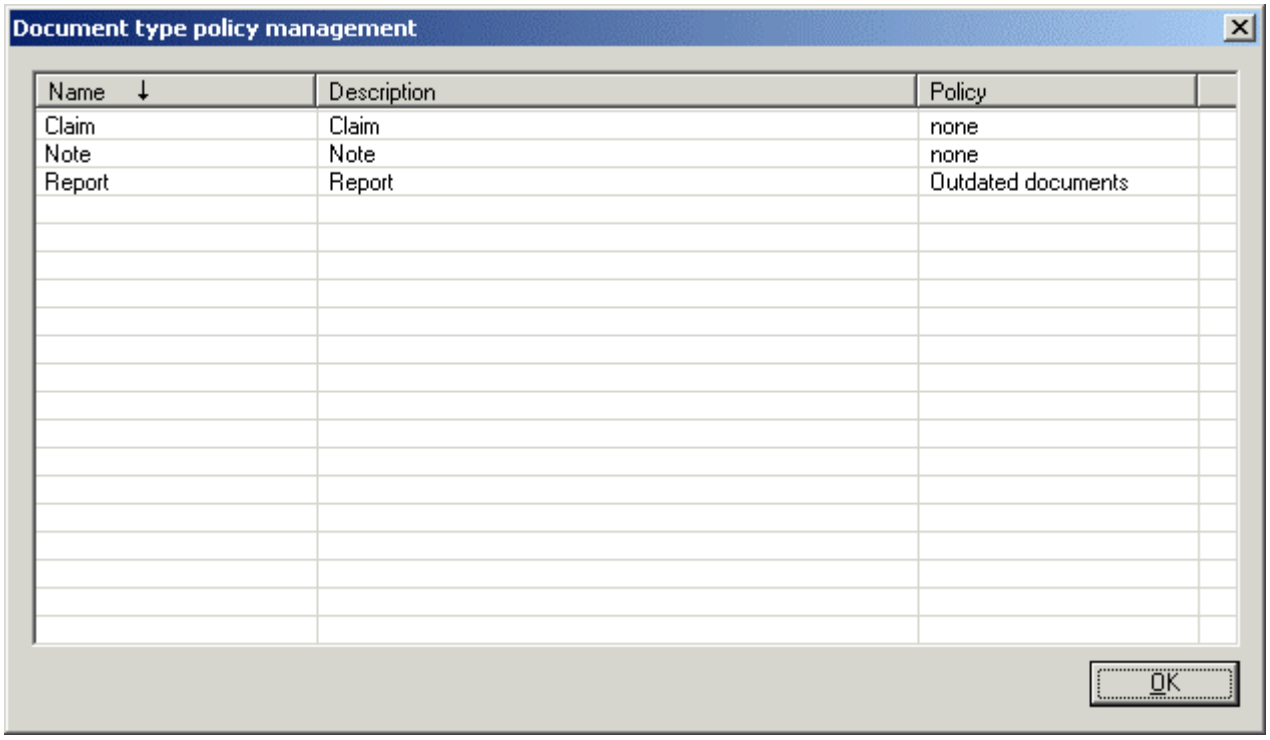


Figure 76: Assigning retention policies to document types

The table displays names, descriptions, and assigned retention policies of all document types defined in the system.

2. Double click the appropriate document type.

   The **Select policy** window appears.

3. Select the appropriate retention policy as described in Selecting a Retention Policy.

   The selected retention policy is assigned to the document type.

4. To close the **Document type policy management** window, click **OK.**

Managing Document Collection Retention Policies

The **Policy list** window is used to assign existing retention policies directly to document collections.

To assign retention policies to document collections, proceed as follows:

1. In the **Policy list** window, click **Manage collection policies**  **.**

   The **Manage collection policies** window appears.

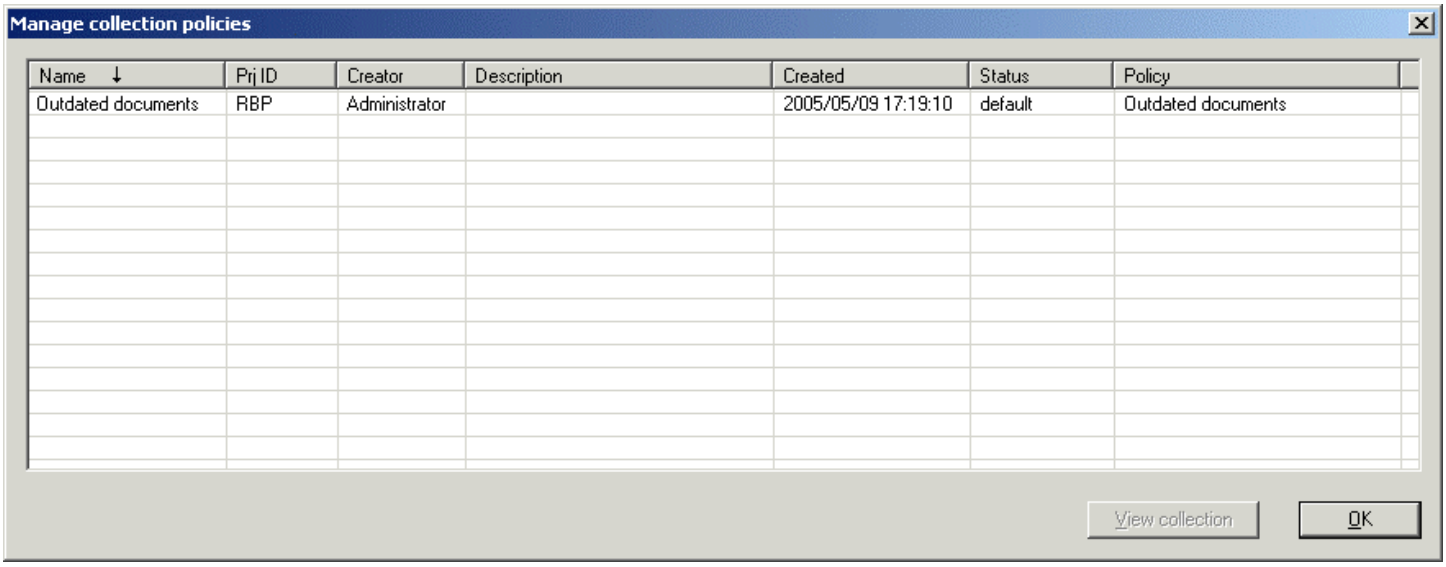


Figure 77: Assigning retention policies to document collections

The table displays all document collections defined in the system and their assigned retention policies.

2. To view documents in a document collection, select the appropriate collection and click **View collection.**

   For information on viewing documents in a collection, see Viewing Document Collections.

3. Double click the appropriate document collection.

   The **Select policy** window appears.

4. Select the appropriate retention policy as described in Selecting a Retention Policy.

   The selected retention policy is assigned to the document collection.

5. To close the **Manage collection policies** window, click **OK.**

Viewing Document Collections

In the **Manage collection policies** or **Approve document disposal** windows, when a user clicks **View collection,** the **Collection** window appears.

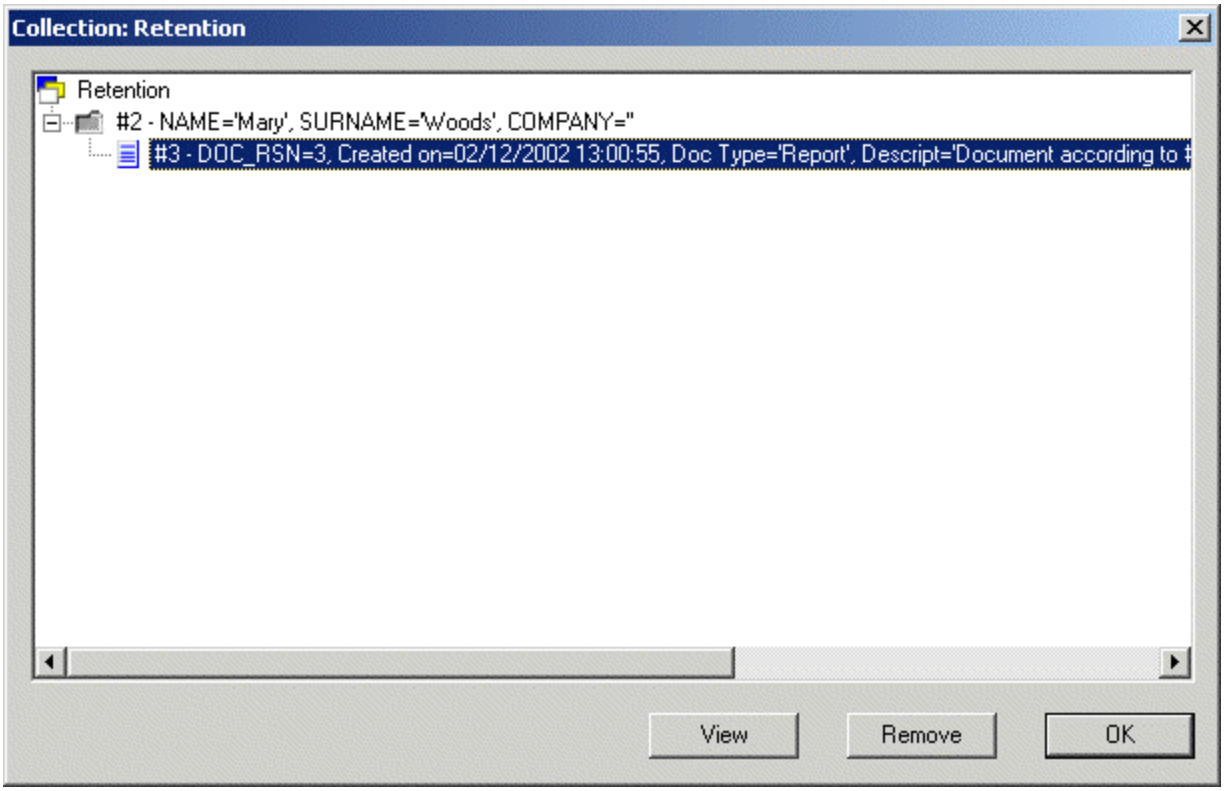


Figure 78: Viewing and modifying the contents of a document collection

The tree structure displays the contents of the selected document collection.

To view or modify the contents of the document collection, proceed as follows:

1. To browse through the contents of the retention collection, use the tree structure.
2. To view a selected document in Image Viewer, click **View.**

   Only DMS documents can be viewed.
3. To remove a selected document from the retention collection, click **Remove.**

   The documents that are removed from the retention collection are not destroyed during the next Retention Server activity.

   The **Remove** button is not available if the selected collection is viewed from the **Manage collection policies** window.
4. To close the **Collection** window, click **OK.**

Selecting a Retention Policy

This section describes the **Select policy** window.

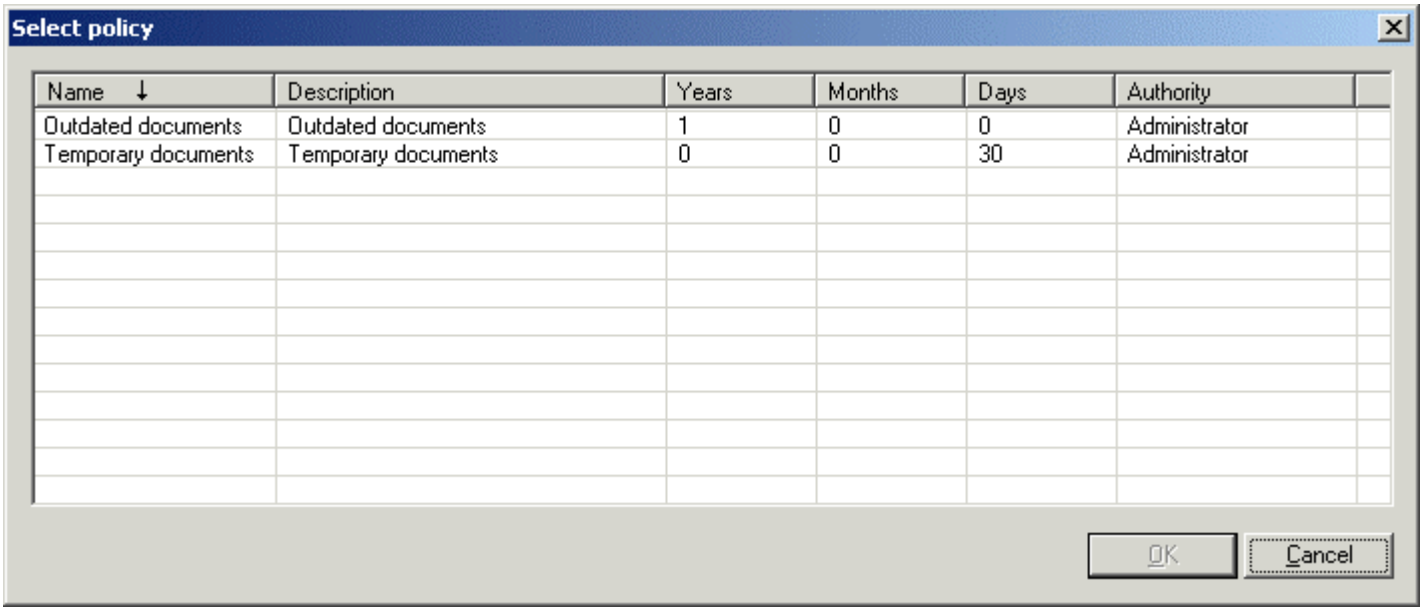


Figure 79: Assigning a retention policy

The **Select policy** window appears under the following circumstances:

- A user double clicks a document type in the **Document type policy management** window as described in Managing Document Type Retention Policies.
- A user double clicks a document collection in the **Manage collection policies** window as described in Managing Document Collection Retention Policies.

The **Select policy** window displays the name, description, retention period, and user responsible for document disposal for all retention policies defined in the system.

To assign a retention policy to the selected document type or collection, in the table, select the appropriate retention policy and click **OK.**

Running Retention Server

Retention Server performs the following tasks:

- deletes documents from the recycling bin
- checks all documents in the workflow according to the active retention policies
- creates retention collections from the disposable documents
- notifies the responsible user about the created retention collections
- disposes of the documents in the retention collections that are approved by the responsible user

All the preceding tasks are performed when an administrator runs Retention Server.

To run Retention Server, proceed as follows:

1. In **Exigen Workflow Explorer,** run Retention Server.

   The **Retention Server** window appears.

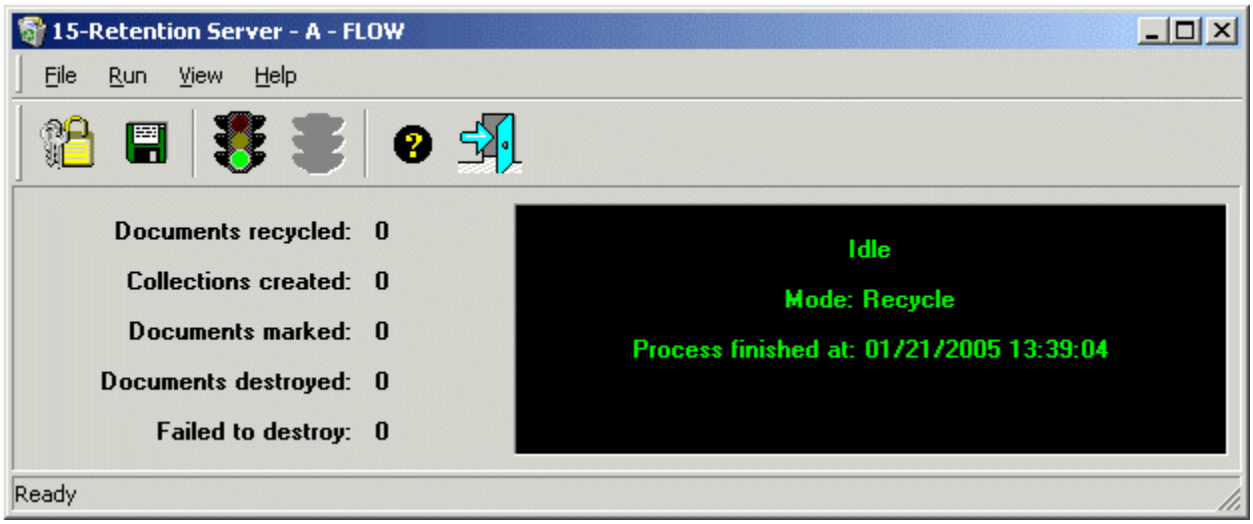


Figure 80: Retention Server window

The black area in the **Retention Server** window displays information about the Retention Server status and selected operation mode.

The following table describes the counters in the **Retention Server** window:

Retention Server window counters	
Counter name	**Description**
Documents recycled	Number of documents deleted from the recycle bin since Retention Server was last started.
Collections created	Number of retention collections created since Retention Server was last started.
Documents marked	Number of documents identified as disposable since Retention Server was last started.
Documents destroyed	Number of documents destroyed since Retention Server was last started.
Failed to destroy	Number of documents identified as disposable but not destroyed since Retention Server was last started. If Retention Server fails to destroy a document, the error is registered in the audit log. If the file selected for destruction does not exist, a file removal record is registered in the audit log.

The following table describes the buttons and associated menu options in the **Retention Server** window:

Retention Server window buttons and associated menu options		
Button	**Menu option**	**Description**
	**Run > Process Setup**	Opens the **Setup** window to specify the following: • Retention Server operation mode • location of the email notification template file
	**File > Save Configuration**	Saves the current window configuration.
	**Run > Start Server**	Runs Retention Server.
	**Run > Stop Server**	Stops Retention Server.
	**Help > Context Help**	Opens the context help.
	**File > Exit**	Exits Retention Server.

When Retention Server is started for the first time, the **Setup** window appears.

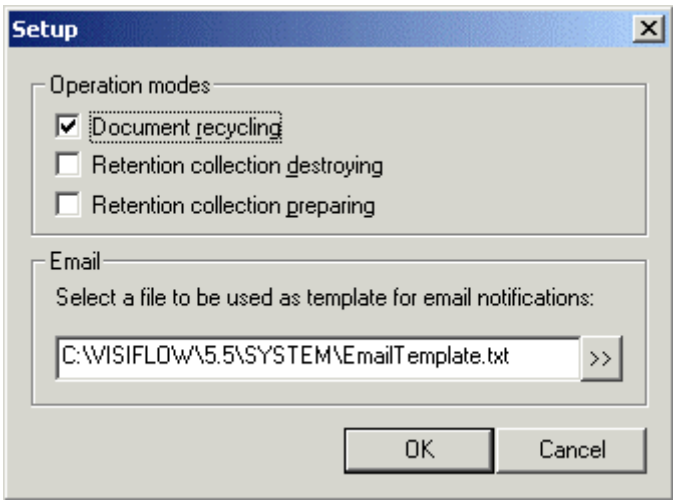


Figure 81: Specifying document retention options

2. To specify the Retention Server operation mode, select one or more of the following options:

Retention Server operation modes	
Mode	**Description**
Document recycling	Removes deleted documents from the recycling bin. If a document that is stored on an image server is deleted from any Exigen Workflow object, the document is moved to the recycle bin and is physically deleted only when Retention Server is run in document recycling mode.
Retention collection destroying	Destroys documents in retention collections.
Retention collection preparing	Database is scanned for documents with an expired retention date. These document are added to the retention collections and an email is sent to the person responsible for Retention Server maintenance.

Any combination of options can be selected. If no operation mode is selected, Retention Server runs without performing tasks.

3. To specify the location of the email template file that is used to notify the responsible person about a new retention collection being created, in the **Email** section, click the browse button  .

4. In the **Open** window, select the template file and click **Open.**

   The Retention Server notification template file is a text file created by the administrator following specific rules.

   The following is an example of the Retention Server notification template file:

```
HEAD:

Notification.


BODY:

A new collection '$NAME' has been created on $CREATED.


FOOT:

Thank You
```

   The following table describes the Retention Server notification template file sections:

Retention Server notification template file sections	
Section name	**Description**
HEAD	Email introduction text.
BODY	Information about the created retention collections. This section may contain notifications about several retention collections.
FOOT	Email conclusion text.

The following aliases are recognized in the Retention Server notification template file:

Retention Server notification template file aliases	
Alias	**Description**
$NAME	Retention collection name.
$DESCRIPTION	Retention collection description.
$CREATED	Retention collection creation date.
$PROJECT	Project in which the retention collection is created.

The aliases are recognized only in the BODY section and are automatically replaced with the corresponding value in the email.

To enable the email notification, an Outlook Express or a compatible email client profile must be configured and enabled to send email.

5. To close the **Setup** window and save the settings for the next session, click **OK.**
6. To cancel changes and close the **Setup** window, click **Cancel.**
7. To run Retention Server, in the **Retention Server** window, select **Run > Start Server.**

   Retention Server runs in the operation mode specified in the **Setup** window.
8. To keep the workflow free of unnecessary documents, run Retention Server regularly.
9. To stop Retention Server before the end of the current cycle, in the **Retention Server** window, select **Run > Stop Server.**

   The following actions occur when **Stop Server** is selected:

Actions that occur when Retention Server is stopped	
Operation mode	**Action**
Document recycling	Stops removing documents from the recycling bin.
Retention collection destroying	Stops destroying the documents in the retention collection.
Retention collection preparing	Stops the collection preparation process. An email notification about the process halt is sent to the person responsible for Retention Server maintenance.

Approving Retention Collections

Retention Server creates new retention collections containing disposable documents. The user responsible for maintaining the retention policy in the workflow must review the created retention collections before disposal.

To review the retention collections, proceed as follows:

1. To open the **Approve document disposal** window, in the **Policy list** window, select **Management > Disposal.**

   The **Approve document disposal** window appears.

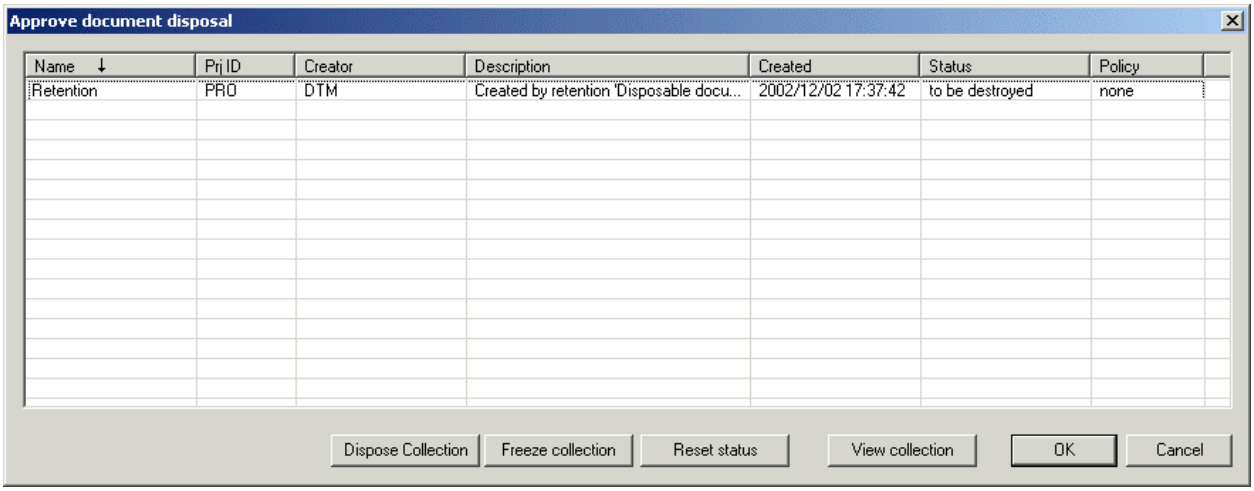


Figure 82: Approve document disposal window

The **Approve document disposal** window lists all retention collections created by Retention Server.

2. In the list, select a retention collection.
3. To approve the selected retention collection for disposal, click **Dispose Collection.**

   The next time Retention Server is run in **Retention collection destroying** mode, the selected retention collection is destroyed.
4. To freeze the selected retention collection, click **Freeze collection.**

   A frozen retention collection remains in the system until its status is changed.
5. To change an approved or frozen retention collection's status back to the initial status, click **Reset status.**
6. To view and modify the contents of the selected retention collection, click **View collection** and follow instructions as described in Viewing Document Collections.
7. To apply changes, in the **Approve document disposal** window, click **OK.**
8. To close the **Approve document disposal** window without applying changes, click **Cancel.**

   The changes made in the **Approve document disposal** window are implemented the next time Retention Server is run.

Chapter 13: Push Server

This chapter describes Push Server and explains how to run it. The following topics are described in this section:

Overview

Push Server automatically sends work items to the next node and user according to workflow rules. Work items and email are immediately sent to the next queue or user.

Push Server is used in situations when workflow rules are not complex.

Push Server Window

To open the **Push Server** window, in **Exigen Workflow Explorer,** double click the **Push Server** icon.

The **Push Server** window appears.

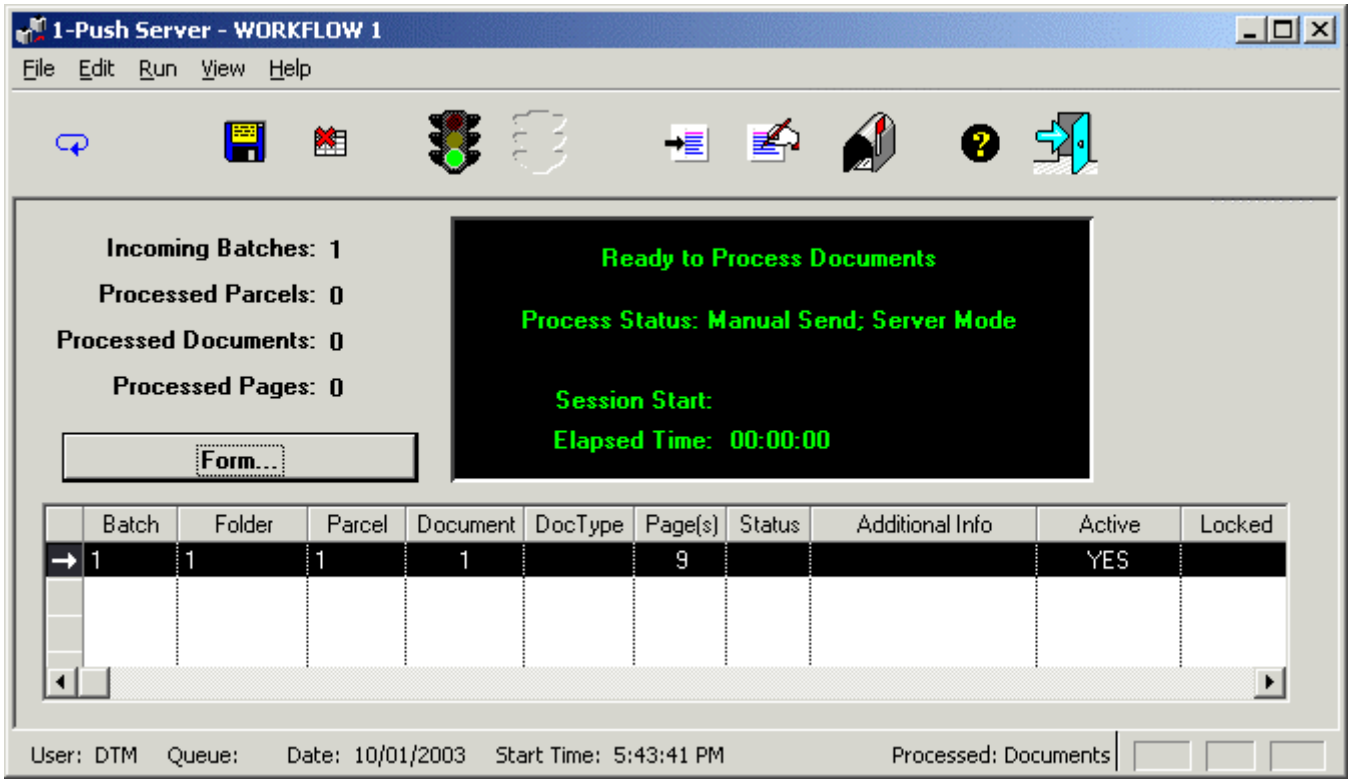


Figure 83: Push Server window

The **Push Server** window consists of the following features and information:

- menu and button bars as described in Appendix A: Exigen Workflow Object Menus and Button Bars
- information about the number of incoming batches, processed parcels, documents, and pages on the left. Documents having a **Y** in the **Locked** column are checked out for editing and cannot be modified.
- status window displays the current mode of Push Server on the right
- toggle button is used to display data in either **Form** view or **Column** view

Starting and Stopping Push Server

To run **Push Server,** click **Start Server**  .

If the **Auto Send** and **Server Mode** options are selected, the jobs to be processed are loaded by batch into Push Server. After the entire batch is processed, the new parcels and documents are sent to the next queue, and the processing of the next batch begins.

If neither of the preceding selections is selected, each new parcel must be manually sent to the next queue by clicking **Send.**

The status window displays the processes being performed and the time elapsed.

To stop the server, click **Stop Processes.**

For information on codetable and legacy based routing, see Appendix C: Push Server Advanced Functionality.

For information on maintaining Push Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Chapter 14: Configuring Enterprise Report Management

This chapter describes how to configure Exigen Enterprise Report Management (ERM). The following topics are described in this section:

Overview

The following topics are described in this section:

Data Formats

Exigen ERM processes electronic documents in text format.

Electronic text documents are usually computer printouts or database excerpts. Both types of documents are referred to as **reports** or **ERM documents.** Exigen Workflow Import Server is used to process reports in binary format, for example, Word documents. Any binary format can be processed by ERM after being converted to text format.

In addition, ERM can directly process AS/400 report printstreams from an output queue using Report Queue Monitor. AS/400 printstreams can contain data in the following formats:

- system network architecture character string (SCS)
- advanced function presentation (AFP)

Printstream data is converted to text by Report Queue Monitor.

During the ERM production cycle, the report input stream is processed according to report definition rules defined in ERM Setup by the ERM administrator. Incoming reports are compressed as ZIP archives and moved into storage located on the network. Indexing information from the reports populates target custom Exigen Workflow projects. At the back end, Exigen Workflow end users can access reports via standard database queries using indexing

information. By default, ERM documents are presented as text in green-bar reports. However, if a presentation form overlay is registered in ERM Setup, ERM documents can be presented in other formats. The following formats can be selected for presentation forms:

- DMS
- RTF
- XLS

DMS files are represented as TIFF images. AFP reports can be presented in original AFP format.

Before using ERM in the Exigen Workflow system, the ERM administrator decides how to store, set up, and manage electronic documents.

Preliminary Tasks

Before running Exigen Workflow, the ERM administrator must perform the following preliminary tasks:

1. Familiarize yourself with Office products.
2. Optionally, familiarize yourself with Monarch.
3. Organize all source information to be used in production.
4. Decide the following:
   - how to distinguish between different report layouts
   - which fields must be indexed
   - where to store archives
   - which types of form overlay are required
5. Prepare a sample report file for each report layout.

Input Data File Definition

Exigen ERM can process a variety of electronic text documents. Input data files are defined by the following categories:

- origin
- text data format
- output type
- input file contents

The following table summarizes report types recognized by Exigen ERM:

Report file definition types recognized by Exigen ERM			
Origin	**Description**		
	Format	**Output**	**Contents**
Printouts	Fixed	Green-bars or form overlays	Multi or single layout
Database excerpts	Delimited or fixed	Form overlays	Multi or single layout

Printouts look like text documents written with a monospace font. They always have a fixed text field format. Besides the text, printouts can contain binary information, such as printer control codes or other commands. Depending on the type of required output in the Retrieve object, printouts can be green-bars or form overlays. The original contents of green-bar printouts can be viewed directly in the form and are easily understood by the user. Form overlays always require a template, or graphical form, to insert text data from the report.

Excerpts from databases usually resemble collections of strings of sequential data fields in either fixed or delimited format. These types of electronic documents always require a form overlay to present the content to the user.

A file in the input stream for both fixed format and delimited format can contain reports of one layout or several layouts. Fixed format reports and delimited format reports cannot be combined in one input file or loaded into the same import directory because different indexing engines process these report types. An AS/400 printstream is converted by Report Queue Monitor to fixed format text.

Creating a Report Template

Report templates are used by ERM Indexer and ERM Storage Maintenance for indexing, and by Exigen Workflow or Exigen Workflow Web Queue objects for retrieving and viewing reports. Depending on the report format, report templates are prepared as described in the following table:

Report template preparation	
Format	**Preparation method**
Fixed format	The following methods are available: • Exigen Report Definition Wizard is used to create templates as described in Chapter 17: Report Definition Wizard. • Monarch data extraction templates are imported.
Delimited format	The script is created in the `d32_dlm.ini` file.

To create report templates, you can use either Exigen Report Definition Wizard or Monarch.

For information on creating report templates using Report Definition Wizard, see Creating Report Templates.

The following topics are described in this section:

Creating Report Templates for Fixed Format Using Monarch

This section describes creating report templates with Monarch.

Any valid Monarch data extraction model can be imported and registered in ERM Setup as a report template. To make a Monarch model file understandable to ERM Setup, the following field and trap name conventions must be observed:

- Each report layout must have a unique model. This is achieved by assigning one or more traps as signature traps. During indexing, the ERM indexing engine recognizes different report layouts by the signature traps. To assign a trap in Monarch to be a signature for ERM, when editing the template, in the **Name** window, *signature* must be entered. For more than one signature, the names *signature* or *signature1* must be entered as required. A trap of a one-level extraction model is the signature by default.
- If different report layouts require similar non-signature or signature traps, multi-signature models with more traps must be used to ensure that ERM Indexer correctly recognizes different layouts.
- In selecting data extraction templates, traps that are based solely on capturing wildcard characters cannot be used.
- For a model with more than one trap, a Page Header attribute must be assigned to the top trap.
- A Page Header trap of one model cannot be used as an ordinary trap in another model.
- Field names, which are intended for overlay only, not for indexing, must start with `O_`, for example `O_CUST_NAME`. This field is not seen for auto-indexing settings.
- The special page marker field must be used to mark the start of each page in the following instances:
  1. An exact document page count by ERM Indexer is required.
  2. Multi-page overlay templates are used.

  The page marker field must be formatted as follows:

  `O_PAGNN`

  where NN is the double-digit number of a template page, for example, `O_PAG04`. If overlay templates are not used in Retrieve, `O_PAG01` must be used. The page marker field should not be confused with the Page Header trap in Monarch.

Warning: Monarch V5 performs smart conversion of date fields by default. This conversion can affect data extraction by ERM. To ensure correct data extraction by the model saved from Monarch V5, all date fields in Monarch must be changed to characters before saving the model. Monarch V6 and higher are not supported.

Data Extraction Model by Monarch is converted into a section of the ERM configuration file d32_mnr.ini.

Adding a New Model for Delimited Format Reports

For delimited reports, that is, database excerpts, data extraction is not performed by templates, but by the field sequential number. To add a new model, proceed as follows:

1. In any text editor, such as Notepad, open the existing d32_dlm.ini file.
2. Create a new section with a unique 3-character name, for example, [ABC].

   To view a sample ERM configuration file, see Appendix E: ERM Configuration File Keywords.
3. Add a string model description with comments about the layout.
4. Select a field in the delimited record that serves as a signature for this layout, and enter the corresponding keyword string under the [ABC] ini section.

   Example: In the delimited database excerpt, the field **IN** serves as a signature, the sequential number of this field is 3 starting from 0, and the corresponding keyword string in the d32_dlm.ini file is as follows:

   ```
   [ABC]
   model description=Modern Art Enterprises Invoice
   trap0=3 IN
   ```
5. Add keyword strings to the d32_dlm.ini file for each field to extract during indexing, as shown in the following example:

   Example: In the delimited database excerpt fields, the numbers 0, 5, 8, 30, and 34 are index fields and the corresponding block of keyword strings is as follows:

   ```
   [ABC]
   . . .
   field00=0 REF_NO
   descr00= Reference Number
   field01=5 CUST
   descr01= Customer name
   field02=8 TO_NAME
   descr02= Sold name
   field03=30 PO_NO
   descr03= P.O. Number
   field04=34 SLS_ID
   descr04= Salesman ID
   ```

ERM Locator Application

The documents processed through ERM Indexer are attached to a custom target workflow and respective Exigen Workflow project. However, to set up ERM for a specific Exigen Workflow installation, you first have to create a storage project, which hosts common ERM-related information from all custom projects. As soon as the storage project is created, the ERM Locator Workflow automatically appears in the list of applications.

The ERM storage project and its workflow are usually created only once, but multiple storage projects are also supported.

The ERM Locator application contains the following nodes:

- ERM Setup
- ERM Indexer
- ERM Storage Maintenance

Note: If your version of Exigen Workflow does not create the ERM Storage Maintenance object automatically, this node must be added to the workflow using Workflow Builder.

These objects allow configuring indexing engines, scheduling production, and maintaining ERM storage.

ERM Setup registers sample files, report definition templates, and presentation form overlays for all report layouts that are processed by ERM Indexer.

If a DMS form overlay is required for presentation purposes, for information on how to create DMS form templates, see the *Exigen Workflow Administrator's Guide, Part 3: Utilities,* Chapter 8: Template Management Utility.

Note: The location of ERM settings is stored in the database as soon as the administrator enters the ERM Setup object for the first time. This location can be changed by modifying the ERM setup options as described in Changing ERM Setup Options.

Main ERM Setup Tasks

The following topics are described in this section:

Starting ERM Setup

To start ERM Setup, proceed as follows:

1. In the Exigen Workflow Explorer window, open the ERM Locator workflow.
2. Double click the **ERM Setup** icon.

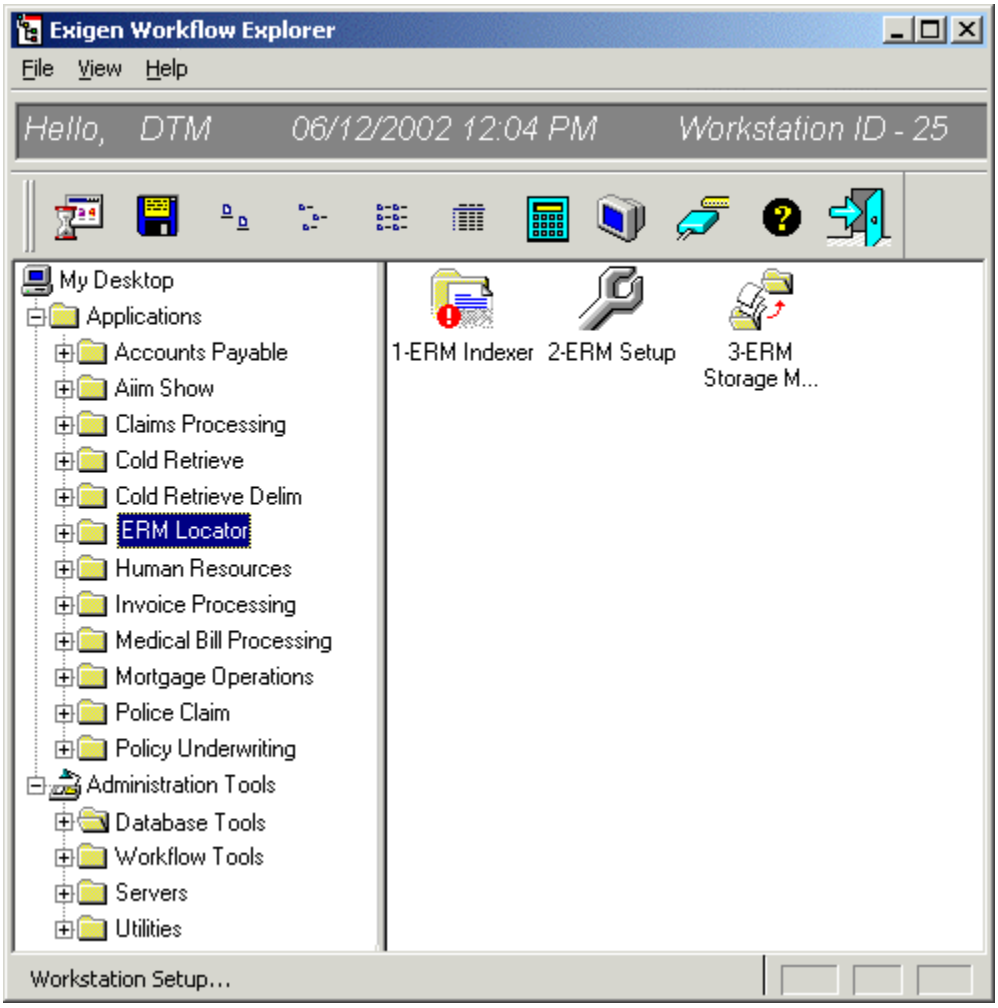


Figure 84: Exigen Workflow Explorer with ERM Locator application

The **ERM Setup** window appears, displaying a list of registered models, which are report definition templates, with corresponding import directories and statuses.

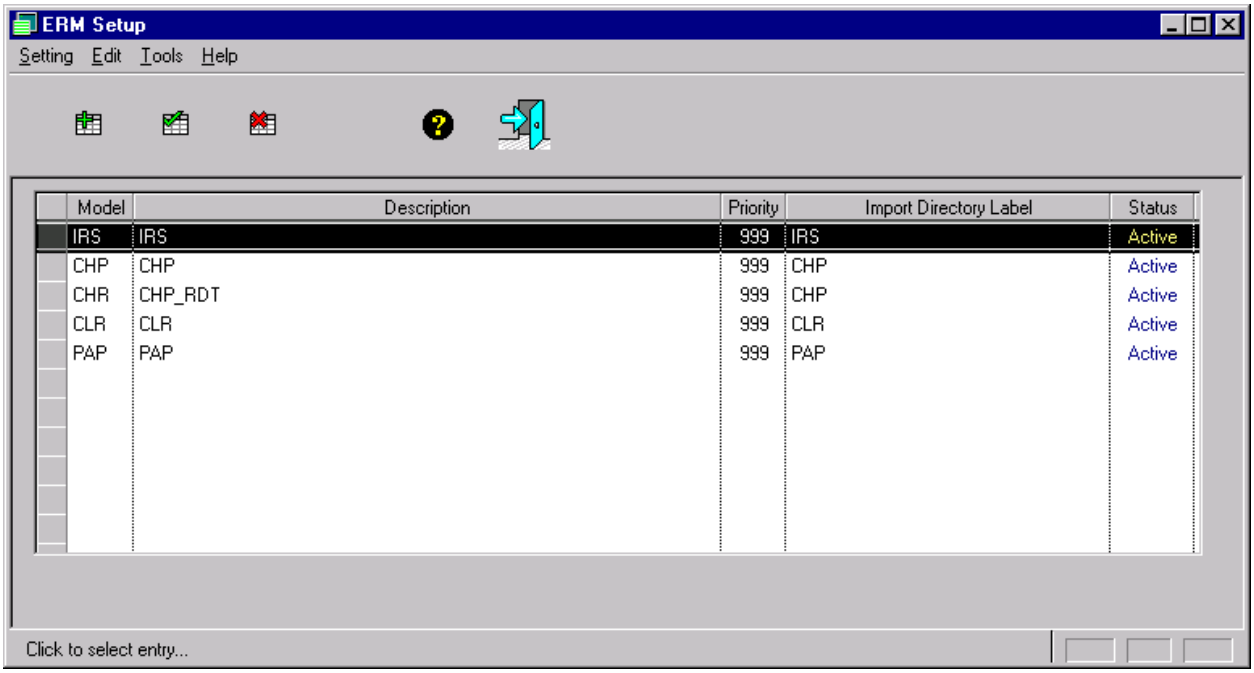


Figure 85: ERM Setup Utility window

The columns display the following information:

ERM Setup Utility columns	
Column	**Description**
Model	Three-character ID of the selected report definition template.
Description	ERM setting description.
Priority	ERM setting priority. • In multi-model processing, documents are processed by priority. Lower numbers are processed first. • In single-model processing, documents are processed by file order. Model priority does not take effect. For more information on multi- and single-model processing, see Multi- and Single-Model Options.
Import Directory Label	Import directory name for the incoming files for this ERM setting.
Status	Current directory status. The values are **Active** or **Disabled.**

Registering a New Report Layout

To register a new report layout, click **Add Entry** or select **Setting > New.**

The **New** window appears.

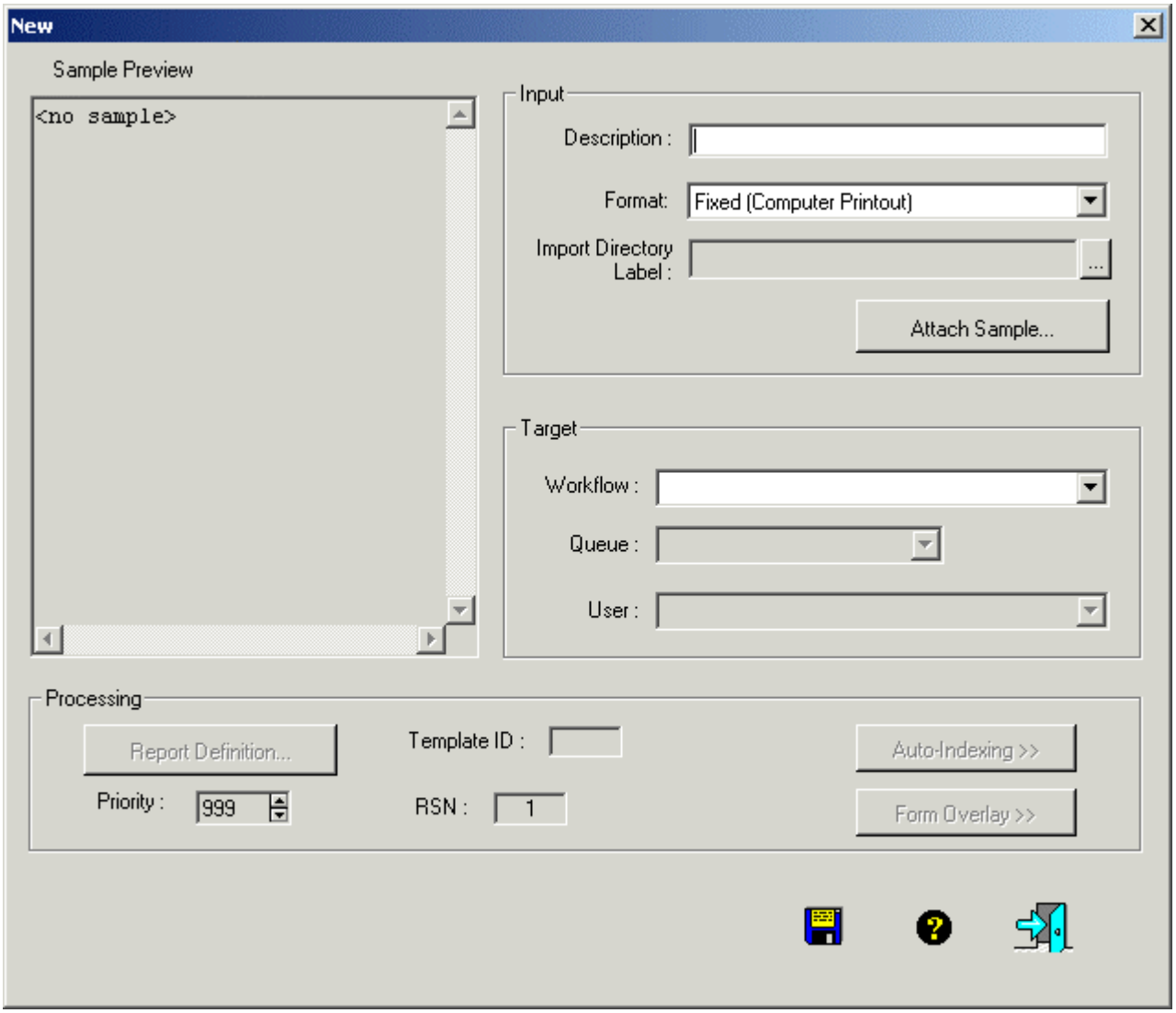


Figure 86: Registering a new report layout

The following tasks are performed in this window:

- Assigning Input Parameters
- Assigning Target Parameters
- Assigning Processing Parameters

Assigning Input Parameters

To assign input parameters, proceed as follows:

1. In the **New** window, in the **Description** field, enter a description of the report.
2. To specify a formatting option, make a selection in the **Format** field as described in the following table:

Format options	
Option	**Description**
Fixed (Computer Printout)	Fixed format reports.
Delimited (Pipe-separated values)	Delimited reports.
Custom	Custom engine.

If **Custom** is selected, the file browser window displays the contents of the Exigen Workflow system directory.

3. In the system directory, select the dynamic link library (DLL) file for the required custom ERM engine.

   For more information on input report formats, see Input Data File Definition.

4. To assign an import directory, click the browse button ... next to the **Import Directory Label.**

   The **ERM Input** window for the selected report format appears and lists registered import directories.

5. To select an existing import directory, double click it, or to create a new directory, click **Add**  .

   For more information on the import directory, see Creating or Editing the Import Directory.

6. Click **Attach Sample** and select a sample file for the report.

   The sample file must contain at least one page of the original report.

   If the report type requires a form overlay, the sample page must contain enough information to populate every field in the form.

7. If a multi-page form overlay is used or different indexing information is extracted from different pages, include an example of each page in the sample file.

   The selected sample file appears in the preview window. If the sample matches any of the previously registered report templates, the system assigns this template by default to this report type, and the **Template ID** window in the **Processing** section group displays a corresponding template ID.

8. Accept the default template or create a new template.
9. Assign target parameters as described in Assigning Target Parameters.

Creating or Editing the Import Directory

ERM Indexer searches for incoming text files in all active ERM import directories.

To create, edit, or disable an import directory, proceed as follows:

1. In the **New** window, click the browse button next to the **Import Directory Label.**

   In the **ERM Input** window, a list of existing import directories appears.

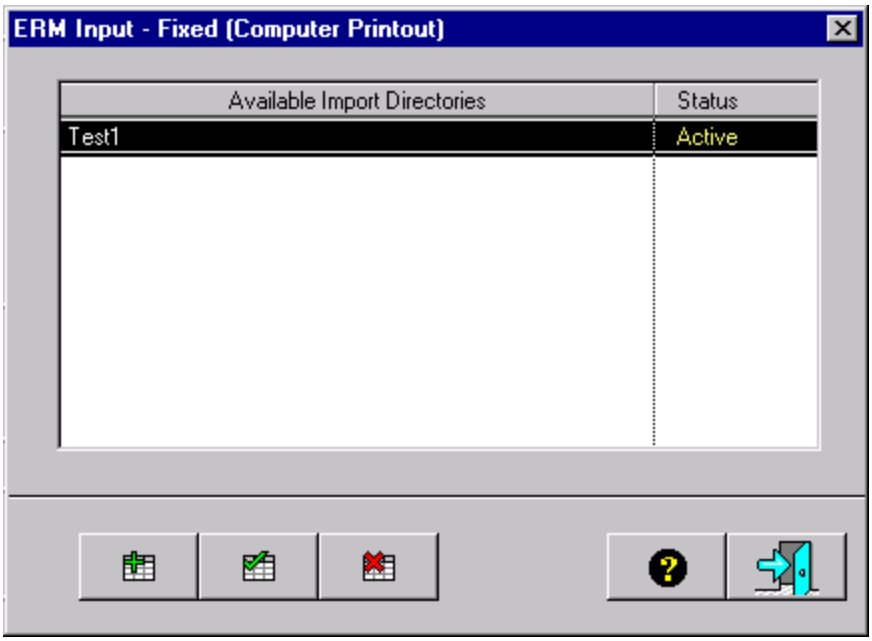


Figure 87: Viewing existing import directories

2. Click **Add Entry**  .

   The **ERM Directories - New** dialog appears.

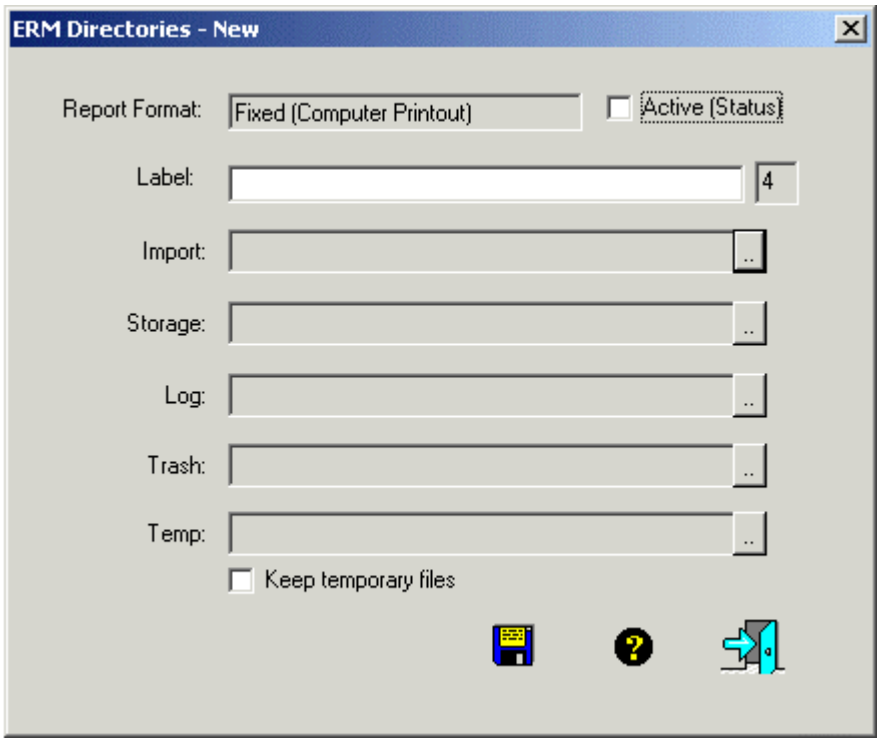


Figure 88: Adding an import directory

3. In the **Label** field, enter a directory label.
4. To select a directory or create a new one, click the browse button next to **Import.**
5. Select or create a directory and click **Select.**

   Setup creates all appropriate subdirectories, which appear in respective windows. By clicking the respective browse buttons next to the directory fields, you can reassign any subdirectory to a desired location on the network. Storage and log subdirectories must reside in the same parent folder.

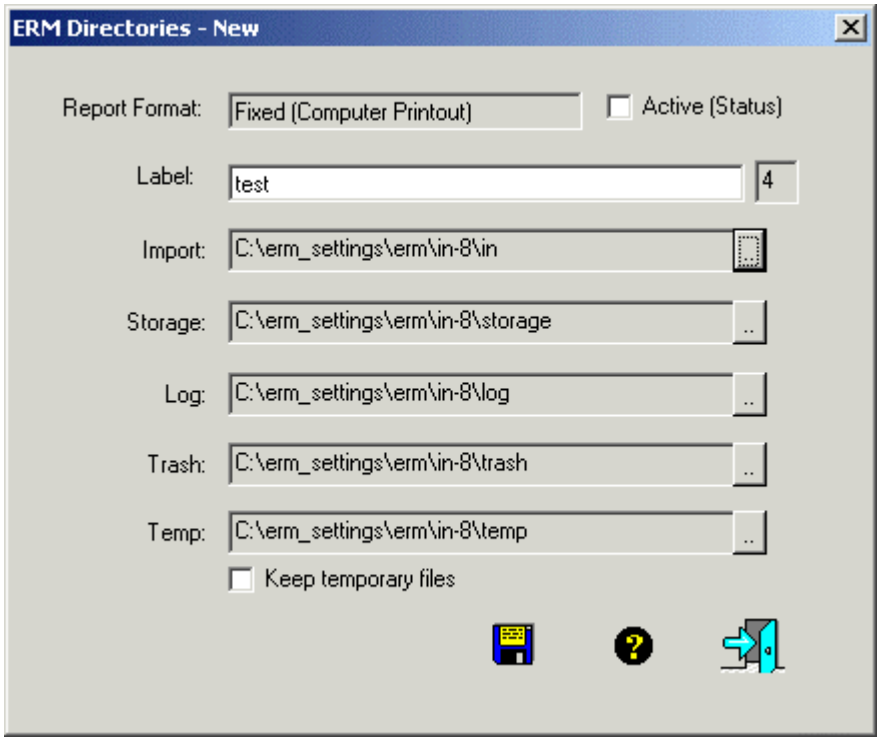


Figure 89: Viewing ERM subdirectories

The system creates the following subdirectories under the selected directory. In the previous example, the root directory is `C:\erm_settings\erm\in-8.`

The following table describes ERM subdirectories:

ERM subdirectories	
Subdirectory	**Description**
`in`	Directory that contains the incoming text files.
`storage`	Directory to which incoming text files are moved after processing by ERM Indexer.
`trash`	Directory that contains discarded files. This directory is for system use only.
`temp`	Directory that contains temporary files. This directory is for system use only.

ERM subdirectories	
Subdirectory	**Description**
`log`	Directory for annotations and other attachments to ERM documents located in the corresponding `storage` directory.

6. To activate a directory, select the **Active (Status)** check box.
7. To disable an existing import directory, clear the **Active (Status)** check box.
8. To accumulate temporary files in temp, and trash subdirectories for troubleshooting or other purposes, select the **Keep temporary files** checkbox.

   If the **Keep temporary files** checkbox is cleared, all temporary files are deleted.
9. Click **Apply Modifications.**

Assigning Target Parameters

Before assigning target parameters, ensure that an Exigen Workflow custom project is created, and that all custom fields are added to folder, subfolder, and document tables.

To assign target parameters, proceed as follows:

1. In the **New** window, in the **Workflow** field, select a workflow.
2. In the **Queue** field, select a workflow node.

   If the indexed report does not need to be processed through a workflow, **Retrieve** is selected.

   If **Retrieve** is selected, a parcel is not created. If any other node is selected, a parcel is always created.

   Exigen Workflow servers cannot be selected as target nodes.
3. In the **User** field, select a user.
4. To save the changes, click **Apply Modifications.**

Assigning Processing Parameters

To assign processing parameters, proceed as follows:

1. In the **New** window, click **Report Definition.**

   The **ERM Report Definition** window with the list of available report definition templates for the specified report format and indexing engine appears.

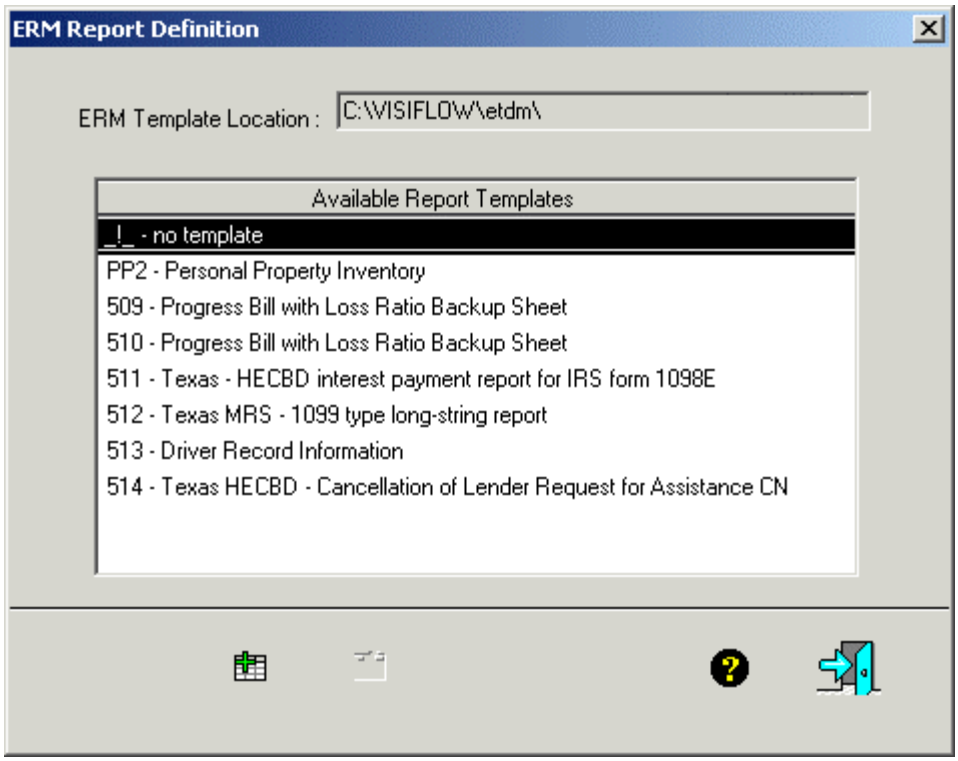


Figure 90: Viewing the list of available report definition templates

2. To use an existing report template, double click the template.

   The sample report is automatically checked against the template signature traps.

3. To process a report file as-is without recognition and without extracting any fields, in the list, select **no template.**

   If **no template** is selected, only global variables such as the report file name, report file extension, and report file creation date can be used in auto-indexing. The **no template** option, which appears as template ID (_!_), is reserved by the system and must not be used for other templates.

4. To proceed to the auto-indexing or form overlay settings, click **Apply** or use shortcut buttons.

5. To add a new report template, click  .

6. To modify an existing template, click  .

   For more information on adding and modifying templates, see Adding a New or Modifying an Existing Report Template.

Note: For reports in delimited format, the add and modify features are not available. A new model must be created by adding a new section to the d32_dlm.ini file. For more information on report definition templates, see Adding a New Model for Delimited Format Reports.

Adding a New or Modifying an Existing Report Template

To add a new or modify an existing report template, click  .

The **New Report Definition Template** window appears. You can either use **Exigen Report Definition Wizard** (RDW) to create a new report template or import a previously created Monarch model.

Note: Only a template related to the current sample report should be used. To add or edit a report definition template related to another ERM setting and sample file, the user must close the current ERM setting, open the new one with the appropriate sample report, and define the report.

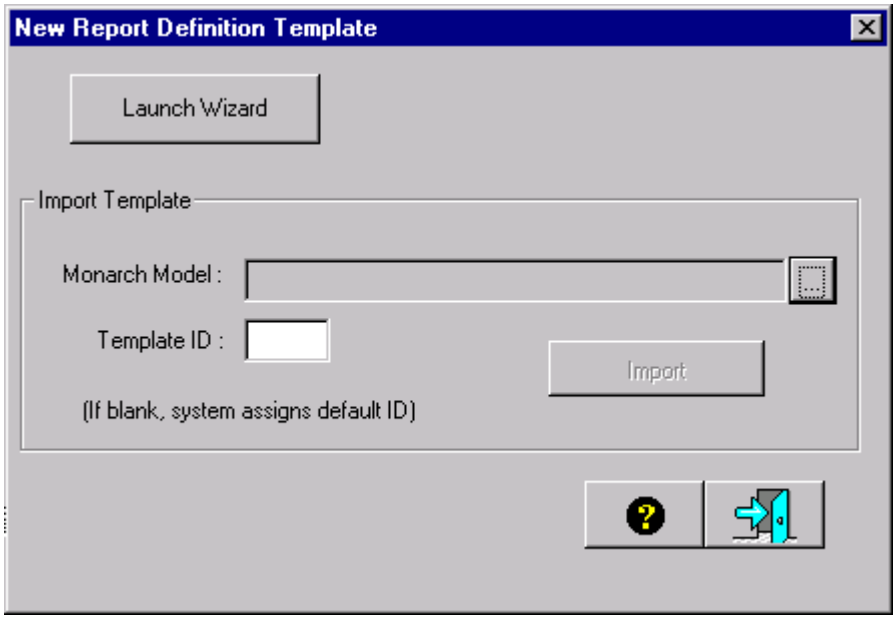


Figure 91: New Report Definition Template window using RDW

To use Report Definition Wizard to create a report definition template, proceed as follows:

1. Click **Launch Wizard.**

   Report Definition Wizard is started with a current sample report file.

2. Create a report definition template and import it into the `d32_mnr.ini` file.
3. In the `..\EWF\etdm\Template` directory, save the template, entering the 3-character template ID as the file name when saving the template.

   This allows the Wizard to open a template file automatically for modifications.

4. Close the **Report Definition Wizard** window.
5. To close the **New Report Definition Template** window, click **Exit.**

   The new report template appears in the list.

6. Alternatively, create report templates as follows:

- In the main menu, start Report Definition Wizard.
- Select **Tools > Report Definition Wizard.**

The new report definition template is available to ERM Setup after it is exported to the `d32_mnr.ini` file.

- To ensure that the template opens automatically, in the `EWF\etdm\Template` directory, store template files as described in step 3.

If you are using Monarch, proceed as follows:

1. Click the button to the right of the Monarch model window.

   The file browser window appears.

2. Select the Monarch model file containing the data extraction template.

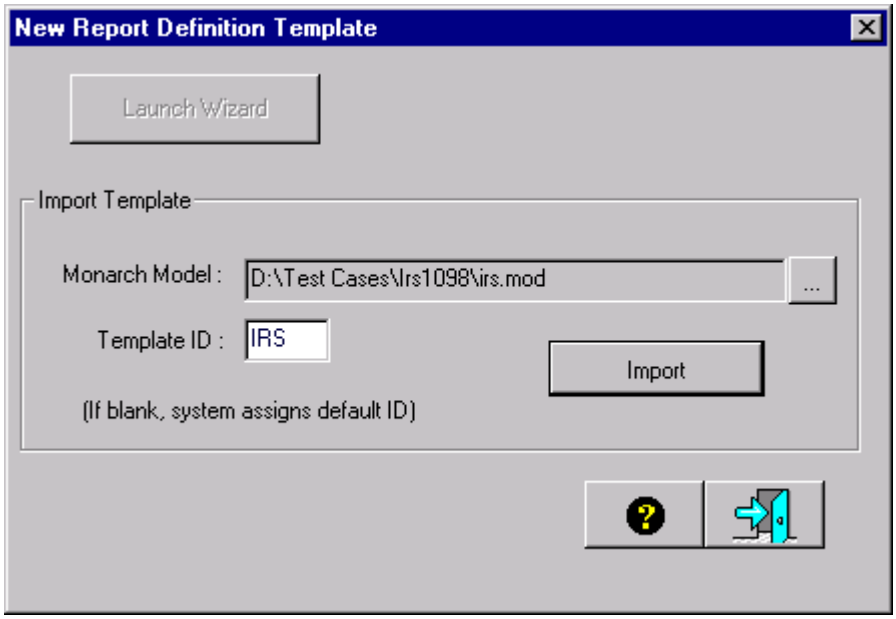


Figure 92: New Report Definition Template window using the Monarch model

3. In the **Template ID** field, enter a 3-character template ID.

   If no value is entered, a numerical ID in the range of 000...999 is assigned automatically.

4. To register a model as a new report definition template, click **Import.**
5. To close the **New Report Definition Report Template** window, click **Exit.**

   The new report template appears in the list.

6. To modify an existing report template, click  .

   The **Report Definition Wizard** window opens with a sample report and a previously used template, if it was used in creating the template. Otherwise, a Monarch window opens with the respective sample report and model file if a model was imported.

7. Re-export the updated Report Definition Wizard template into the `d32_mnr.ini` file.

   Re-importing the updated Monarch model is performed automatically.

8. To make the changes available to the ERM Setup, in the **ERM Report Definition** window, double click the selected report template.

   If a report definition template is not saved in `..\EWF\etdm\Template\<template ID>.rdt`, Report Definition Wizard opens only with a sample report.

9. If only a sample report opens, open the template manually.

   For more information on using Report Definition Wizard, see Chapter 17: Report Definition Wizard.

ERM Indexer Log File

The log file is used to diagnose errors and other abnormal operations of ERM Indexer. For more information on ERM Indexer, see Chapter 15: ERM Indexer.

By default, the ERM Indexer log file is written to the following subdirectory:

```
..\<Exigen Workflow>\etdm
```

The log file is appended every time ERM Indexer is activated. To disable the append function, add the keyword `log=0` to the general section of the appropriate configuration file `d32_mnr.ini` or `d32_dlm.ini`.

For information on keywords for the ERM configuration, see Appendix E: ERM Configuration File Keywords.

Auto-indexing

Auto-indexing includes the following:

- mapping index data fields extracted from the report to custom fields of the folder, subfolder, and document table structure of an Exigen Workflow project
- setting default values to project table fields
- converting the original data format of a report field to a desired format in the database

Editing Auto-indexing Settings

To edit auto-indexing settings, proceed as follows:

1. To open the **Auto-Indexing** window, perform one of the following steps:
   - Select a model and select **Edit > Auto Indexing.**
   - Right click a model and select **Auto Indexing.**
   - If the **New** or **Modify** window is displayed for a model, click **Auto-Indexing >>.**

   The **Auto-Indexing** window appears.

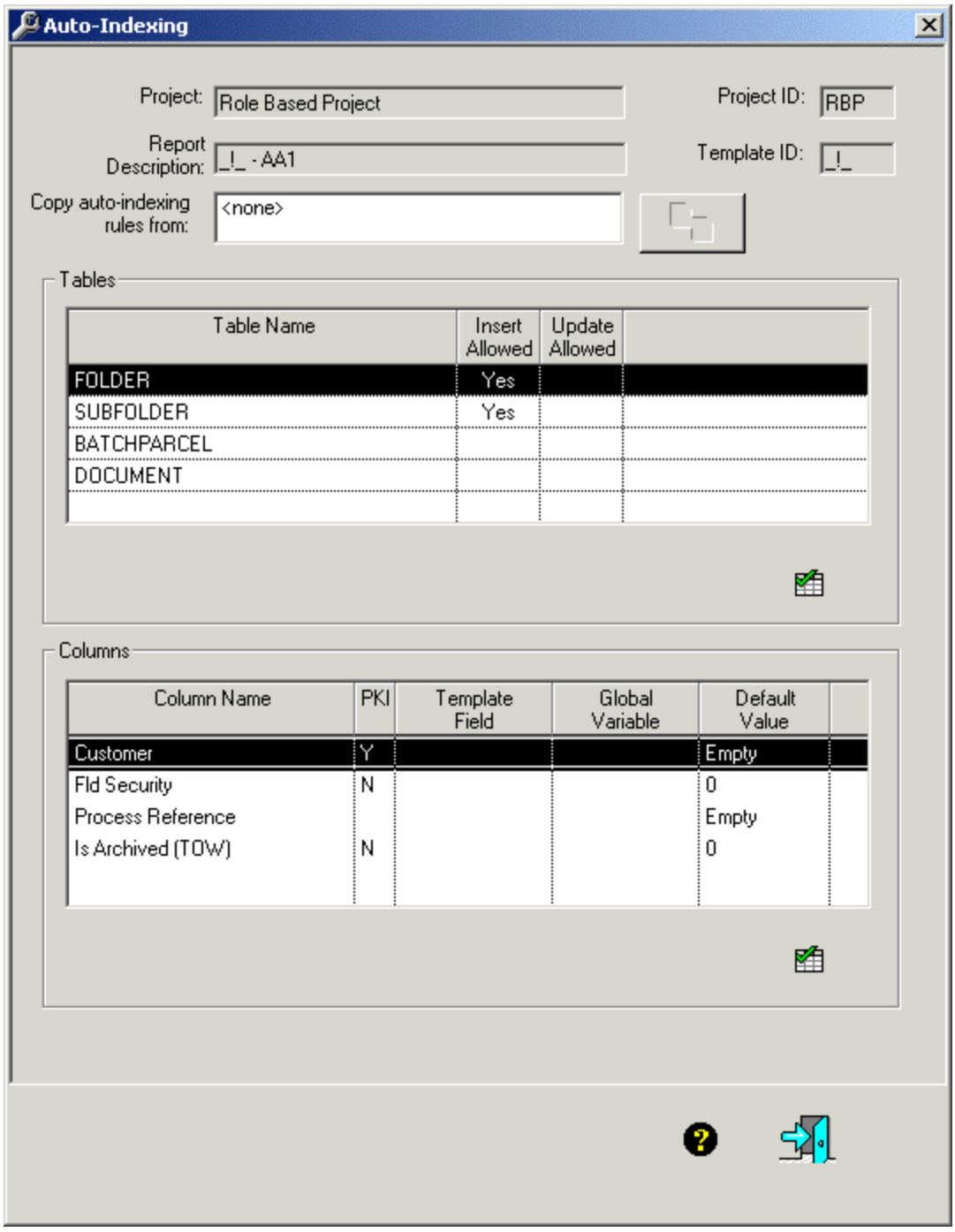


Figure 93: Editing auto-indexing settings

2. To copy auto-indexing settings from an existing ERM Setup entry, in the **Copy auto-indexing rules from** list box, select an item.

   Copying is enabled only for setup entries that have the same set of indexing fields in their report definition templates.

3. To modify the insert or update flags for a table, in the **Tables** section, perform one of the following steps:

- Double click the table name.
- Select the table name and click **Modify Entry.**

The **Modify Insert/Update Flags** window appears.

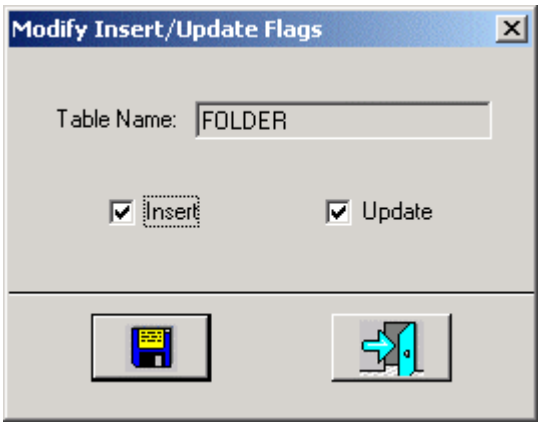


Figure 94: Modifying flags

4. To enable the insert flags option, select **Insert.**
5. To disable the insert flags option, clear **Insert.**
6. To enable the update flags option, select **Update.**
7. To disable the update flags option, clear **Update.**
8. To save changes and close the window, click **Apply Modifications.**
9. To specify the field assignment, perform one of the following steps:
   - In the **Columns** section, double click the required row.
   - In the **Columns** section, select the row and click **Modify Entry.**

   The **Field Assignment** window appears.

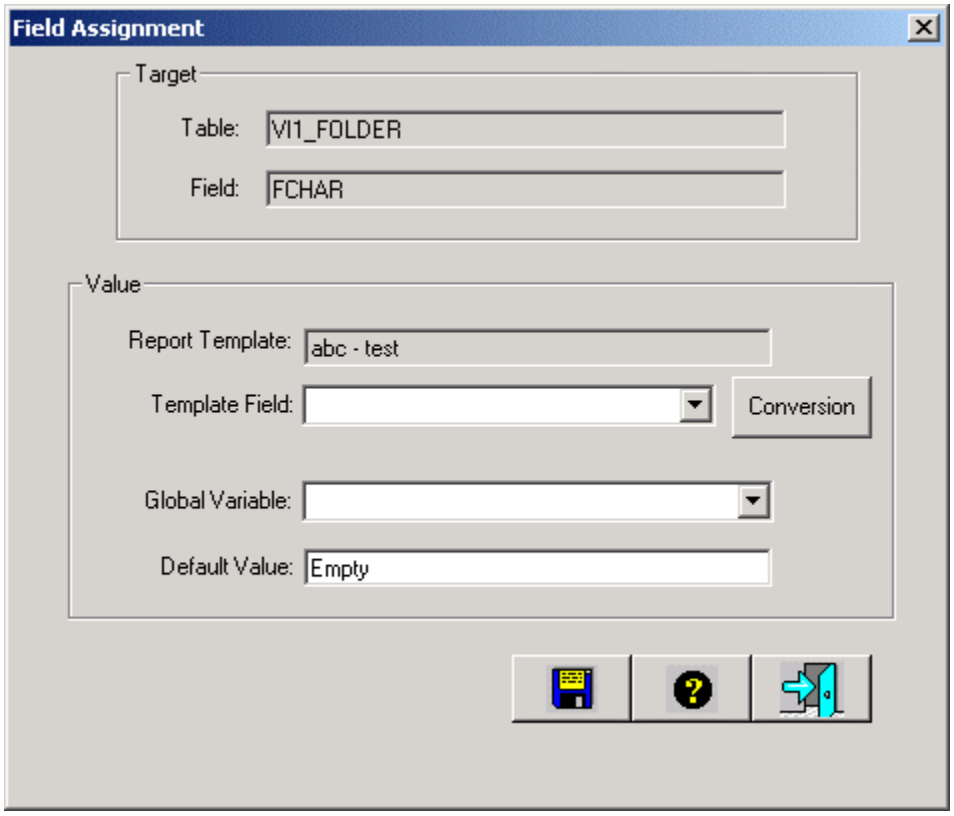


Figure 95: Modifying a field assignment

10. To make an assignment for the selected field, in the **Template Field** list or **Global Variable** list, select an item, or assign the default value.

    If an item is selected in the **Template Field** list, it assigns the selected template field extracted from the body of the report.

    If an item is selected in the **Global Variable** list, it assigns the selected global variable, such as a file parameter or user environment.

    A selection in the **Template Field** list overrides a selection in the **Global Variable** list, which overrides the default selection. If no selection is made in the **Template Field** or **Global Variable** lists, the value in the **Default Value** field is assigned.

11. To convert input data to another format, click **Conversion.**

    The **Field Processing Settings** window appears. For information on the **Field Processing Settings** window, see Chapter 3: Form OCR Server.

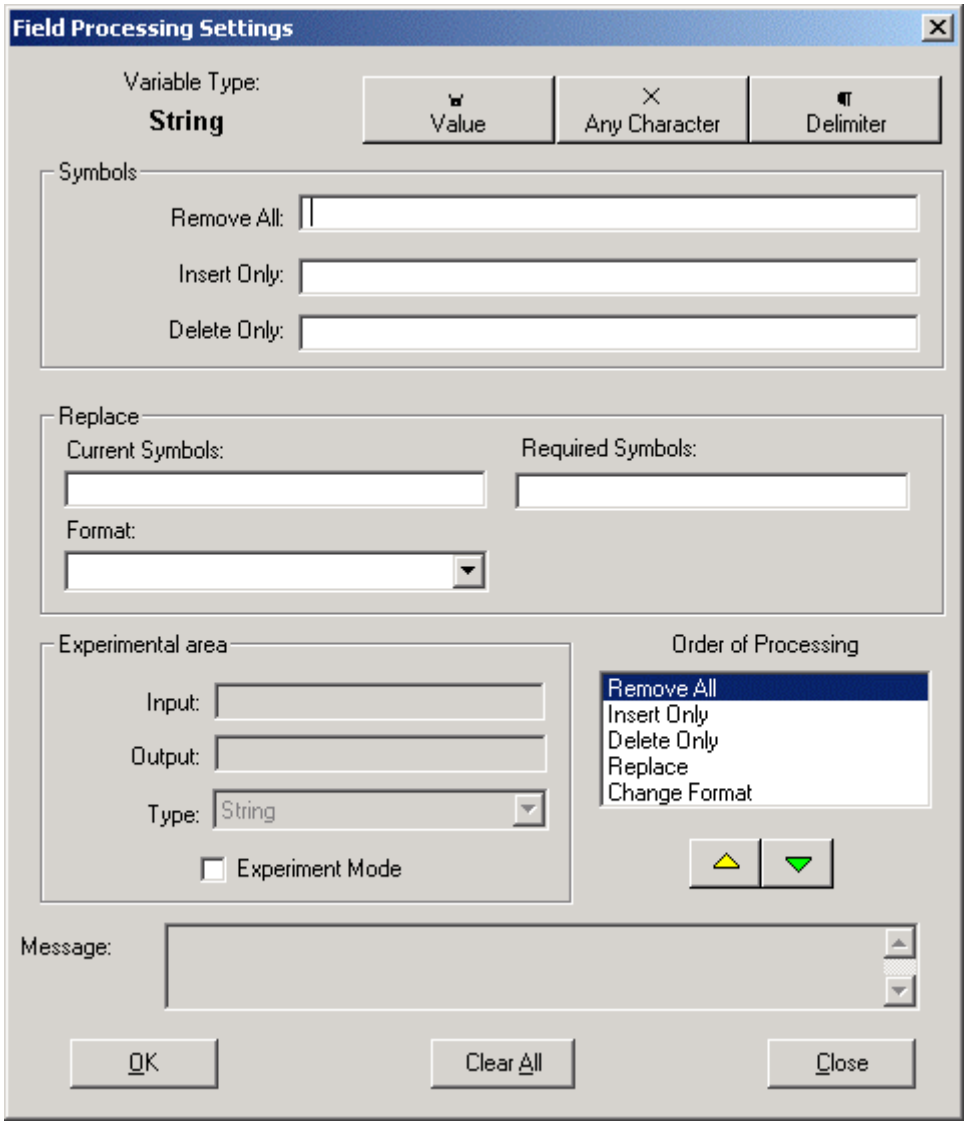


Figure 96: Specifying field processing settings

12. Enter appropriate format changes and click **OK.**

    By default, quotation marks appear in the **Remove All** field, and conversion removes double quotes from all fields. This is mandatory.

    Template fields containing a date are supplied in string format, and must be converted to the respective database date format.

13. Click **Apply.**
14. To select a new field for assignment, go to step 9.
15. To finish auto-indexing, click **Close.**

If a report layout needs a form overlay in the Retrieve node, specify form overlay settings as described in Specifying Form Overlay Settings.

Specifying Form Overlay Settings

To specify form overlay settings, proceed as follows:

1. To open the **Form Overlay** window, perform one of the following steps:
   - Select a model and select **Edit > Form Overlays.**
   - Right click a model and select **Form Overlays.**
   - If the **New** or **Modify** window is displayed for a model, click **Form Overlay >>.**

   The **Form Overlay** window appears, listing available overlay types and statuses.

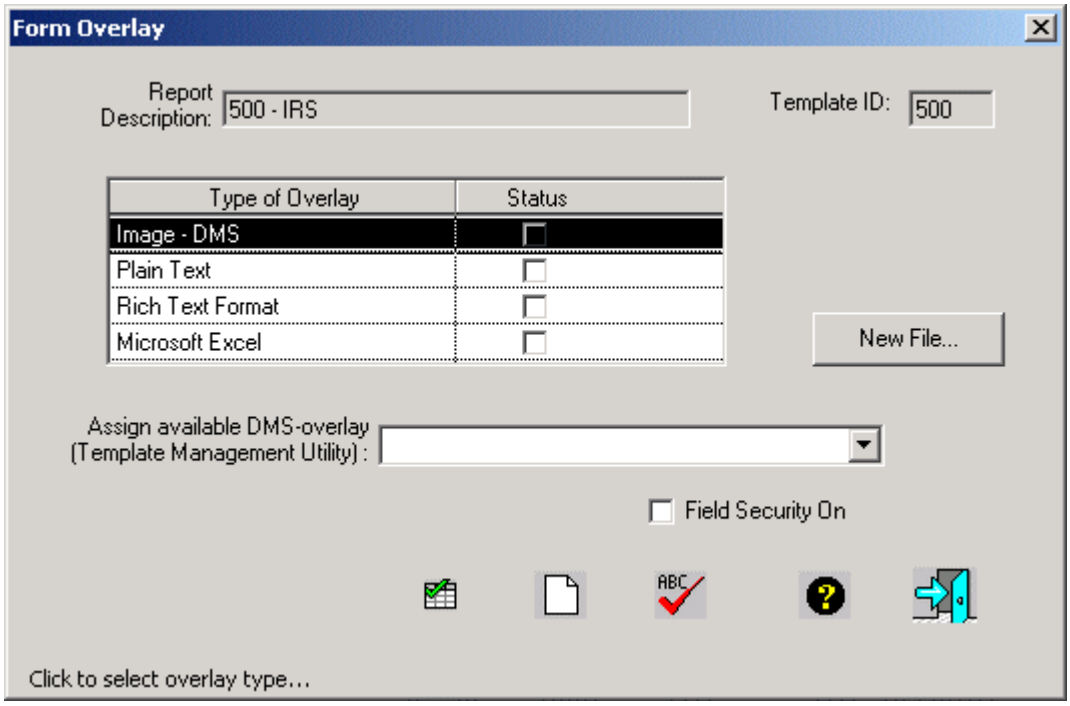


Figure 97: Viewing overlay types

2. To display an empty template, click **View Empty Form**  .
3. To display a template populated from a sample file, click **Test Form**  .
4. If a form overlay includes field security, to hide secured fields during document display testing, select **Field Security On.**

   If the **Field Security On** check box is not selected, all fields are shown.
5. If the report format is delimited, register a text template for data mapping before proceeding with image overlay.

   The text template converts a delimited string to a fixed format. The default template for converting a delimited format to fixed is provided in the `DLM_Templ.txt`. For fixed format, the order in which different types of overlays are added is arbitrary.

One of the following form overlay tasks must be performed:

Specifying an Image Form Overlay

This section describes how to specify an image form overlay using the following procedures:

Selecting a Template

To select a template for image form overlay, proceed as follows:

1. In the list of overlays, select **DMS overlay.**
2. To select the `.dms` file as the image template, click **New File.**

   After selecting a new file, it is registered in the Template Management Utility, where it can later be accessed.

   The image template file can be created by scanning a hard copy of an empty form or converting any type of image file such as `.bmp` or `.tiff,` or a non-image file such as `.doc,` into a `.dms` file using the Exigen Workflow Template Management Utility. For more information on managing image templates, see the *Exigen Workflow Administrator's Guide, Part 3: Utilities,* Chapter 8: Template Management Utility.
3. To assign the template already registered in the Template Management Utility, select the template in the **Assign available DMS-overlay** list.

Adding, Deleting, and Modifying Zones

To add, delete, or modify zones, proceed as follows:

1. Click **Modify Form,** or double click the template in the table.

   The **Image Overlay** window appears on the left and the Image Viewer appears on the right. The **Image Overlay** window has two tabs:

   - **Zone Definition**
   - **Map Data by Sample**

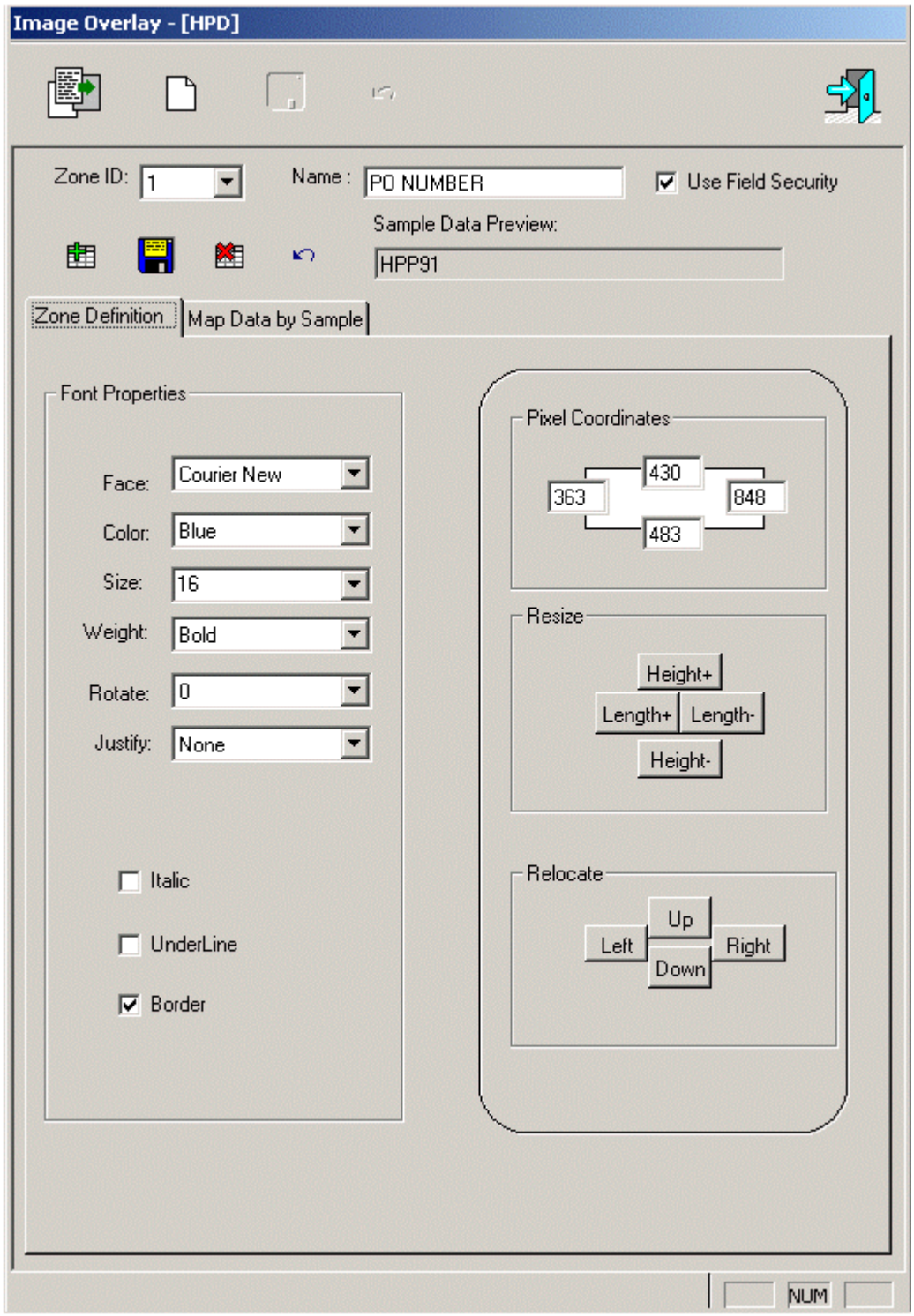


Figure 98: Image Overlay window

2. To define new or edit existing zones, in the **Zone Definition** tab, enter appropriate values.
3. To specify data mapping for any zone in the image form overlay, in the **Map Data by Sample** tab, enter appropriate values.

The user can toggle between the two tabs at any time.

4. To view all existing zones on the image template, in the **Image Overlay** window, click **Show All Zones**  .
5. To edit a zone, double click the zone or select it in the **Zone ID** field.
6. To resize a zone, in the **Resize** section, click the appropriate buttons.
7. To relocate a zone, in the **Relocate** section, click the appropriate buttons.

   Modifications are viewed in the Image Viewer.

8. To save the changes, click **Save Zone**  .
9. Proceed to the next zone.
10. After editing zones, to save the changes, on the toolbar, click **Save template**  .
11. To create a new zone, click **New Zone**  .
12. In the Image Viewer, draw a rectangular zone.
13. In the **Image Overlay** window, enter the appropriate values.
14. To save the changes, click **Save Zone.**

Mapping a String to a Zone

To map a string from the sample file to the current zone, proceed as follows:

1. Select the **Map Data by Sample** tab and proceed as follows:
   1. In the lower section of the **Image Overlay** window, locate the text fragment to be mapped to the selected zone.
   2. In the text fragment, select the entire substring of the first line, and click **Map Selection.**

      The length of the text box is calculated automatically. It is acceptable to select only the starting portion of the string and enter the required length manually. The **Sample data preview** window shows the selected string.

   3. If the zone is multi-line, enter the number of rows or calculate the zone size automatically.
   4. To calculate the zone size automatically, in the **Test Area** field, enter the contents of the text box to be mapped into the zone**.**

      Length and row parameters are calculated.

   5. To see how the test area is mapped on the image, click **Test Zone**  .
   6. To save the changes, click **Save Zone.**
   7. Continue data mapping for other zones.

2. To save the changes, on the toolbar, click **Save template**  .

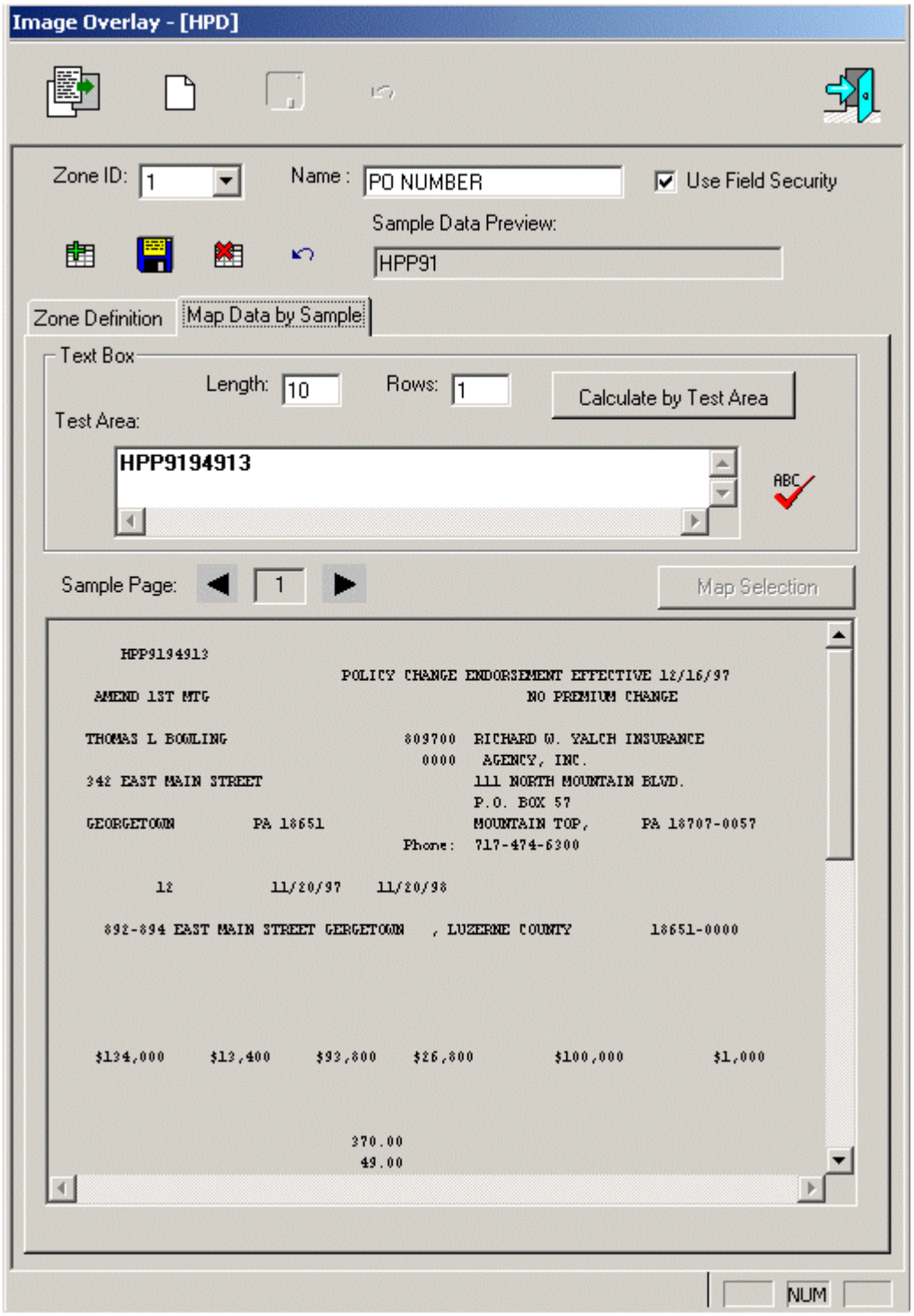


Figure 99: Specifying data mapping for a zone

3. For multi-page templates, select the right page in the sample.

4. For fields that must be hidden for certain categories of users, select **Use Field Security.**

   This includes users of all security levels for whom the **Hide** column is cleared in the **Security Level Setup** window. For information on the **Security Level Setup** window, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 4: Setting Up Exigen Workflow, Specifying Security Levels.

Note: Sample view pages shown in the **Image Overlay** window are recognized in the sample report file by their respective settings in the report template. For a Monarch model, a template must have page marker fields indicating which sample page maps to which form overlay page. In **Report Definition Wizard,** pages are recognized by page header trap attributes. For multi-page overlays, the sample report file must always have one sample page per each form overlay page.

5. To view an image overlay in Queue and Retrieve nodes, select **View > Show ERM Left/Right as...> Default.**

Specifying a Plain Text or Rich Text Format (RTF) Overlay

To specify a plain text or rich text format overlay, proceed as follows:

1. In the list of overlays, select the appropriate overlay.
2. To select the template file, click **New file.**
3. Click **Modify Form** or double click a template in the table.

   Notepad is used for text overlay and Word for RTF overlay.

The following tasks must be performed:

- Design the form overlay.
- Populate the form overlay with data field tags.

Actual data inserted into a text or RTF form overlay in Retrieve is controlled by the report template registered in the following two locations:

- configuration file
- text, RTF form overlay

An Exigen Workflow RTF overlay is a Word document saved in rich text format. Other word processors capable of saving files as RTF can be used to prepare form overlays. An RTF document contains data tags in places where actual data fields from the retrieved documents must be inserted. The style in which data tags are entered in the overlay template is the style in which actual data appears in Retrieve. A data tag includes a prefix &, followed by a field number in the corresponding section of the configuration file, for example, `&00, &134`.

Text overlay uses the same conventions for data tags as RTF overlay.

When creating an Exigen Workflow RTF form overlay, use the following guidelines:

1. Create and edit the overlay as a Word document and save its final version in RTF, keeping a copy in DOC format.

2. Avoid editing the form overlay in RTF.

   Field security for these types of overlays is implemented through a Report Definition Wizard report template.

3. To build a Report Definition Wizard template for the fields that must be hidden for certain categories of users, select the **Hide** box in field attributes.

To view plain text and RTF overlays in Queue and Retrieve nodes, proceed as follows:

1. To view a plain text overlay, for a default viewer, select **View > Show ERM Left/Right as...> Default,** or to invoke an external viewer, select **View > Show ERM Left/Right as...> Plain Text.**

   For information on selecting an external viewer, see Changing ERM Setup Options.

2. To view an RTF overlay, select **View > Show ERM Left/Right as...> Rich Text Format.**

Specifying Excel (XLS) Overlay Settings

Actual data inserted into an Excel template in Retrieve is controlled by information located in the following two locations:

- configuration file
- Excel template

The configuration file has the following standard syntax of Windows INI files:

- `d32_mnr.ini` for fixed format reports
- `d32_dlm.ini` for delimited reports

This file has a section for each report layout. The section heading is the corresponding Model ID, a three-character model identifier used in Exigen Workflow, which is 001 in the following example. Keywords related to Excel form overlay setup are listed as follows:

```
[001]
; Name of sheet where the output is directed
xls sheet = Sheet2
; Prefix for header and footer names
Header = Col
; Number of detail and sub-detail levels, not including
; 'header and footer' level
xls number of levels = 2
; Prefixes for details and sub-details levels
xls level1 = Det
xls level2 = Sub
; Number of row where to insert rows
xls start row = 25
```

For information on ERM configuration keywords, see Appendix E: ERM Configuration File Keywords.

The start row must be located below all detail and sub-detail template rows. When all the data is inserted, template rows are deleted from the resulting document.

An Excel template is an Excel file. When a new document with actual data is created, this file is copied, leaving the original template intact.

To work with Excel templates, proceed as follows:

1. To create a new template file, create a new XLS file using Excel.
2. To modify an existing template, open the template file with Excel.

   The template must be registered by selecting **MS Excel Overlay** in ERM Setup in the **Form Overlay** window.

   The field security feature is currently not available for Excel overlays.
3. To view Excel overlays in Queue and Retrieve nodes, select **View > Show ERM Left/Right as...> MS Excel.**

Importing and Exporting ERM Settings

Existing ERM settings can be exported to an external file, and imported from the external file back to another Exigen Workflow installation or computer.

The following topics are described in this section:

- Exporting ERM Settings
- Importing ERM Settings
- ERM Settings Import Limitations

Exporting ERM Settings

To export ERM settings, proceed as follows:

1. In the **ERM Setup** table, select one or several entries.
2. In the menu, select **Setting > Export.**

   The **Export selected ERM settings** window appears.

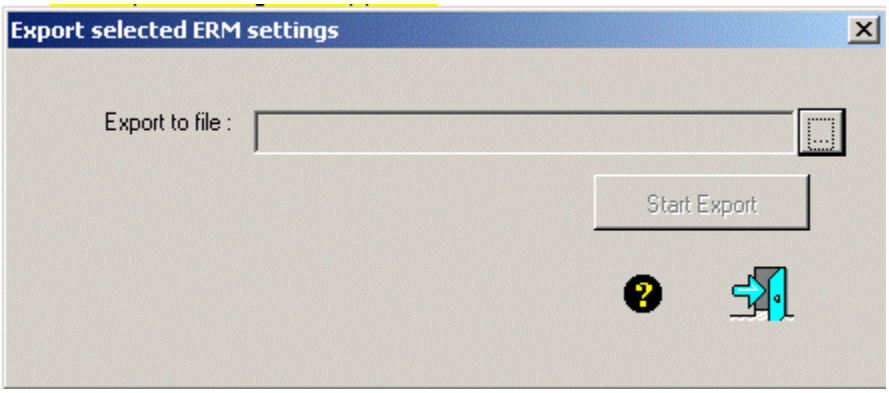


Figure 100: Exporting ERM settings

3. Click the browse button and select the desired location and file name.

The default name is ERMsettings.zip.

4. Click **Start Export.**
5. If the operation is successful, exit the window.

Importing ERM Settings

To import ERM settings, proceed as follows:

1. In the menu, select **Setting > Import.**

   The **Import ERM settings** window appears.

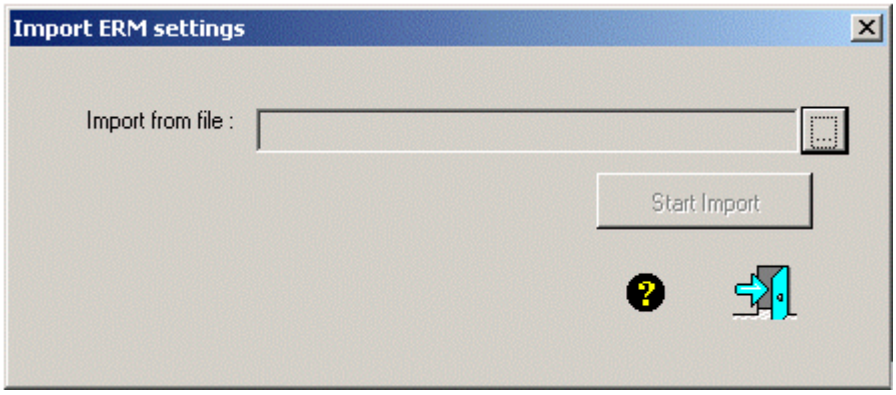


Figure 101: Importing ERM settings

2. Click the browse button and select the file from which to import the settings.
3. Click Start Import.
4. If the operation is successful, exit the window.

ERM Settings Import Limitations

The following limitations apply when performing an ERM settings import or export:

- All target Exigen Workflow projects referred to in the exported ERM settings must already be created in the installation when the import operation is performed. If the target workflow project is not found for any ERM setting, the import operation for this setting is cancelled. Exigen Workflow projects are compared by name.
- All ERM import directories referred to in the exported settings must be present in the installation when the import operation is performed. If a directory that is referred to is not found, the first existing directory of a similar input format in the current ERM setup is assigned instead. If no such directory exists, the import operation is cancelled. Import directories are compared by the label.
- ERM configuration file general section settings are not copied along with the selected individual ERM entries into the export package. If these settings have different source and target configuration files, the respective general section must be edited appropriately.

For more information on ERM configuration file general section settings, see Appendix E: ERM Configuration File Keywords.

Changing ERM Setup Options

To change ERM setup options, select **Tools > Options.** The **ERM Setup Options** window includes the following tabs:

- **Location**
- **Pre-Processor**
- **Viewers**
- **Print/E-mail**

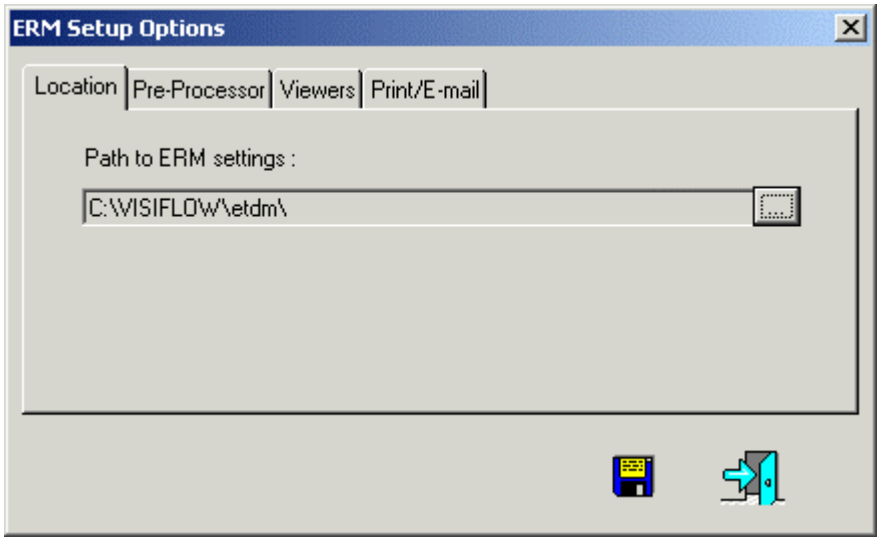


Figure 102: ERM Setup Options, Location tab

The **Location** tab displays the location of the ERM directory. This location is detected automatically the first time ERM Setup is launched after the Exigen Workflow installation. If ERM Setup directories are later relocated, the settings must be modified to point to the new locations to ERM. This is important for multiple Exigen Workflow installations that must access the same ERM directory.

The **Pre-Processor** tab displays a selection of filters that can be applied before input files are processed by ERM Indexer.

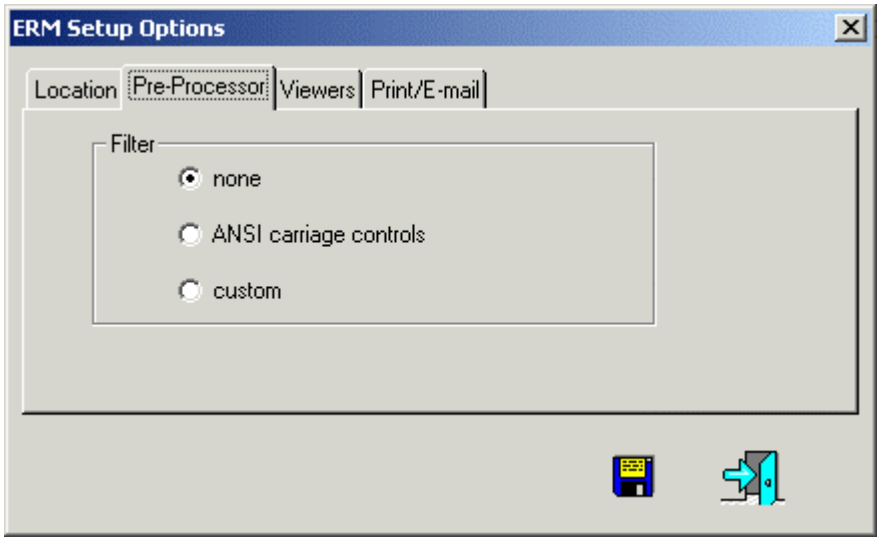


Figure 103: ERM Setup Options, Pre-Processor tab

The current version supports only one filter, which converts ANSI carriage controls into page breaks and line breaks.

The following table describes ANSI controls:

ANSI controls	
ANSI control character value, first position in line	**Function**
"1"	Inserts a page break.
"0"	Inserts an extra line.
"-"	Inserts two extra lines.
"+"	Merges the line with the previous line; non-blank characters from the line overwrite the corresponding non-blank characters, if any, in the previous line.
Other chars, including blank	No function.

A custom filter can be selected if the installed `d32_etp.dll` file includes the appropriate custom filtering function.

The pre-processing filter is applied to all files processed via fixed format import directories. When a filter is involved, original input files are automatically deleted upon successful conversion and converted files are zipped into storage.

The **Viewers** tab displays a selection of external viewers when a user decides to present an ERM document in an external viewer. This selection is allowed for plain text or rich text format. The ERM text search function, which allows performing searches across multiple reports, is enabled only if the default ERM Report Viewer is selected. For cases in which the default viewer option invokes the Image Viewer or the IBM AFP Viewer, ERM Report Viewer can be assigned as the plain text viewer option instead of external viewers.

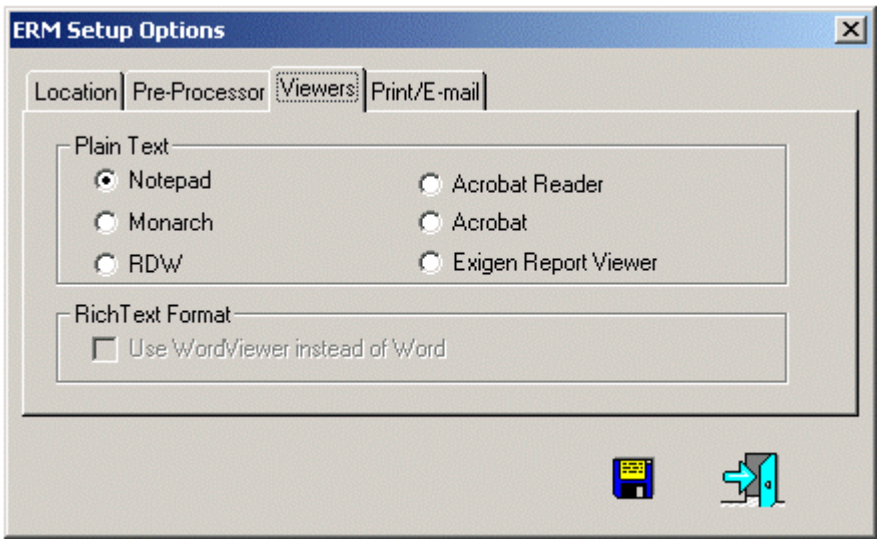


Figure 104: ERM Setup Options, Viewers tab

The **Print/E-mail** tab is used to select a format in which an ERM report is printed or sent via email.

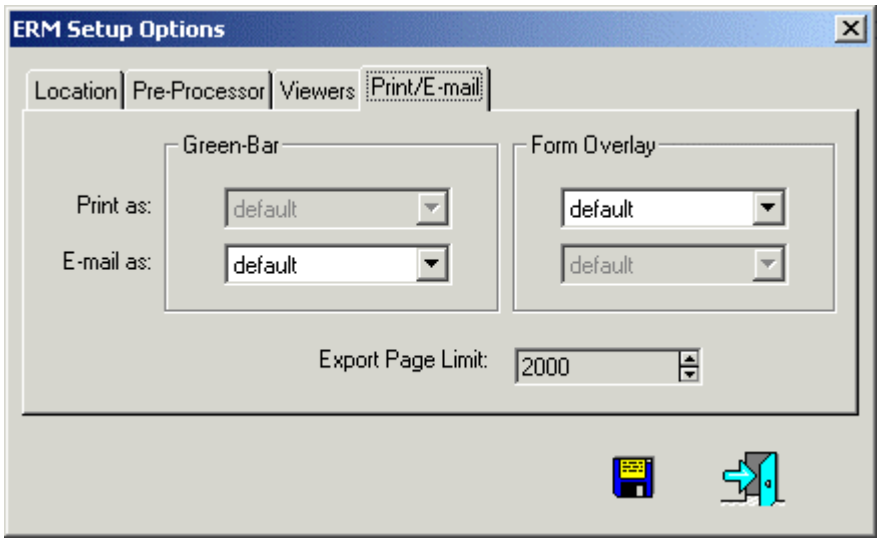


Figure 105: ERM Setup Options, Print/E-mail tab

The following table displays options for green-bar reports:

Green-bar report options	
Name	**Description**
Print as	Print format. List box is disabled because the current version of Exigen Workflow supports only the default print format. Default means the format of the currently assigned right click viewer is used. If no viewer is assigned, Report Viewer is used.
E-mail as	Email format. The following options are available:

Name	Description
default	Format of the currently assigned right click viewer. If no viewer is assigned, ERM Report Viewer is used.
PDF	Adobe Portable Document format.
ZIP	Compressed file.

The following table displays options for form overlay reports:

Form overlay report options	
Name	**Description**
Print as	Print format. The following options are available:

Name	Description
default	Format of the currently assigned right click viewer. If no viewer is assigned, Image Viewer is used.
DMS	DMS format.
RTF	Rich text format.
TXT	Text file format.
XLS	Excel format.

E-mail as	Email format. List box is disabled because the current version of Exigen Workflow supports only the default email format. Default means the format of the currently assigned right click viewer is used. If no viewer is assigned, Image Viewer is used.

The **Export Page Limit** field limits the number of pages that can be printed or sent via email for a single document. The up and down arrows are clicked to select a number.

Multi- and Single-Model Options

A file in the input stream can contain reports of only one layout, or of several layouts. By default, ERM Indexer uses the single-model option. In this option, initially only the first document in the imported file is recognized against all registered report templates in the configuration file. After that, ERM Indexer continues to look for similar documents. For information on the ERM Indexer, see Chapter 15: ERM Indexer.

The single-model option ensures the highest efficiency of the ERM production cycle.

Different document layouts may be contained in the same input file. In this case, the multi-model option is recommended. Under the multi-model option, ERM Indexer tries to recognize each document in the input file against all registered report templates in the configuration file.

This option does not ensure the highest efficiency, but provides a convenient automatic sorting of mixed input.

To use the multi-model option, add the keyword `multimodel=1` to the `[general section]` of the appropriate configuration file `d32_mnr.ini` or `d32_dlm.ini`.

Note: Fixed format reports and delimited reports cannot be combined in one input file or loaded into the same import directory because different indexing engines process these types of reports.

ERM Report Viewer and Report Presentation

ERM Report Viewer is used to view and annotate ERM reports in text format. Other viewing applications can be used for report presentation.

A precondition for using ERM Report Viewer is that an ERM report is available in Exigen Workflow.

To view and annotate an ERM report, proceed as follows:

1. Open the Exigen Workflow object in which the ERM report is located, or example, by selecting **Applications > Project Name > Retrieve.**
2. To set the left viewing option for ERM reports, select **View > Show ERM (left) as.**
3. To set the right viewing option for ERM reports, select **View > Show ERM (right) as.**
4. In the submenu, select one of the following formats for viewing the ERM report:

ERM report viewing options	
Option	**Description**
Default	ERM Report Viewer or DMS Viewer if a DMS overlay is defined. If the original document format is AFP and the presentation form is stored, the default option invokes the AFP Viewer
Plain Text	Plain text viewer application defined in ERM Setup.
Rich Text Format	Word, WordViewer, or the default application registered to display RTF files.
MS Excel	Excel.

5. To display the image on the left, in the toolbar, click **Left Image Display.**

6. To display the image on the right, in the toolbar, click **Right Image Display.**

The report appears. The display options do not allow adding, deleting, or responding to annotations.

7. To add a comment to the report, in the toolbar, click **Modify Image.**

8. Select a part of the report to which to attach the comment.

   A comment must be attached to the selected text.

9. To attach a comment, right click the selection and select **Comment.**
10. In the **Comment** dialog, in the **Security** field, select one of the following security levels for the annotation:

Annotation security levels	
Level	**Description**
Public object	No security level is assigned. All users can view and modify the annotation.
Private object	Security level is assigned. Only the annotation's author can view and modify the annotation.

11. In the field below **Security,** enter a comment.
12. Click **OK.**
13. To respond to a comment, right click in the report and select **Respond.**
14. In the field below **Security,** enter a comment.
15. To delete the annotation, in the report, right click the area where the comment is attached.
16. Select **Delete.**

If a report is processed by Report Queue Monitor from the AFP printstream, the default viewer for the document may be the AFP Viewer or ERM Report Viewer, depending on whether the document has a presentation form and resources stored with the original AFP file. Exigen Workflow automatically selects a viewer for the specific document based on the availability of presentation resources.

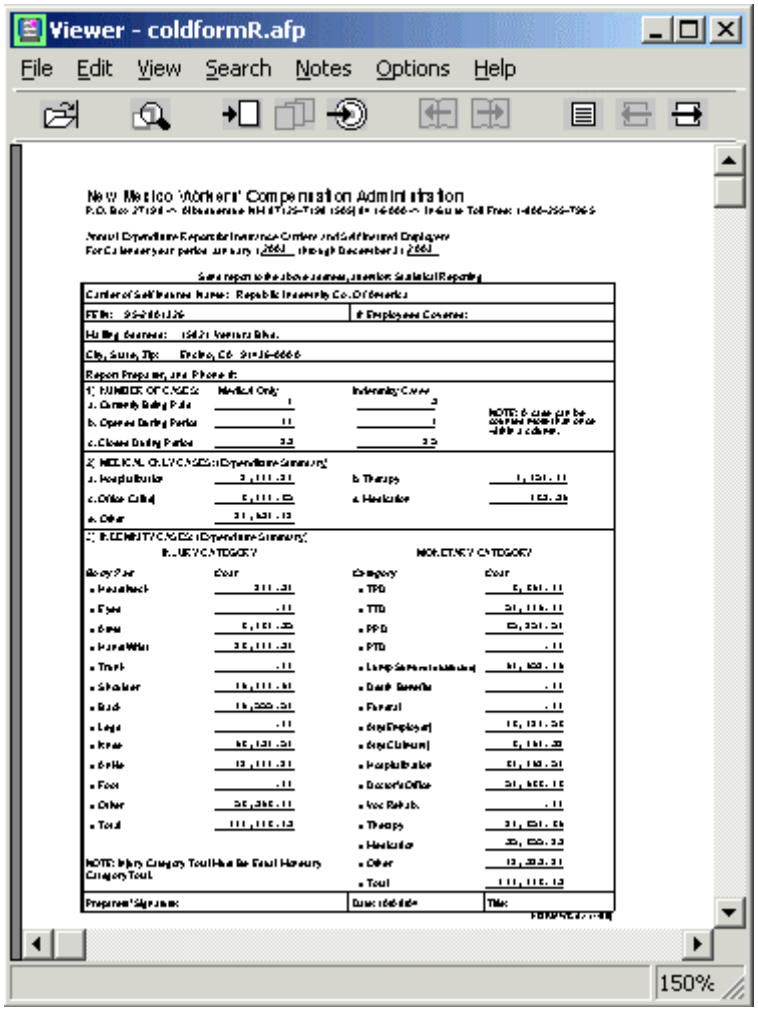


Figure 106: Viewing a document in the AFP Viewer

Chapter 15: ERM Indexer

This chapter describes how to set up and run ERM Indexer. The following topics are described in this section:

Overview

ERM Indexer is used to schedule and maintain a production cycle of processing an input stream of reports. ERM Indexer processes the data according to the parameters provided in the ERM Setup object.

ERM Indexer processes reports in text format and converts them into ERM documents within Exigen Workflow. ERM documents can be retrieved for viewing in original text format as green-bar reports, or presented using form overlay templates.

Setting up and Running ERM Indexer

To set up and run ERM Indexer, proceed as follows:

1. In **Exigen Workflow Explorer,** double click the **ERM Indexer** icon  .

   The **ERM Indexer - ERM Locator** window is displayed.

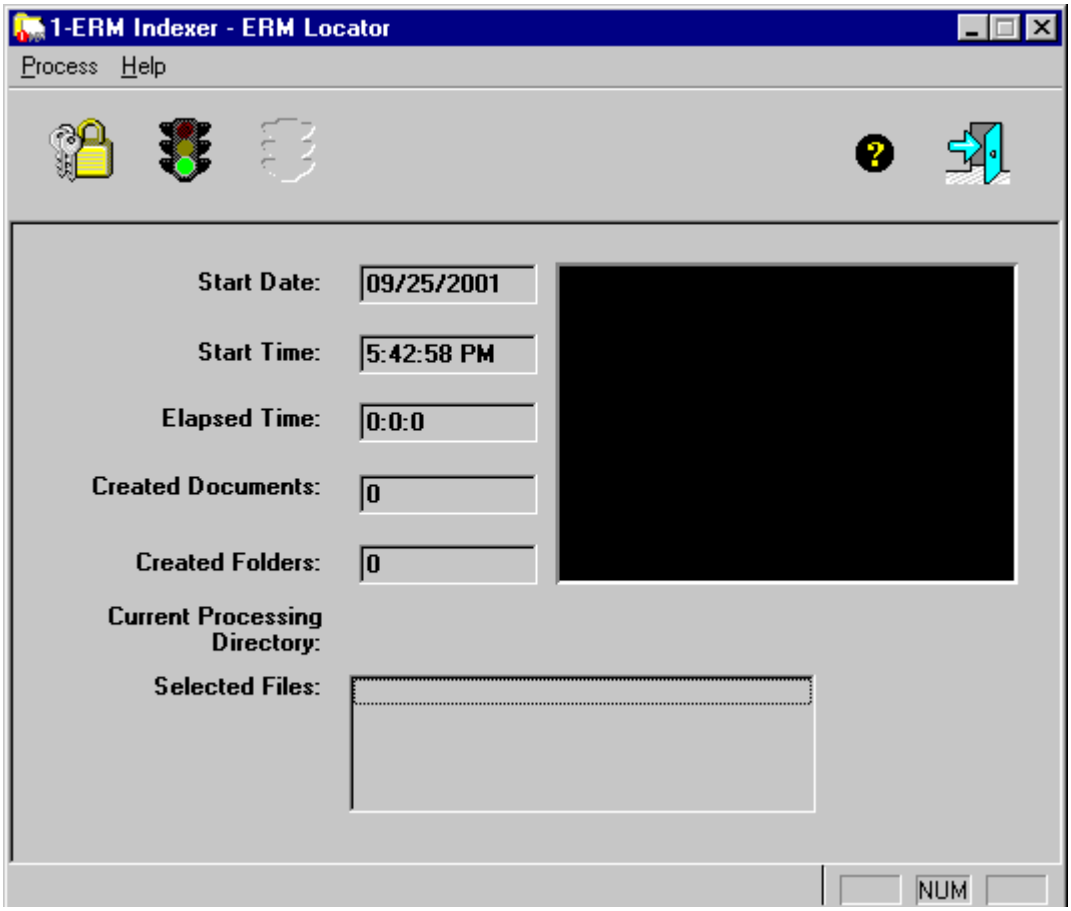


Figure 107: ERM Indexer window

2. Click **Settings**  .

   The **Settings** window appears.

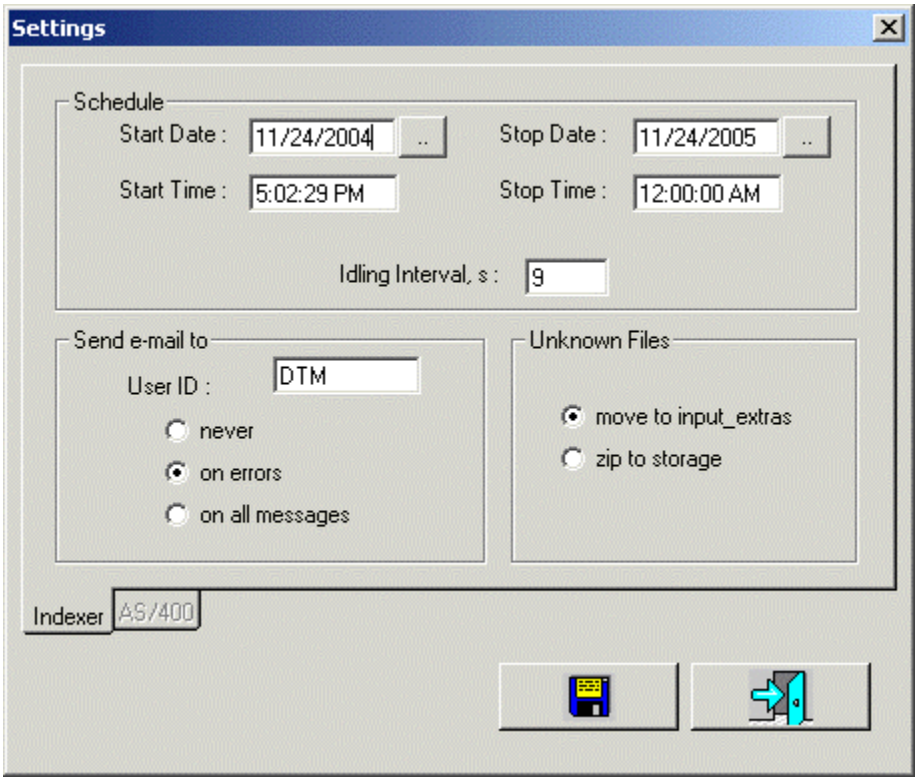


Figure 108: Specifying ERM Indexer settings

3. In the **Indexer** tab, specify required options as described in the following table:

ERM Indexer settings options	
Option	**Description**
Start Date	Server start date. By default, the server starts immediately and runs for approximately one year.
Start Time	Server start time.
Stop Date	Server stop date.
Stop Time	Server stop time.
Idling Interval	Interval between consecutive searches of all active import directories. The default is 9 seconds.
Send e-mail to	Settings for e-mail notifications. **User ID** specifies the user to whom the email is sent. The following options specify the conditions under which emails are sent:

never	Emails are never sent to the specified user.
on errors	Emails are sent to the specified user when server errors occur. This is the default.
on all messages	Emails are sent to the specified user on server messages.

ERM Indexer settings options	
Option	**Description**
	The user must have a default email program with a valid email address set on the computer. The user to be notified must have a valid email address registered in the Exigen Workflow Administrator Workflow User Setup.
Unknown Files	Specifies actions to be performed with incoming files in which ERM Setup cannot detect documents. The following options are available: **move to input_extras** — Moves files to the `..\input_extras` subdirectory. **zip to storage** — Compresses files and moves them to the storage directory without indexing and creating documents. These files can be accessed in ERM Storage Maintenance Utility for re-indexing later, after appropriate definition templates are added to ERM Setup.

If ERM Indexer runs on the server or workstation where IBM Client Access for Windows is installed, which allows access to the AS/400 computer, it is possible to process the AS/400 printstream directly from the output queue using ERM Report Queue Monitor. In this case, the **AS/400** tab is enabled and the ERM administrator can enter appropriate Report Queue Monitor parameters to establish access to the AS/400 output queue.

For more information on setting up the connection to the AS/400 computer, see Using ERM Report Queue Monitor.

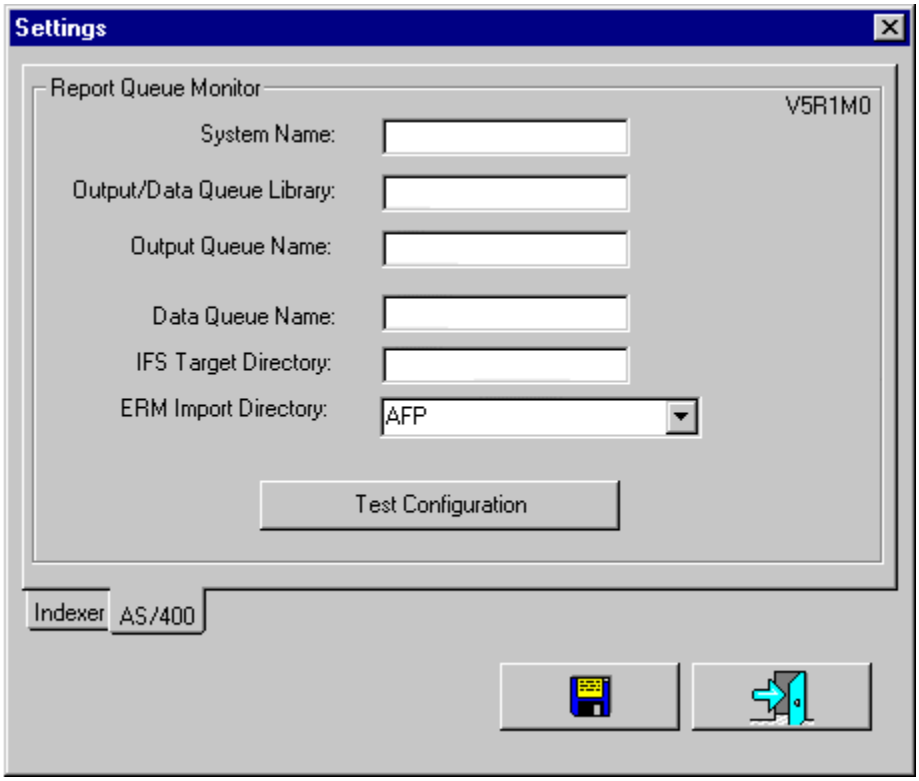


Figure 30: Specifying settings to import AS/400 files

The string at the upper right of the **AS/400** tab displays the IBM Client Access version currently in use.

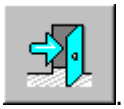
4. To specify settings for importing AS/400 computer spool files, in all fields of the **AS/400** tab, enter appropriate values.

   The values must match the parameters that are predefined on the AS/400 computer as described in Using ERM Report Queue Monitor.

   The **AS/400** tab includes the following fields:

AS/400 tab fields		
Field	**Description**	**Example**
System Name	Name of the connection to the AS/400 computer.	AS400
Output/Data Queue Library	AS/400 library name that contains the output queue and associated data queue for monitoring.	QUSRSYS
Output Queue Name	Output queue name.	ERM_TEST
Data Queue Name	Data queue name.	ERMDATAQ
IFS Target Directory	ERM import directory in the AS/400 IFS root directory. AS/400 path syntax must be used.	`/ERMImport/in`

AS/400 tab fields		
Field	**Description**	**Example**
	This directory is also displayed as a shared folder on the Windows network.	
ERM Import Directory	ERM import directory label that corresponds to the previously listed IFS target directory.	AFP

5. To test the configuration, click **Test Configuration.**
6. If a message appears and indicates that the test is unsuccessful, verify the values in the **AS/400** tab and the access rights to AS/400.
7. If a message appears and indicates that the test is successful, to save changes and close the window, click **Apply Modifications**  .
8. To cancel changes and close the window, click  .
9. To start ERM Indexer, perform one of the following tasks:

   - Click **Start**.
   - Select **Process > Start Server.**

   ERM Indexer scans all active import directories, such as the `\in` subdirectories, for input reports.

   Processed reports are removed from the `\in` subdirectories and stored as compressed archives in the `\storage` subdirectory, depending on the date and time of processing. On the hour, a new subdirectory such as `\storage\YYMMDDHH` is created. For more information on creating import directories and registering data extraction models, see Main ERM Setup Tasks.

   The following information is displayed as the server is running:

Information displayed during server run-time	
Information displayed	**Description**
Start Date	Date that the current session began.
Start Time	Time that the current session began.
Elapsed Time	Elapsed time since the current session began. The time is displayed in hours, minutes, and seconds.
Created Documents	Number of documents created in the current session.

Information displayed during server run-time	
Information displayed	**Description**
Created Folders	Number of folders created in the current session.
Current Processing Directory	Directory of the file being processed.
Selected Files	List of files awaiting processing.

In the right pane, messages indicate the current status of ERM Indexer. The following table describes displayed status messages:

ERM Indexer status messages	
Message	**Description**
Monitoring Queue	ERM Indexer is monitoring the AS/400 printer output queue.
Search in Progress	ERM Indexer is searching for incoming files to process.
Indexing File	ERM Indexer is processing a file.
Idle...NN	ERM Indexer is not running. The next import directories search begins in NN seconds.
Please define ERM Attributes	No ERM configuration is selected in the ERM Setup object.
Process has been cancelled by (User ID)	**Stop** was clicked, halting the ERM process.

10. To stop ERM Indexer, perform one of the following steps:
    - Click **Stop**  .
    - Select **Process > Stop.**
11. To exit ERM Indexer, click **Exit**  .

Note: All settings except times are stored for the next session on the local computer in the `visiclt.ini` file.

For information on maintaining ERM Indexer as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Using ERM Report Queue Monitor

The following topics are included in this section:

Overview

If IBM Client Access is installed on the workstation running ERM Indexer, ERM Indexer can use Report Queue Monitor to acquire the AS/400 report printstream directly from the AS/400 output queue. AS/400 reports are imported into the Exigen Workflow system and processed in ERM as follows:

1. On an AS/400 computer, reports are directed to a designated ERM output queue instead of the default printer queue.
2. ERM Indexer initiates monitoring the output queue by Report Queue Monitor according to the schedule set for scanning ERM import directories.
3. Report Queue Monitor connects to the AS/400 computer and converts spool files from the output queue into the text format recognized by ERM Indexer. After that, converted files are processed as usual fixed-format text input.
4. After conversion, Report Queue Monitor removes files from the output queue and disconnects from the AS/400 computer until the next scheduled scan.

Report Queue Monitor processes SCS and AFP spool files as follows:

- Because SCS files do not contain presentation forms, they are stored as text and retrieved with ERM Report Viewer similarly to green-bar reports.
- AFP files that do not contain presentation forms are processed in the same way as SCS files.
- For AFP files that contain presentation forms, ERM stores both extracted text and the original AFP stream, including all external resources required for report presentation. ERM documents created from an AFP stream can be presented using the AFP Viewer. Alternative presentation options are plain text or using an ERM form overlay. The ERM form overlay option requires creating an ERM presentation form for the document type.

The following diagram describes how Exigen ERM processes AS/400 reports:

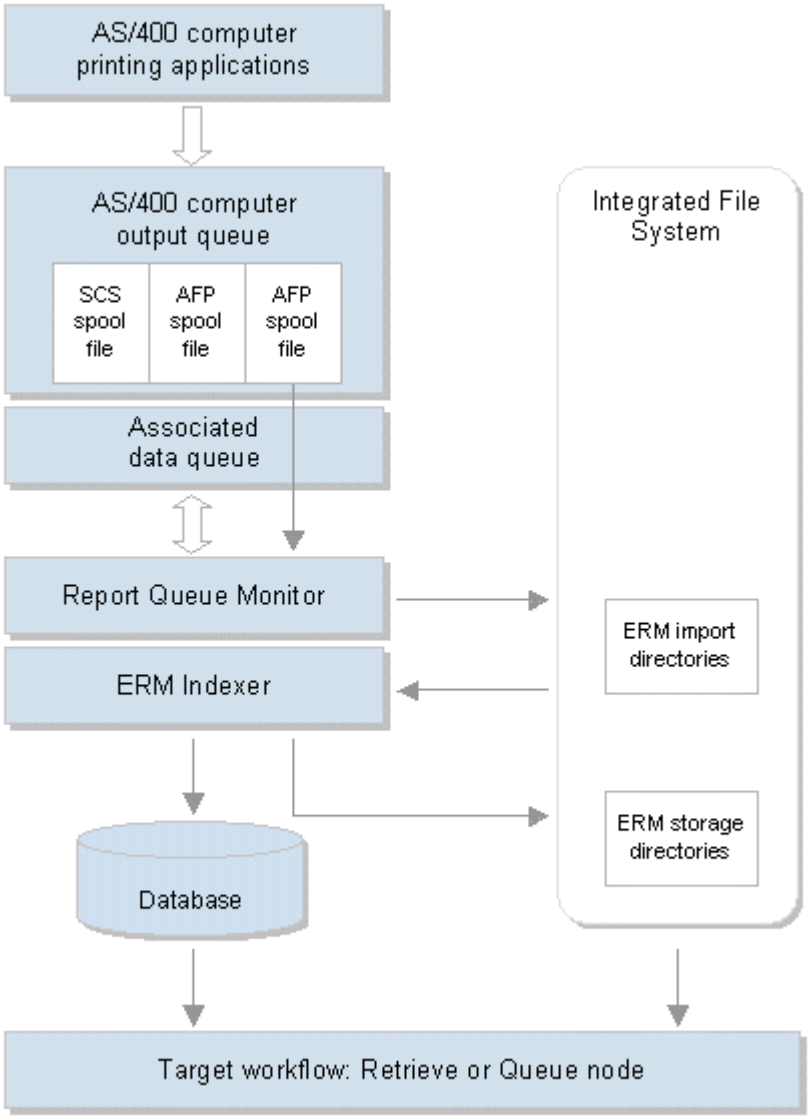


Figure 109: Exigen ERM AS/400 reports processing

Setting Up AS/400 Report Processing with Report Queue Monitor

To set up AS/400 report processing with Report Queue Monitor, proceed as follows:

1. On the computer where ERM Indexer is run, install IBM Client Access for Windows.

   For information on the IBM Client Access for Windows version, see the Exigen Workflow readme file.

The ERM administrator must have a valid user name and password to access AS/400 via the IBM Client Access interface. For information on installing IBM Client Access for Windows, see the IBM Client Access for Windows documentation.

2. On the AS/400 computer, create an output queue and an associated data queue for use by ERM Report Queue Monitor.

   This task is performed or supervised by the AS/400 system administrator.

   Example:

   ```
   1. CRTDTAQ DTAQ(QUSRSYS/ERMDATAQ) MAXLEN(128) AUT(*USE)
   ```

   The preceding statement creates a data queue named ERMDATAQ within a standard library named QUSRSYS.

   ```
   2. CRTOUTQ OUTQ(QUSRSYS/ERM_TEST) DTAQ(QUSRSYS/ERMDATAQ)
   TEXT('ERM/RQM Testing Queue')
   ```

   The preceding statement creates an output queue named ERM_TEST within the QUSRSYS library. The output queue is associated with the ERMDATAQ data queue.

The ERM administrator must have access to the created queues. For information on access rights, consult the AS/400 system administrator.

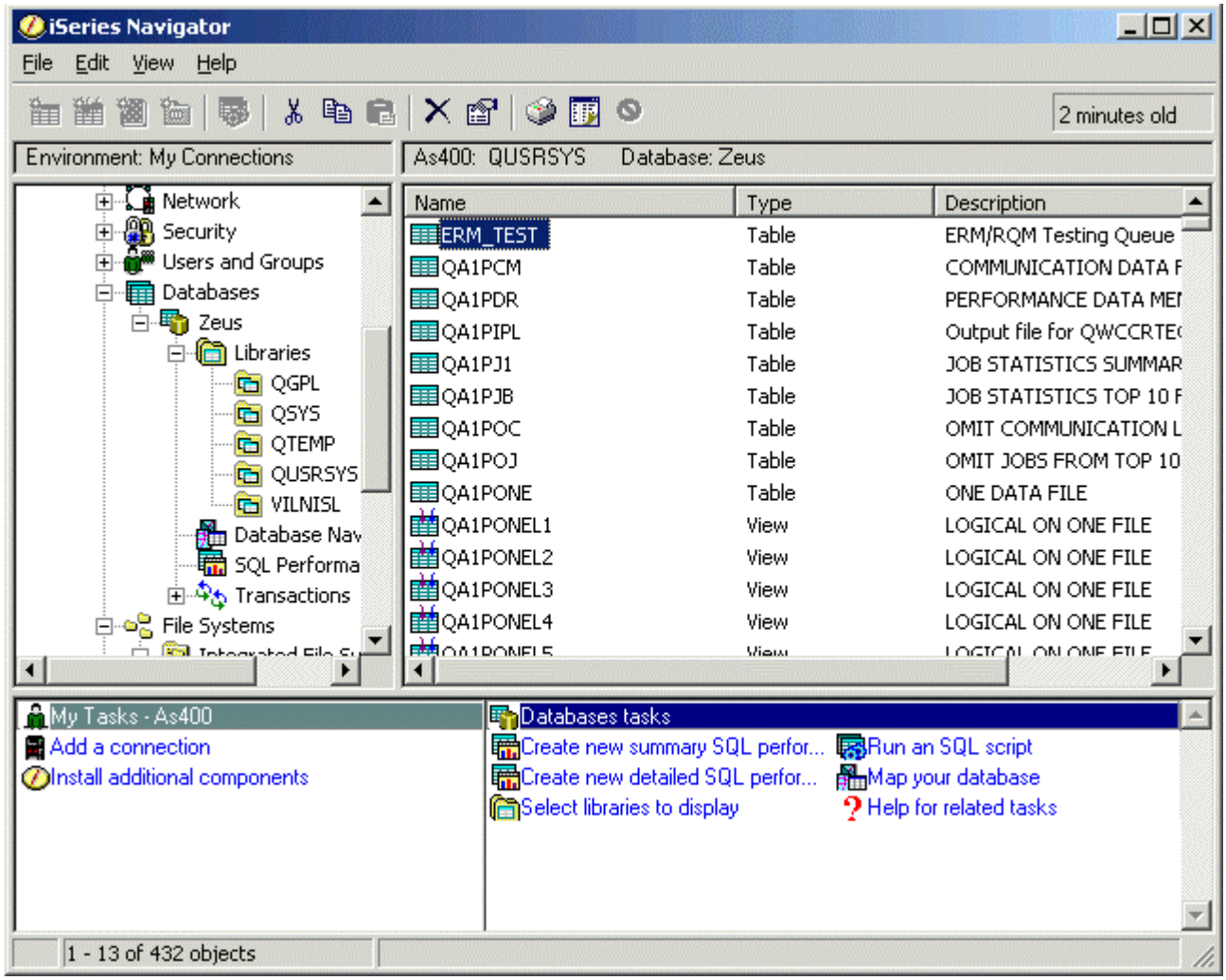


Figure 110: Setting up output queues

3. In the AS/400 Integrated File System (IFS) root directory, create an import directory.

   This directory can be accessed from the AS/400 computer and the Windows network, and is used as an import subdirectory when assigning import directory parameters in ERM Setup.

4. Ensure that the IFS directory is shared with the Windows network for the user who is the ERM administrator.

   This task is performed by the AS/400 system administrator.

   When connecting to the AS/400 computer, Report Queue Monitor uses the AS/400 login information of the current user. For this reason, the ERM administrator who is launching ERM Indexer must have access rights to the output queue library and IFS directories.

5. In ERM Indexer, in the **Settings** window, in the **AS/400** tab, configure and test the settings for AS/400 report handling as described in Setting up and Running ERM Indexer, steps 1 through 7.

   Conducting a test run of Report Queue Monitor is recommended.

6. To conduct a test run of Report Queue Monitor, proceed as follows:
   1. In ERM Setup, define one entry having the no template (_!_) report definition.

      This template does not require a sample report.

   2. Assign target parameters to the Retrieve node or to a temporary Queue node.
   3. On the AS/400 computer, print at least one sample of each report to the ERM output queue.
   4. Use Client Access Navigator to monitor the contents of the output queue.

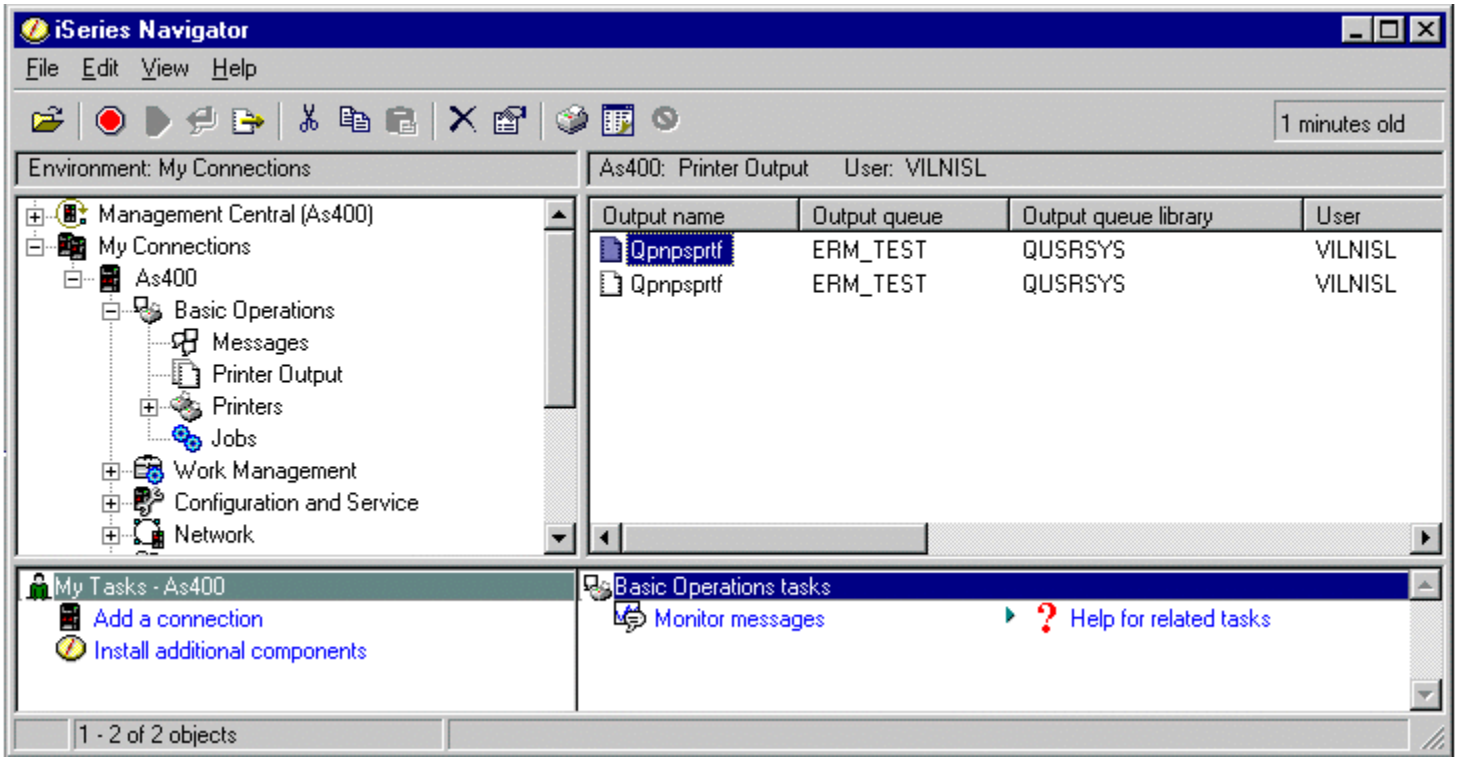


Figure 111: Sending printer spool files to the output queue

5. Start ERM Indexer and process the files in the output queue.

   For more information on running ERM Indexer, see Setting up and Running ERM Indexer.

   Report Queue Monitor is started automatically. Spool files from the output queue are processed to Exigen Workflow based on no template indexing rules.

6. Use these ERM documents to generate sample text files to create report definition templates required to produce report indexes in Exigen Workflow.

For more information on creating report templates, see Creating a Report Template.

Chapter 16: ERM Storage Maintenance Utility

This chapter describes **ERM Storage Maintenance Utility** and explains how to run it. The following topics are described in this section:

Overview

ERM Storage Maintenance Utility is used to perform the following:

1. Move ERM storage files from the original location to any other location on the network including optical storage.
2. View indexed documents related to each file in storage and reindexed storage files.

Running ERM Storage Maintenance Utility

To start ERM Storage Maintenance Utility, proceed as follows:

1. In **Exigen Workflow Explorer,** double click the **ERM Storage Maintenance** icon  or, in the **Applications** folder, double click **ERM Storage Maintenance.**

   The **ERM Storage Maintenance** window appears.

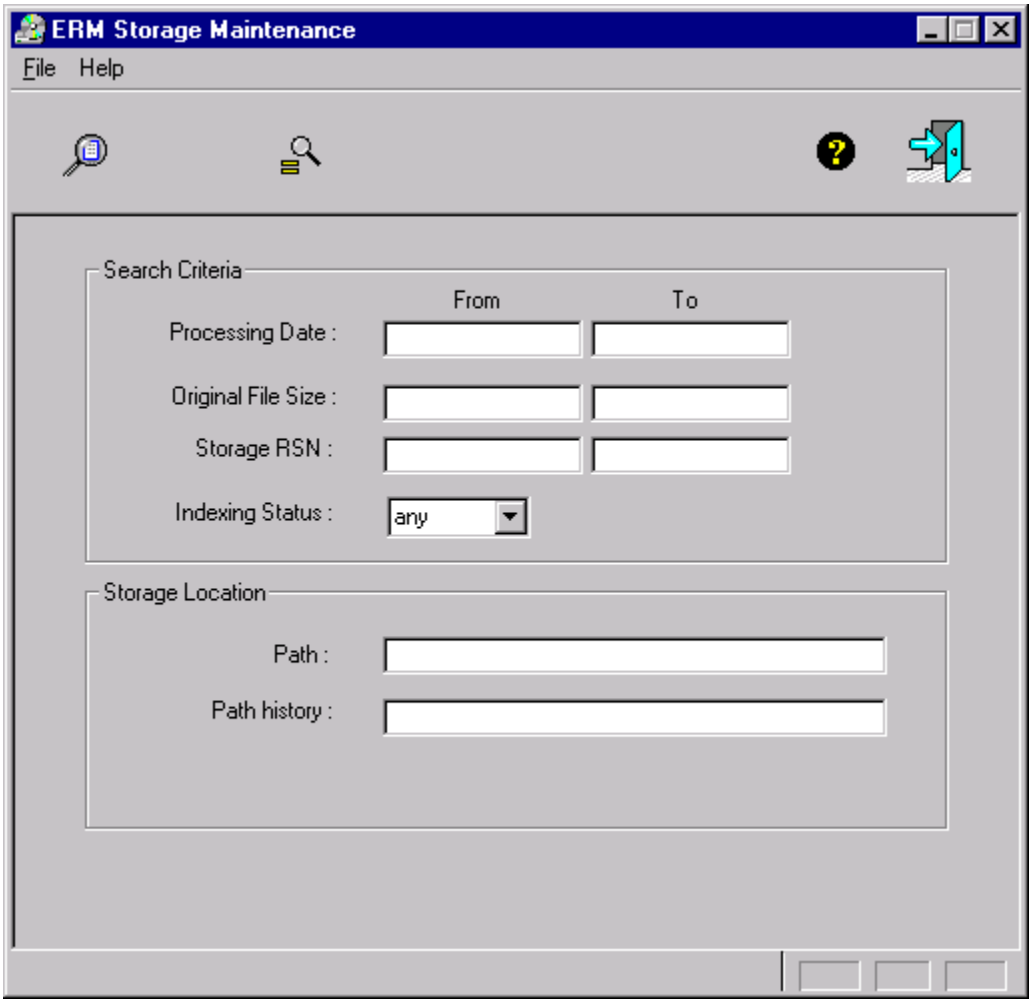


Figure 112: Transfer ERM Files window

2. In the **ERM Storage Maintenance** window, enter search values and the location of storage files and click **Search**  .

   If you did not specify a search range, all archives registered so far in ERM Storage are selected.

   The **Storage Transfer/Update** window appears. It lists all selected archives in ERM storage by creation dates in descending order.

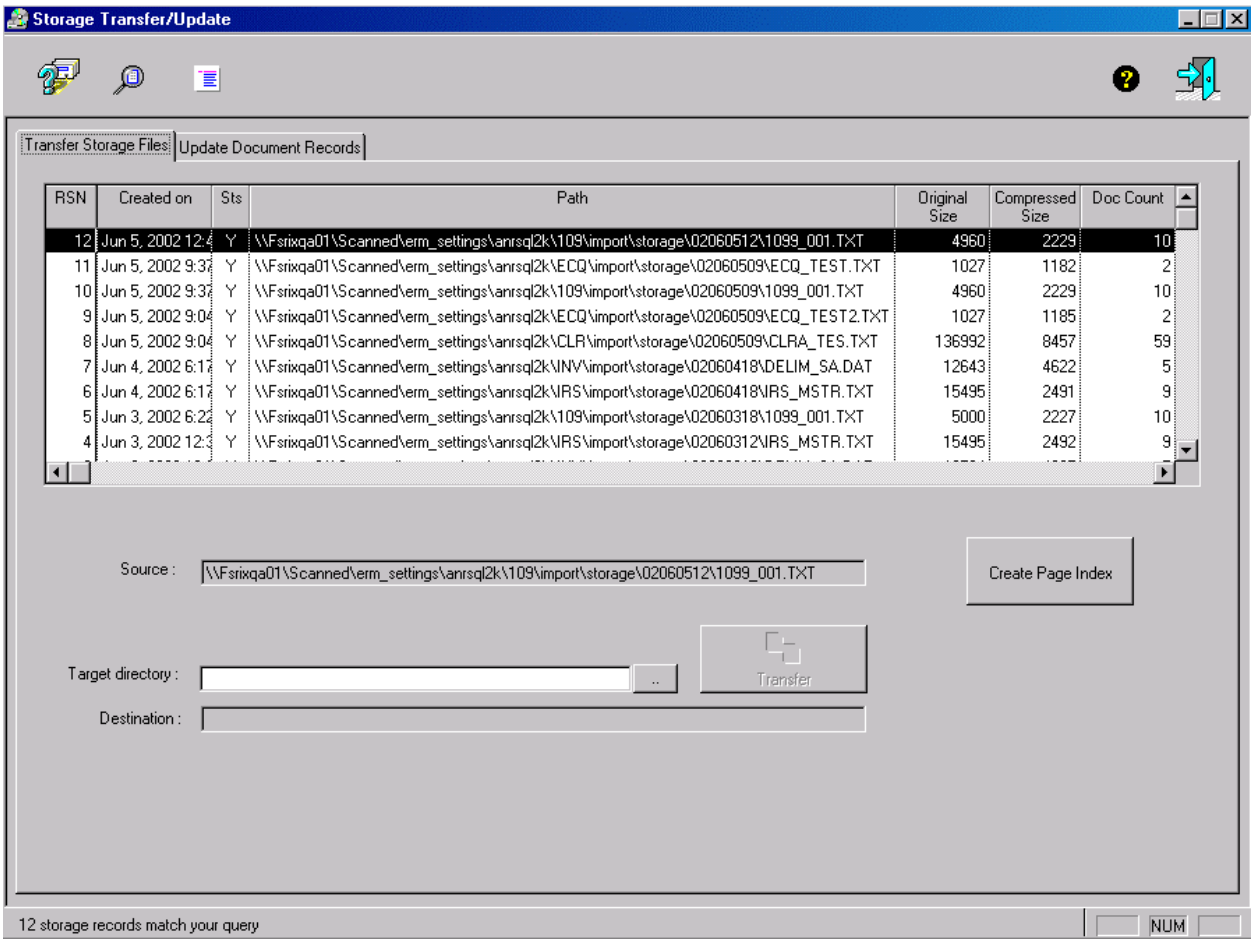


Figure 113: Storage Transfer/Update window with Transfer Storage Files tab

3. To move storage files to another location, select the **Transfer Storage Files** tab and proceed as follows:
   - To select the target location, click the browse button by **Target Directory.**

     The directory browser window appears.
   - Select the target directory or enter the full path to the target location on the network and click **OK.**
   - In the table, select the storage files to transfer.

     It is possible to select multiple files.
   - Click **Transfer.**
   - Confirm the deletion or overwriting of each storage file.
   - To create a page index for storage files processed in Exigen Workflow versions prior to 5.4.1, click **Create Page Index.**

     It is possible to select multiple files. In Exigen Workflow version 5.4.1 and later, ERM Indexer creates the page index automatically if report files are longer than 500 pages.
4. To find out which documents in which workflow, such as indexing records, are created for a specific storage file, select the **Update Document Records** tab.

You can create new documents or update old ones by applying a similar procedure as in the Indexer to compressed storage files.

5. Select an import directory for processing the storage file. You can select all report templates to reindex the file from scratch, or select a template.

   If you select a template, only documents of the selected type are found and indexed in the storage file.

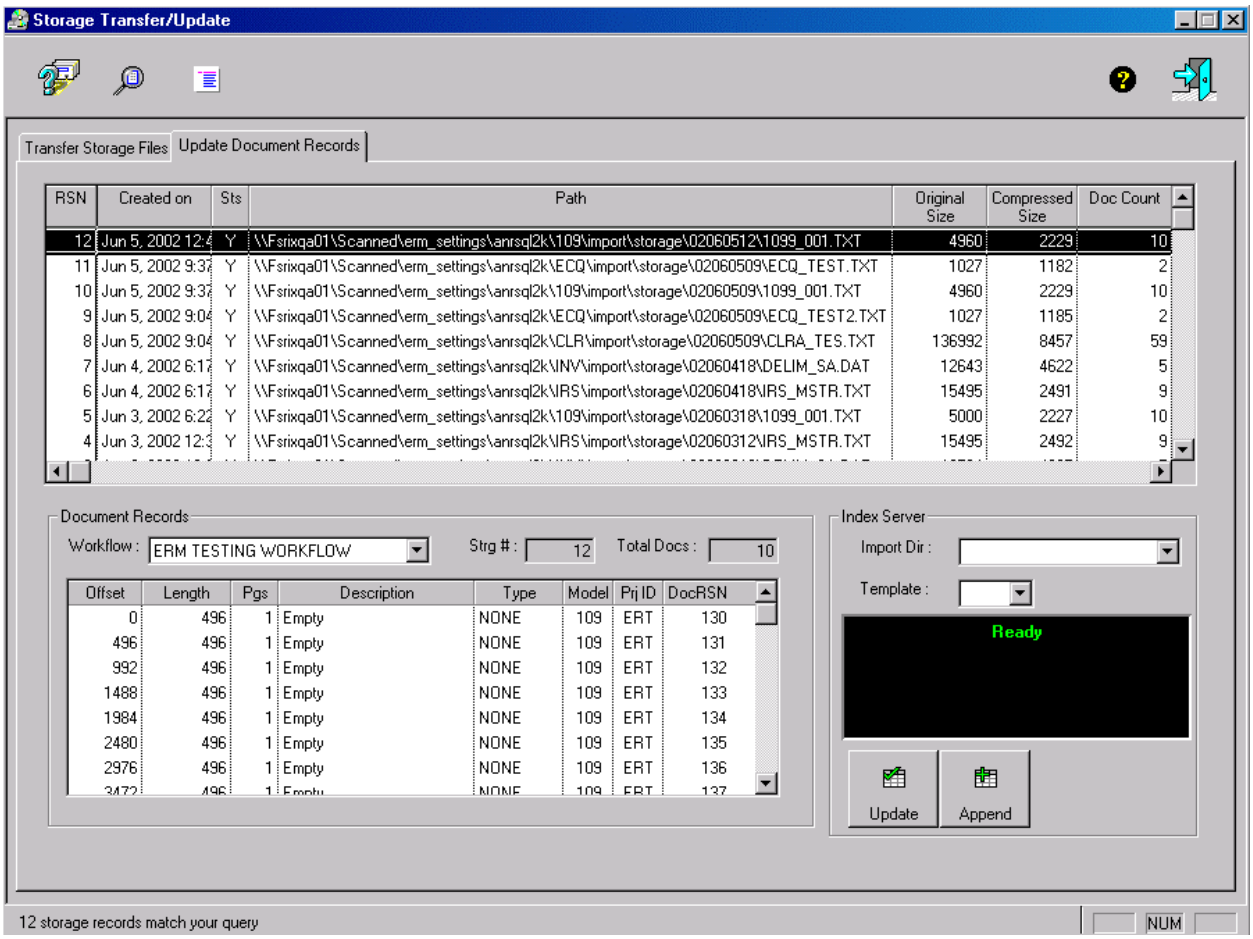


Figure 114: Storage Transfer/Update window with Update Document Records tab

6. To view files in Exigen Report Viewer, in the **Storage Transfer/Update** window, double click on the storage file or on a selected document.

   Only ERM administrators have access to all ERM storage files.

7. If a user must access an ERM storage file that is accessible only by using Remote Storage Server (RSS), proceed as follows:
   - Open a storage file that is accessible without using RSS.
   - Open the file that is accessible using RSS.
8. To return to the **Storage Transfer/Update** window, click **Query** on the toolbar, or select the next archive.

9. To search for a string or amount across all storage files selected in the query, click **Multi-Report Search** on the toolbar.

Note: The following user settings are stored for the next session on a local computer in the `visiclt.ini` file: the last search string "path to storage", the last "target directory", and the tab that was on top the last time.

Chapter 17: Report Definition Wizard

This chapter describes the basic concepts of report definition in Exigen Workflow and explains how to use Report Definition wizard for this purpose. The following topics are described in this section:

Overview

Report Definition Wizard is an application that creates templates for extracting data from computer output to laser disk (COLD) reports. The templates are imported into Exigen Workflow by initiating the ERM Setup object. ERM Indexer uses report templates as rules of parsing and indexing the incoming electronic documents. Also, Exigen Workflow Retrieve can use report templates for viewing reports with overlays.

Report Definition Basic Concepts in Exigen Workflow

Report Definition, basic concepts	
Concept	**Description**
Report	Unit of electronic text document processed by ERM.
Report File	Input file containing one or more reports. Reports in one report file may have similar or different Report Layouts.
Report Layout	Format in which the report is printed. A separate Report Template can define each report layout.
Report Template	Collection of rules of extracting data from report. These rules are defined as traps and fields attached to the traps.
Trap	Single string of characters, including wildcard characters. A trap serves to capture a certain report line while the report is scanned line by line. The line is captured when its characters coincide by position with every non-blank character specified in the trap. Traps are used for the following purposes: • recognizing a report layout • locating the correct part of the report for extracting data by fields
Field	Rule for extracting a sub-string or a box of sub-strings from the report relative to the line captured by a parent trap.

Creating Report Templates

To create a report template, the following main steps must be performed:

1. Construct traps.
2. Attach fields to traps.

The following topics are described in this section:

Example Report

A sample report, STUDENT LOAN INTEREST PAYMENT REPORT, is used throughout this guide to illustrate each step of the report template preparation. For more information on this example, see Appendix D: Example Report.

The final task of the Exigen Workflow administrator is to create a report definition template that can extract the following information from the sample report:

- report title for index
- social security number of a student for index
- student's name for index
- student's address for overlay only
- total interest paid for index

Traps

The following topics are described in this section:

Trap Overview

A trap is a single-line character string that finds report lines that match characters specified in the trap. One report template can contain up to 16 traps. Each trap is independent of other traps.

The topmost trap must not be further than 256 lines from the top of the document.

A trap serves the following purposes:

- It defines the beginning of a new page in a multi-page form overlay, such as header trap. If the **Page header** attribute is selected and the number of the form overlay is entered, the trap is assigned in the **Form Page** field. By default, Report Definition Wizard assigns the topmost trap as the header trap.
- It identifies a specific report layout. The **signature** attribute is selected for this type of trap. Each template must have at least one signature trap. A trap can be a header trap and a signature trap at the same time.
- It determines where to extract data for indexing and overlays. In this case, fields must be attached to the trap. The header trap and signature trap may or may not have fields attached.

Fields are always attached to their parent trap. A field is a rule that determines how to extract data relative to the position captured by the parent trap. It can be single-line or multi-line. Field attributes instruct ERM Indexer what to do with the extracted information. The maximum number of fields allowed for a trap is 100.

Note: Traps should not be assigned in such a manner that the same line in the report is captured by more than one trap of a template. This may lead to unpredictable indexing results.

Traps and fields are added and edited in a **trap window.**

The trap window is displayed on the right side of the window. The **Trap** dialog consists of the following:

Trap	
Field	**Description**
Trap Name	Trap name.
Trap Edit Box	Field where the trap characters string is entered. To enter the trap characters string, proceed as follows: 1. Enter any printable characters using the keyboard. 2. Enter wild-card characters by clicking the following buttons:  [Alpha] Captures any letter of English alphabet.  [Numeric] Captures any decimal digit.  [Blank] Captures a blank.  [Non-blank] Captures any printable non-blank character.  Clears the trap edit box. 3. Use a combination of the preceding two steps. It is possible to cut, copy, and paste text in the edit text box by using appropriate buttons and commands in the menu: **Button** / **Shortcut Key** / **Menu Option**  **CTRL + X** **Edit > Cut**  **CTRL + C** **Edit > Copy**  **CTRL + V** **Edit > Paste** **Note:** Any nonprintable characters in the report, for example, control codes, are considered blank.
Sample Text View	Area that is used to select fields to add to this trap as described in Adding a Field. Sample Text View is also used to create the trap as follows: 1. Select report lines in the following **report view.** 2. To have the lines appear in the sample text view, click  . 3. The application automatically searches for the line in Sample Text View that matches the trap characters edited in the trap edit box. The line is highlighted in pink.
Report View	Entire report.

Trap Attributes

To open the **Trap Attributes** window, click **Trap attributes**  next to the trap name field.

The **Trap Attributes** window appears.

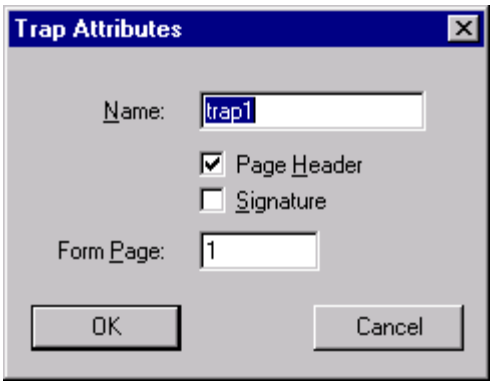


Figure 115: Trap Attributes dialog window

The following table describes trap attributes:

Trap Attributes	
Attribute	**Description**
Name	Comment for the user. The name **trap1** is set by default, where 1 is the number of the trap added in this session.
Page Header and **Signature**	Selects required type of trap if appropriate. By default Page Header is assigned to the first trap in the template.
Form Page	Defines the relevant form overlay page number. By default, 1 is set. Several traps in the template can be assigned to the same form overlay page, as there can be several form overlay pages per document.

Adding and Editing a Trap

To add or edit a trap, proceed as follows:

1. When a report is opened in the report window, to add a new trap, select **Template > Add Trap…** or click **Add New Trap** on the toolbar.
2. To select an existing trap in the **template window,** highlight it and select **Template > Edit Item,** or click **Edit Selected Item** on the toolbar. You can also double click on it to configure the existing trap.

Note: If the trap window is opened for a particular trap and another item, for example, a trap or field, is to be added, edited, or deleted without closing the window, the user is prompted to save the changes made to the currently edited trap.

Deleting a Trap

To delete a trap from the current template, highlight the selected trap in the **template window** and click **Delete Selected Item**, or select **Template > Delete Item.**

To delete all the traps in the template, click **Delete All Items**, or select **Template > Clear Template.**

Note: If the **trap** window is opened, it is not possible to delete the item.

Example Task 1

In the example report, construct a trap, which captures the head of the report.

To construct the trap, proceed as follows:

1. In the toolbar, click **Add New Trap**  .
2. To enter a trap name, click **Trap Attributes**  next to the **Trap** field.

   The **Trap Attributes** dialog appears.
3. To specify the trap name, in the **Trap Attributes** dialog, leave the default name or enter a new one.
4. To use the trap as a page header, select the **Page Header** option.
5. To use the trap as a signature for the report, select the **Signature** option.
6. Click **OK.**
7. In the lower window, select a line containing the sample text.

   In this example, select *FOR IRS FORM 1098E.*
8. Click **Change Sample.**

   The selected text appears in the upper window.
9. To specify the trap mask, in the field below **OK,** enter the sample text exactly above the location where it appears in the document.

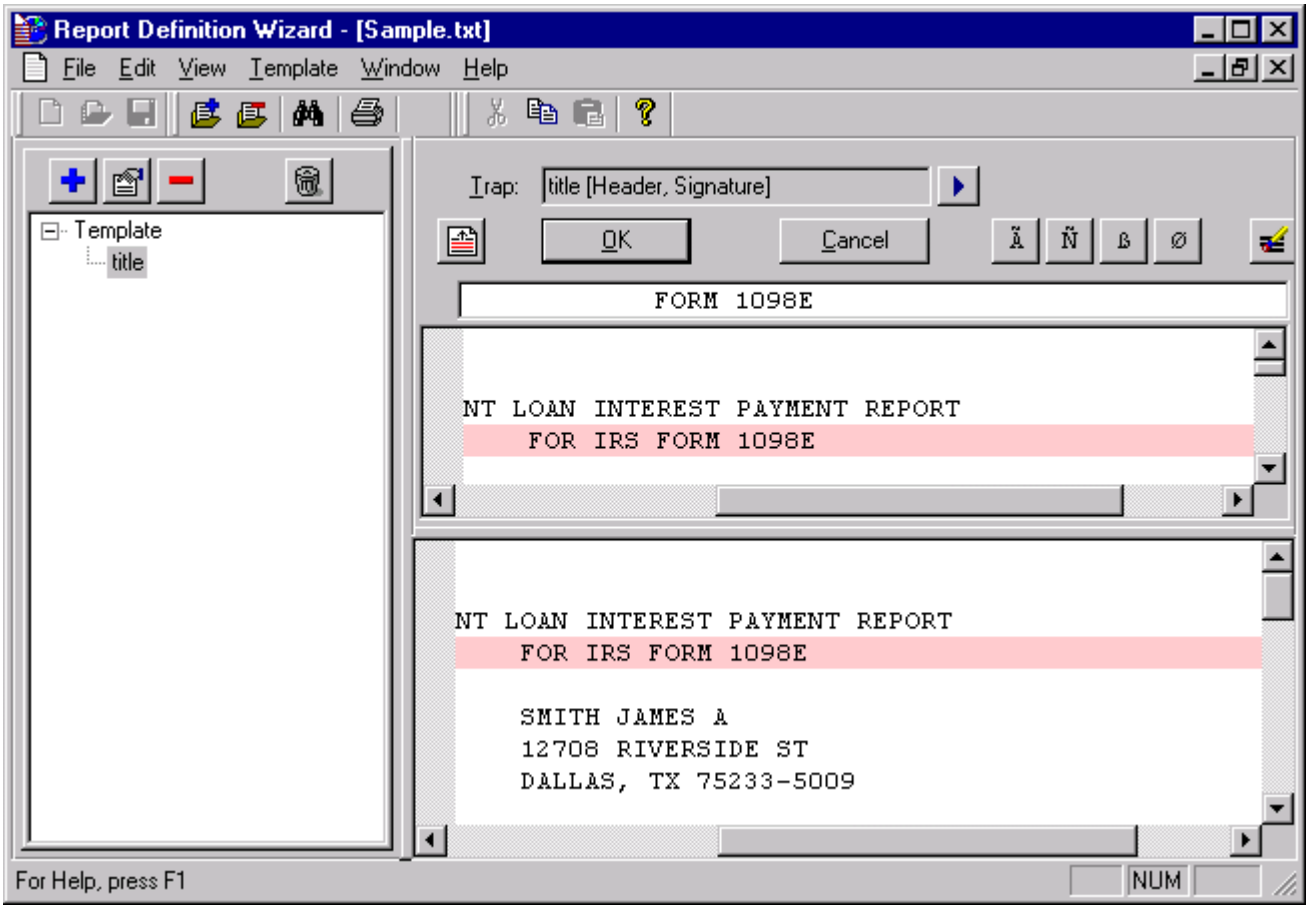


Figure 116: Trap window

10. Click **OK.**

    The application closes the trap definition window. In the document, the traps are highlighted.

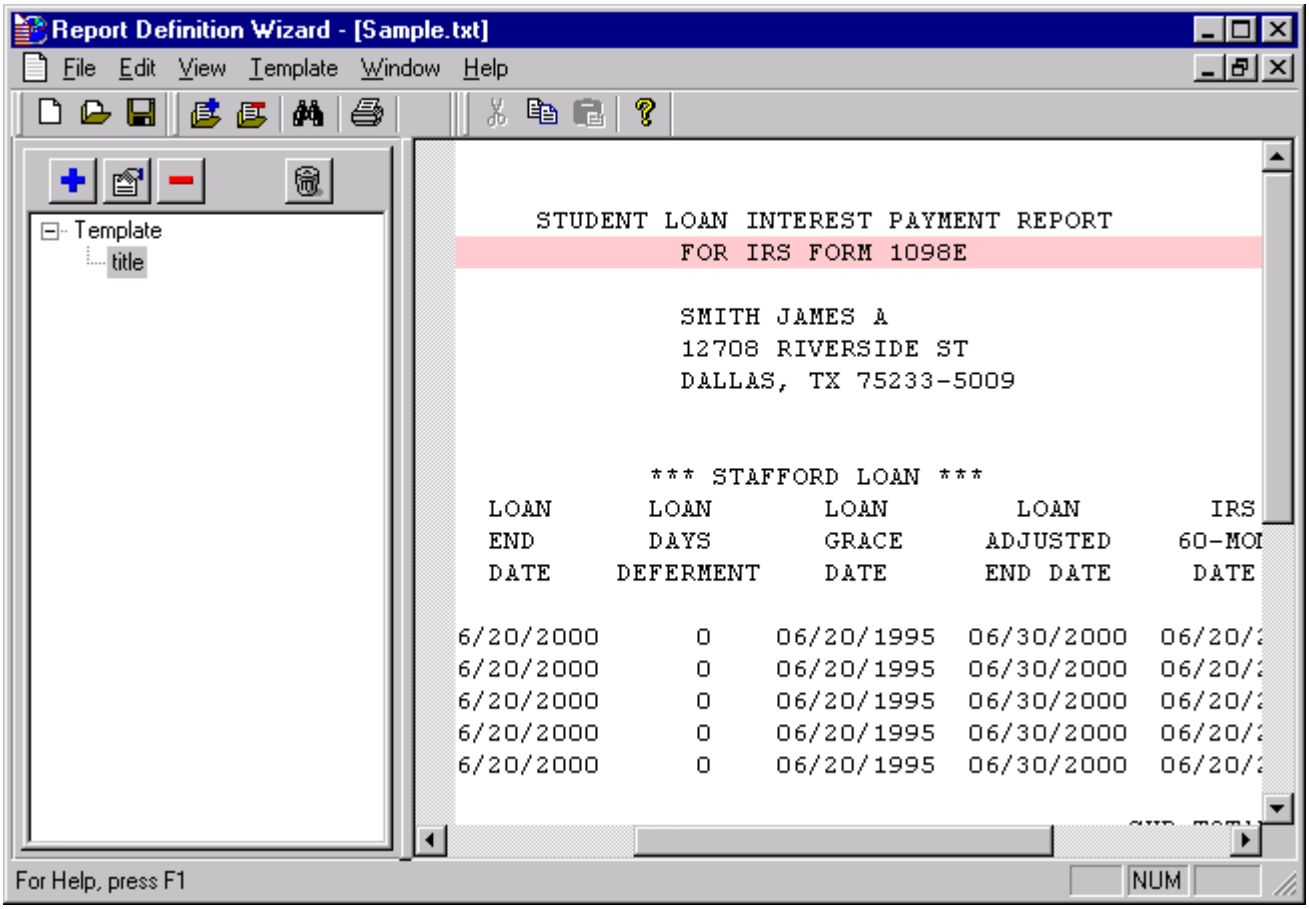


Figure 117: Report window

Fields

The following topics are described in this section:

- Fields Overview
- Adding a Field
- Editing a Field
- Deleting a Field
- Example Task 2
- Example Task 3

Fields Overview

Fields define a rule of extracting a sub-string from the report relative to position, captured by a parent trap. Fields are always related to a trap. Fields have their coordinates set relative to the following:

- trap

- fixed length
- name
- description

There are the following field types:

Field types	
Type	**Description**
Index field	Populates Exigen Workflow custom project. It can be used in database queries while retrieving information. For more information on enterprise report management, see Chapter 14: Configuring Enterprise Report Management.
Form overlay	Retrieves reports using form overlays. Form overlay fields can extract multiple lines or boxes. For overlays with multiple pages, form overlay fields can define the number of overlay template pages to be used with this document page. For more information on form overlays, see the *Exigen Workflow Administrator's Guide, Part 3: Utilities,* Chapter 8: Template Management Utility.

Adding a Field

A field can be added to a trap opened in the trap window. After selecting a sample text view and constructing a trap, you can add a field to this trap by highlighting the desired substring in the sample text view with the mouse pointer. As the mouse is released, the **Field Attributes** dialog appears.

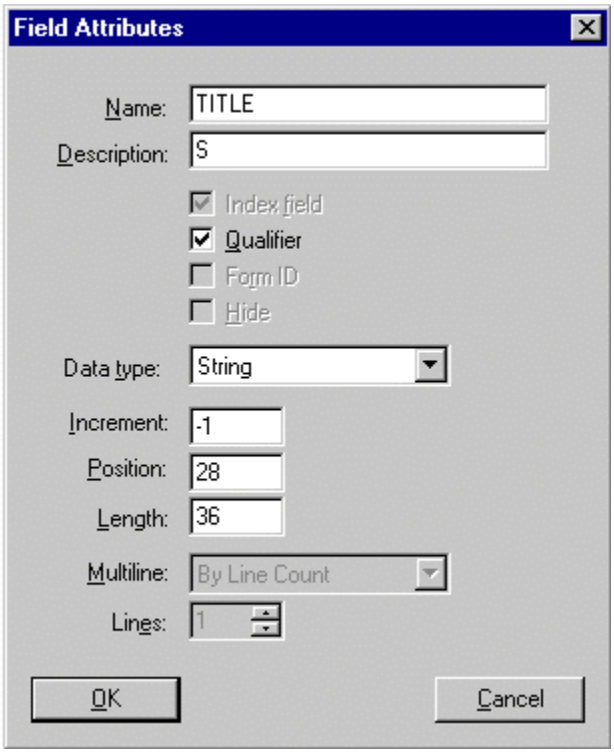


Figure 118: Field Attributes window

To add a field, proceed as follows:

1. In the **Name** field, enter a field name.

   The default name is `FIELD1`, where 1 is the number of the field added in this session. This name appears in the auto-indexing settings of ERM Setup.

2. In the **Description** field, enter a field description.

   The description also appears in the auto-indexing settings of ERM Setup.

3. If the **Description** field is an index field, select **Index field.**

4. If the **Description** field is a qualifier, select **Qualifier.**

   A qualifier field is used when a standard, single line trap is insufficient for extracting precise information from a report. If the field is a qualifier, the value in the **Description** field serves as an additional trap. The extracted field value and the **Description** field value are compared, and if these strings do not match, the entire parent trap with which the qualifier field is associated is considered as not matching.

   For example, if the field value is `"Student Loan"`, this field qualifies as matching when the **Description** value is `"stude"` or `" tud"` and does not qualify if `"study"` is entered. The standard Report Definition Wizard trap rules are applied during string comparison as described in Traps.

5. If the **Description** field is a form ID, select **Form ID.**

6. To hide the field from specified user groups, select the **Hide** check box.

7. To select the data type, such as String, Numeric, or Date, select an item in the **Data type** list.

8. In the **Increment, Position,** and **Length** fields, modify values as appropriate.

   These values are set automatically by the position of the highlighted substring in the sample text view.

9. For a multiline field, select one of the following types for defining the number of lines:

Multiline field types	
Type	**Description**
By Line Count	Number of lines. Defined by user parameter.
Left indent	Field is left-indented. Number of lines is set dynamically, with the field terminating line being defined by the first occurrence of a non-blank printable character in the first position to the right of the field starting position and below the first line.
Right indent	Field is right-indented. Number of lines is set dynamically, with the field terminating line being defined by the first occurrence of a non-blank printable character in the first position to the left of the field starting position and below the first line.
After-blanks	Blank lines specify format. Number of lines is set dynamically, with the field terminating line being defined by the first occurrence of a user specified number of consecutive blank lines below the first line for the whole field length.

10. To save changes, click **OK.**

Editing a Field

To configure an existing field, select it in the template view and click **Edit Selected Item**  , or select **Template > Edit Item.** You can also double click on the field. The **field attributes** window appears.

Edit the field attributes as described in Adding a Field.

Deleting a Field

To delete the field, select it in the template view and select **Template > Delete Item,** or click **Delete Selected Item**  .

Example Task 2

In the example report, to add a field to the title trap, which extracts the report title, proceed as follows:

1. To edit the title trap, on the toolbar, click **Edit Trap**  .
2. In the sample text view, select *STUDENT LOAN INTEREST PAYMENT REPORT*.
3. In the dialog box, enter the following:
   - *TITLE* for the field name
   - *Report Type* for the description
4. Select an index field.
5. Click **OK** twice.

   The line captured by the trap is highlighted in pink.

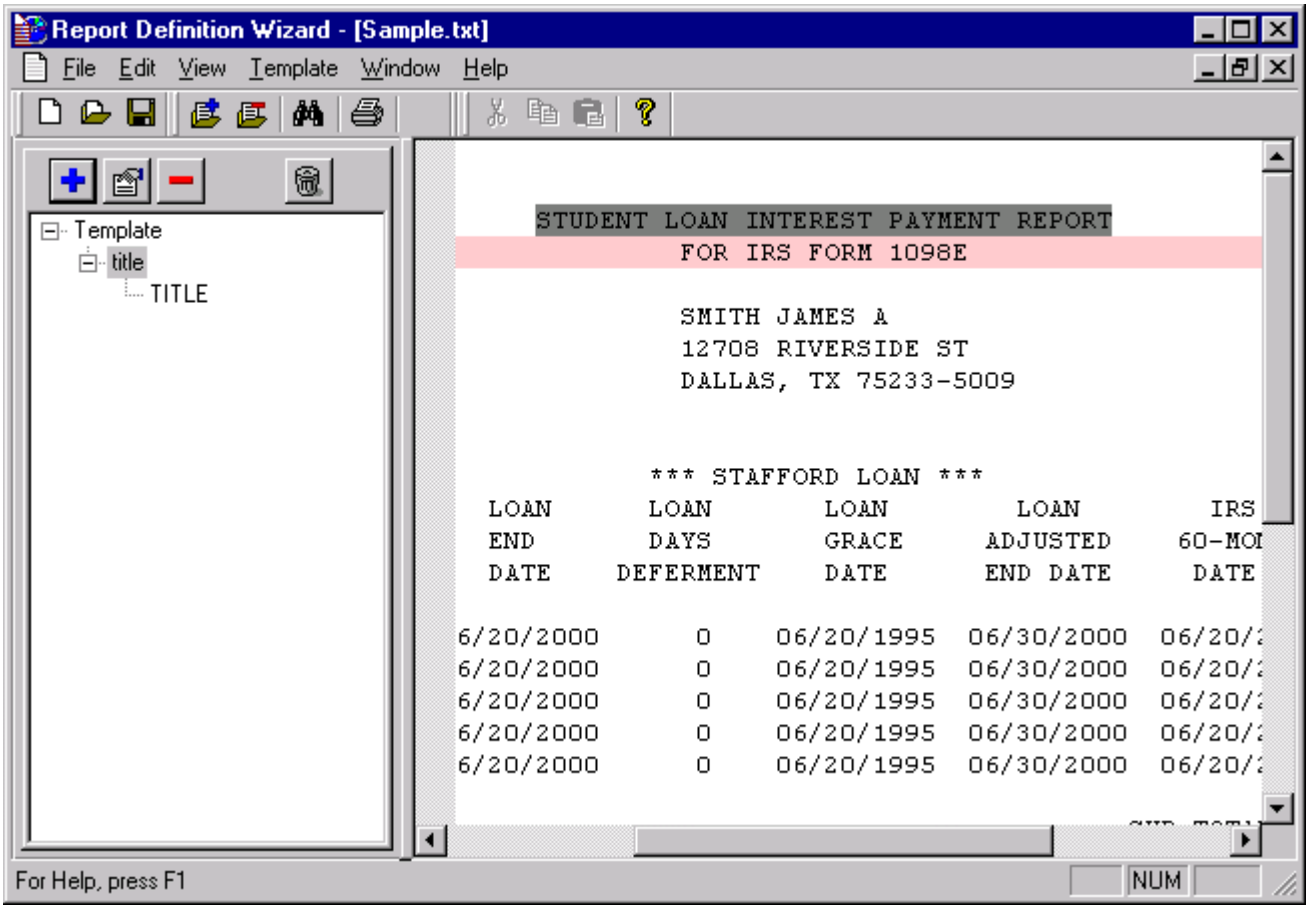


Figure 119: Template, example report with one trap and one field; line captured by trap is highlighted in pink and attached field is highlighted in gray

Example Task 3

In the example report, proceed as follows:

1. Construct a trap that captures a line with a social security number.
2. Add fields extracting social security number, name, and address to this trap.
3. Construct a trap that captures the last line of the report and attach a field extracting the total interest paid.

This section describes how to enter values for Example Task 3 using the following procedures:

- Adding a Trap for Personal Data
- Adding a Trap for Total Interest Paid

Adding a Trap for Personal Data

To add a trap for personal data, proceed as follows:

1. To add a new trap, on the toolbar, click **Add Trap**  .
2. Enter a trap name: *ssn*.

3. Select three lines in the report view starting from the line with ssn.
4. To populate the sample text view with these lines, click  .
5. In the sample text view, select the following line as a sample for the trap:

   SSN: 891-62-3685 SMITH JAMES A.

6. To ensure that the sample appears directly above the social security number in the sample text view, to obtain the following result, in the trap definition window, click  and enter *ÑÑÑ-ÑÑ-ÑÑÑ.*
7. In the sample text view field below **OK,** select *891-62-3685*.
8. In the dialog box, enter *SSN* for the field name, *Social Security Number* for the description, and select an index field.
9. Click **OK.**
10. Select *SMITH JAMES A*.

    Other names can be longer, so extra space should be reserved.

11. In the dialog box, enter *NAME* for the field name, *Student Name* for the description, and select an index field.
12. Click **OK.**
13. Select *12708 RIVERSIDE ST*, ensuring that extra space is reserved for longer addresses.
14. In the dialog box, enter *ADDRESS* for the field name, *Student Address* for the description, and clear the index field.
15. In the multi-line box, select **By left indent.**
16. Click **OK** twice.

Adding a Trap for Total Interest Paid

To add a trap for total interest paid, proceed as follows:

1. To add a new trap, click **Add Trap**  on the toolbar.
2. Enter the trap name *totals*.
3. Select the last line in the report view.
4. To populate the sample text view with this line, click  .
5. In the trap definition window, exactly above the line in the sample text view, enter *TOTAL INTEREST PAID.*
6. In the sample text view, select *678.55*.
7. In the dialog box, enter *TOT_INTEREST* for the field name, *Total Interest* for the description, and select the index field.
8. Click **OK** twice.

The application closes the trap definition window. In the report window, all captured lines are highlighted in pink.

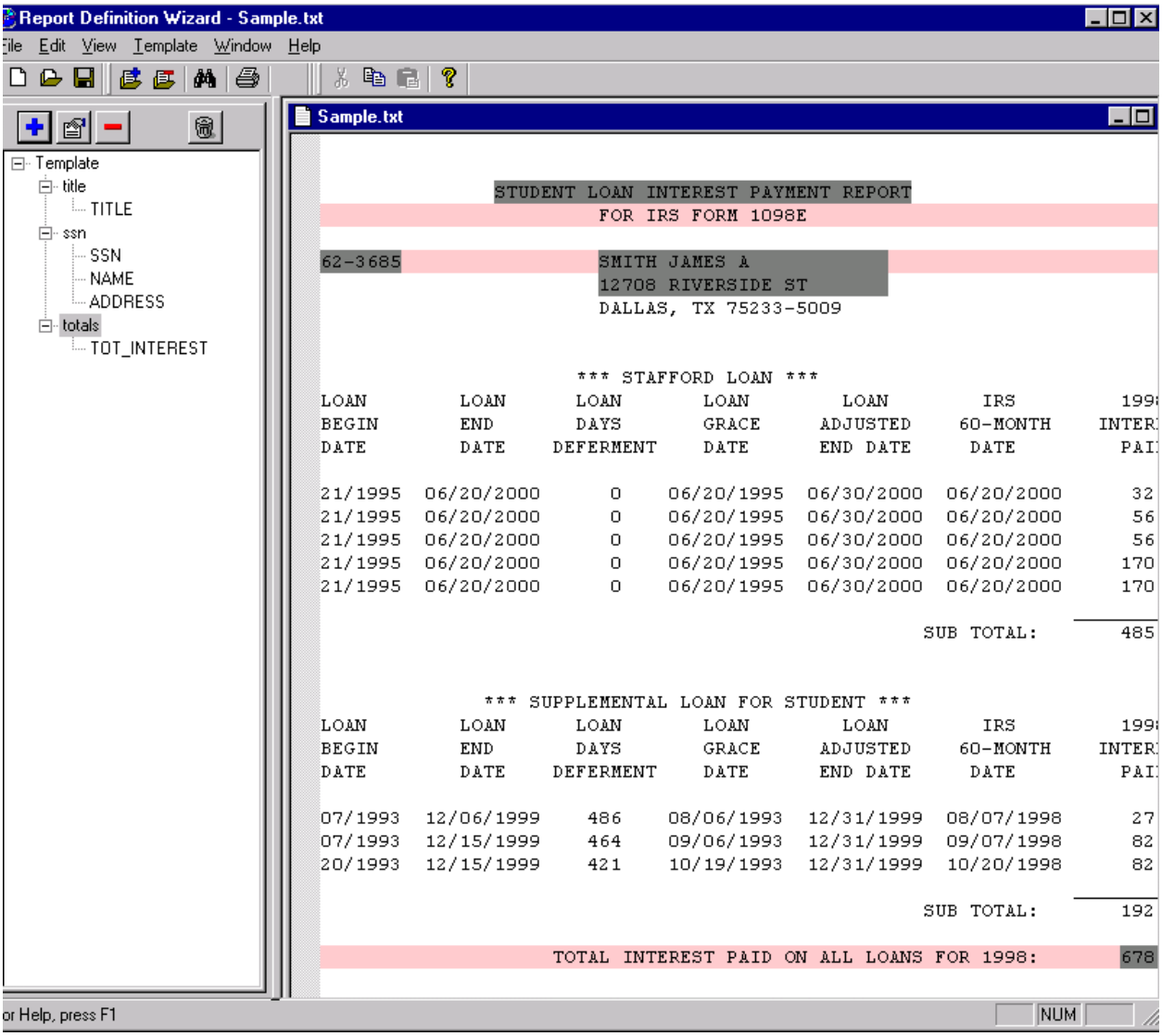


Figure 120: Template of the example report having three traps that extract five fields

Template Tree Window

A report template can be viewed as a tree, where a root node is a template name and a tree node represents traps and fields attached to appropriate traps. This tree is displayed in the template window. Report templates are stored as files in text format with an extension .rdt.

Template tree represents template attributes, traps, trap attributes, and fields with their attributes. In such a way the template window provides quick access to all template elements. By clicking on an element of such template tree, the user can start template editing, which ensures editing the appropriate element such as trap or field.

The following topics are described in this section:

Opening a Report Template

To create a new template, select **File > New Template,** or click **New template**  .

To open an existing template, proceed as follows:

1. Select **File > Open Template** or click **Open Template**  on the toolbar.
2. Select a template and click **Open.**

   The template window appears.

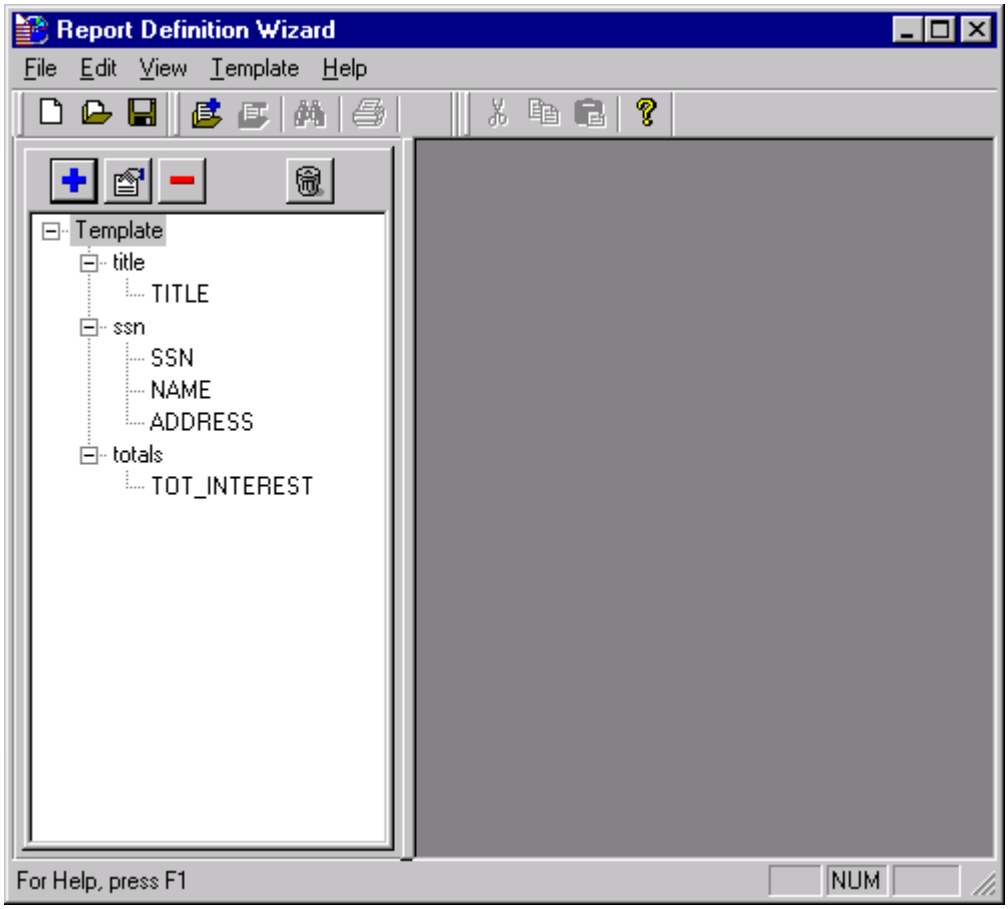


Figure 121: Template window

No report is displayed in the report window.

Note: Only one template can be opened at once. Before opening a new template, the user is prompted to save the changes made to the previous template, if any. For information on saving a template, see Exporting a Template.

3. To expand a branch, click on the plus sign + on the left of the template tree.
4. To collapse a branch, click on the minus sign - on the left of the template tree.

Importing a Template

To import an existing template from an XML file, select **File > Import Template.**

The template is imported from the location specified in **View > Option.** For more information on exporting a template, see Exporting a Template.

Exporting a Template

Report Definition Wizard offers two formats in which to save the report template, INI and XML.

To export a template, proceed as follows:

1. To define the file name where the template is to be exported in the Exigen Workflow `System` directory, select **View > Options.**

   The **Options** window appears.

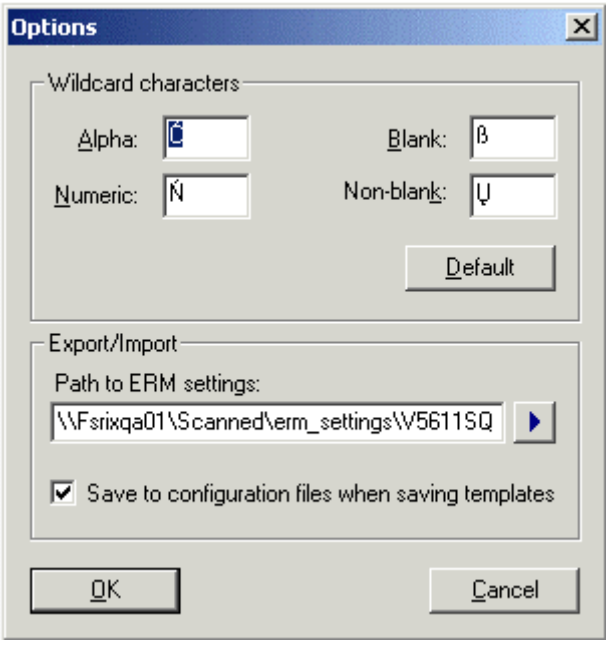


Figure 122: Options window

   The **Wildcard characters** group contains four fields in which you can enter the titles of the following buttons that appear in the trap definition window:

   - **Alpha**
   - **Numeric**

- **Blank**
- **Non-blank**

2. To restore default wildcard character values, click **Default.**
3. Enter the path to ERM settings, or use the browse button to locate the ERM settings directory `../ETDM`, and click **OK.**
4. To export to both INI and XML files when the template is saved, check the **To save the configuration files when saving templates** check box.
5. To export the template to the ERM INI and ERM XML files indicated in the **Options** window, in the menu, select **File > Export Template.**
6. To save the template data in the ERM configuration file, export the template to the ERM XML file.

   Templates exported using XML format can be imported into RDW as described in Importing a Template.

Note: If the ERM INI or ERM XML files already contain a template with the same extension as the template currently being exported, the user is prompted to overwrite the template.

Displaying Captured Data in the Report Window

The template window displays the template, but you can also view the template in the report window. In the report window, all traps and appropriate fields of the template are highlighted in the places where they occur.

Changing Report Template Attributes

Report template attributes are part of a report template and are stored in the same file where the report template is stored.

To view and change report template attributes, proceed as follows:

1. To open the **Template Attributes** window, use any of the following methods:
   - Double click on the template node in the tree.
   - Select the template and, on the toolbar, click **Edit Selected Item**  .
   - Select **Template > Edit Item.**

   The **Template Attributes** window appears.

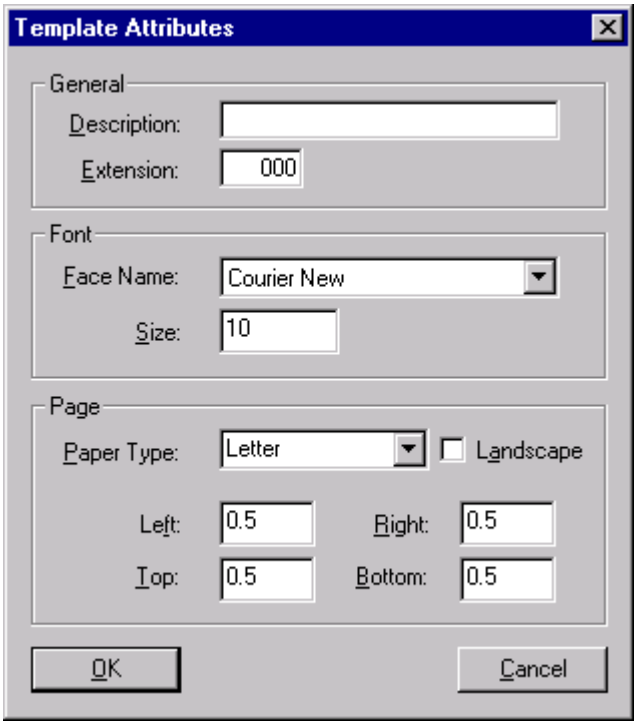


Figure 123: Template Attributes window

2. In the **Description** field, enter a template description, for example, *IRS form 1098E*.
3. In the **Extension** field, enter a unique three-character alphanumeric code to be used in the Exigen Workflow ERM configuration file as the identifier of this report layout, for example, *IRS*.
4. In the **Face Name** field, select a font for the report.
5. In the **Size** field, select a font size for the report.
6. In the **Paper type** field, select a report paper type.
7. If the report must appear in landscape layout, select the **Landscape** option.
8. In the **Left, Top, Right,** and **Bottom** fields, enter the appropriate distance from the page margins.
9. Click **OK.**

Chapter 18: E-Capture Server

This section describes how to set up and run E-Capture Server. The following topics are described in this section:

Overview

E-Capture Server receives and processes PDF and PCL files and transforms them into Exigen Workflow documents. E-Capture Server captures information from these files and uses it for indexing and routing.

E-Capture Server also can obtain indexing information from other sources, such as the legacy system, text files, and file names. If required, E-Capture Server places extracted information in temporary storage for use by other applications.

E-Capture Server is represented as a node on the workflow map.

Important setup operations that can be performed using E-Capture Server include the following:

- selecting the directories from which to retrieve PDF and PCL files
- selecting a destination workflow, queue, node, user, Exigen Workflow task type, document type, and default subfolder
- selecting a processing mode, either compound document or batch
- specifying instructions regarding custom scripts, history and error logs, post-processing procedures, and reference tables, which are interfaces for receiving indexing information from legacy systems
- reviewing error log files, history files, and data placed in temporary storage
- selecting parameters for splitting large PCL files

To use E-Capture for processing PDF files, Adobe Libraries is required. For more information on system requirements, see the Exigen Workflow readme file.

To process PCL files, a third party component, PCLTool SDK Runtime, must be installed in the `VISIFLOW/SYSTEM` directory. For information on obtaining PCLTool SDK Runtime, consult Exigen Support Services.

Opening E-Capture Server

Before using E-Capture Server, you must set it up using E-Capture Administrator and E-Capture Definition Utility.

To open E-Capture Server, proceed as follows:

1. In **Exigen Workflow Explorer,** select the appropriate workflow.
2. Double click the **E-Capture Server** icon  .

   The **E-Capture Server** window appears.

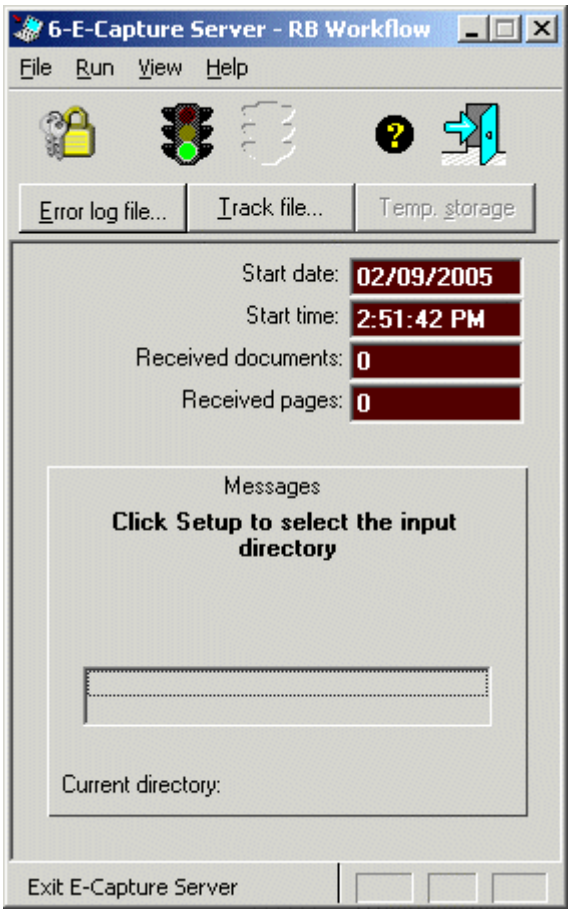


Figure 124: Starting E-Capture Server

For information on the toolbar, menus, and buttons of the **E-Capture Server** window, see E-Capture Server in Appendix A: Exigen Workflow Object Menus and Button Bars.

E-Capture Server Setup

Before running E-Capture Server, select the directories where files arrive for processing.

The following topics are described in this section:

Setting Up E-Capture Server

To set up E-Capture Server, proceed as follows:

1. In the **E-Capture Server** window, click **Setup.**

The **E-Capture Server Setup: Input Directories** window appears.

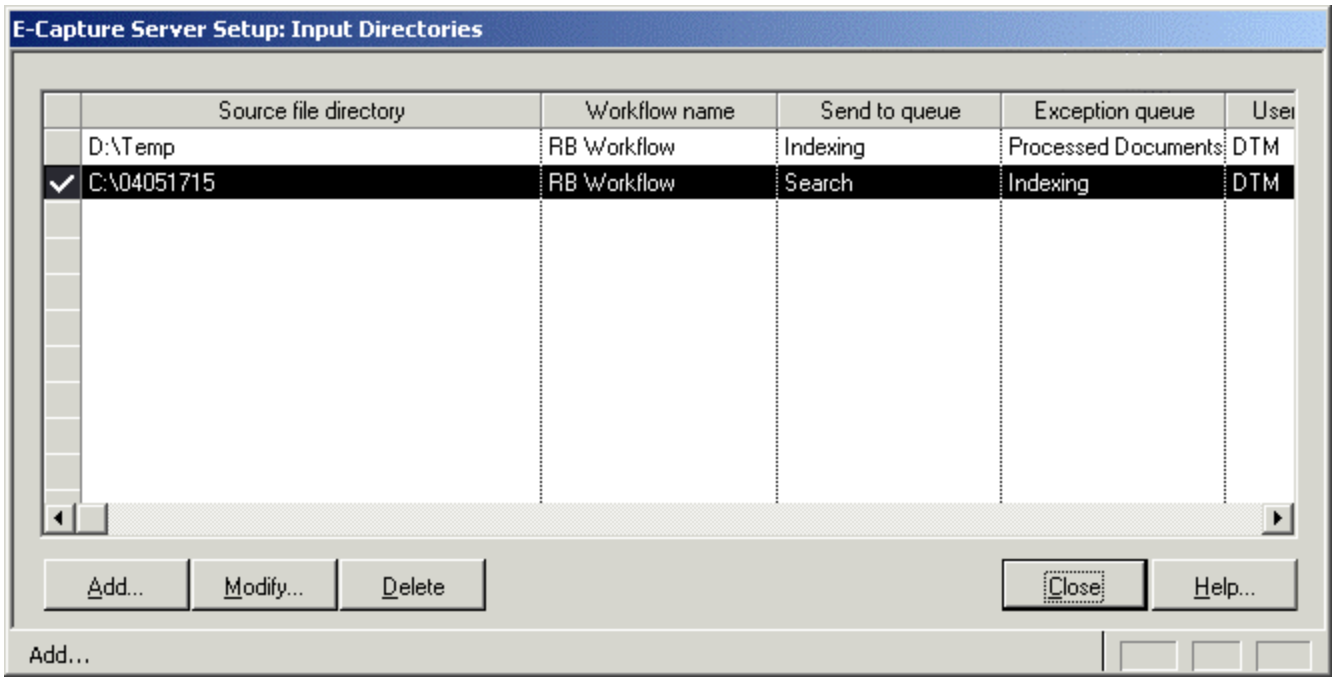


Figure 125: E-Capture Server Setup: Input Directories window

The **E-Capture Server Setup: Input Directories** window displays the directory configurations that tell E-Capture Server where to obtain files and what actions to perform with them.

2. To manage directory configurations, use the **E-Capture Server Setup: Input Directories** interface.

   For more information on managing directory configurations, see the following sections:

   - Adding a Directory Configuration
   - Defining Recognized Document Types
   - Processing PCL Files
   - Modifying a Directory Configuration
   - Deleting a Directory Configuration
   - Recovering PCL Files

3. To select the directories for E-Capture Server to process, click in the gray column to the left of the Source file directory column.

   A check mark appears. You can select as many directories as required.

   When selecting directories, observe the following rules:

   - The selected directories must not be write protected.
   - The path to the directory must not contain two or more adjacent spaces.

Adding a Directory Configuration

E-Capture Server provides a setup wizard for easy directory configuration.

This section describes how to add a directory configuration using the following procedures:

- Selecting Workflow Components
- Recording History and Log Files and Enabling Custom Scripts
- Specifying Settings for Batch Separation, Preprocessing, and Verification
- Specifying File Types and Post-Processing Actions
- Specifying Files to Process

Selecting Workflow Components

To select workflow components, proceed as follows:

1. In the **E-Capture Server Setup: Input Directories** window, click **Add.**

   The **E-Capture Server Setup: Step 2 - Workflow Components** window appears.

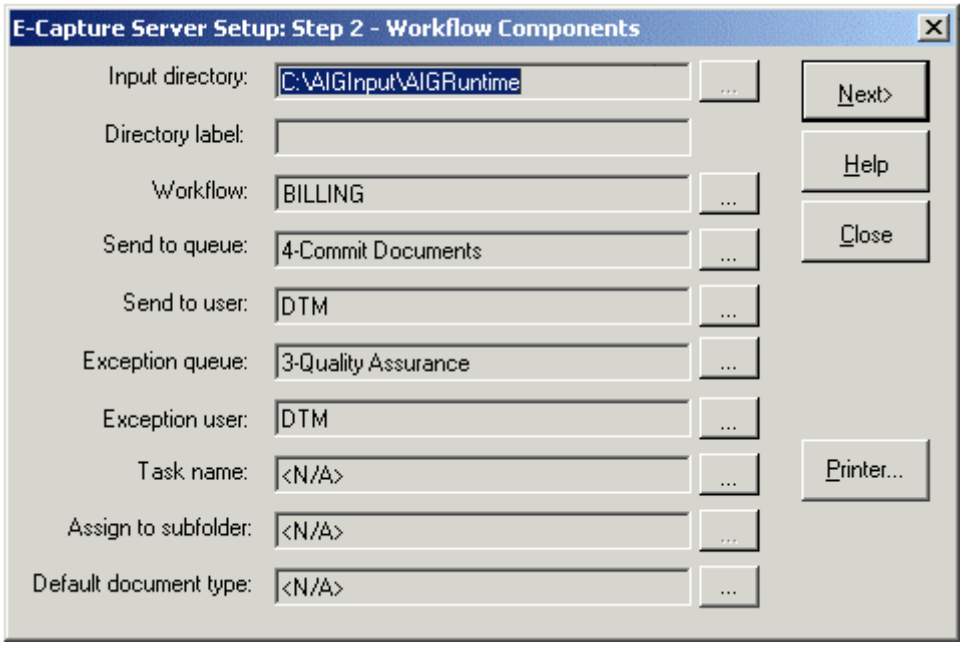


Figure 126: Selecting workflow components

   This window requires familiarity with the standard Exigen Workflow concepts of workflow, queue, user, task name, document type, and subfolder. For more information on these concepts, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration*.

2. Click the browse button next to the **Input directory** field, and select the source document directory.

   The path to the source document directory can have a maximum of 128 characters.

3. In the **Directory label** field, enter a descriptive name.
4. To select a destination workflow, click the browse button next to the **Workflow** field.

A drop-down list appears in the lower part of the window.

5. In the drop-down list, select a destination workflow.

   A workflow can only be selected under the following conditions:

   - An E-Capture output group is defined in that workflow's project.
   - The output group is used in at least one form.

6. To select a destination queue, click the browse button next to the **Send to queue** field.

   A drop-down list appears in the lower part of the window.

7. In the drop-down list, select a destination queue.
8. To select a destination user, click the browse button next to the **Send to user** field.

   A drop-down list appears in the lower part of the window.

9. In the drop-down list, select a destination user.
10. To select a workflow node where problematic processed documents are sent, in the **Exception queue** field, select a workflow node.

    A problem occurs when a mandatory field is empty or there is no corresponding record in the reference table.

    If the **Exception queue** field is <N/A>, this feature is not used. The **Exception queue** field must not be empty.

11. If an exception queue is selected, in the **Exception user** field, select a user to whom documents are sent in the exception queue.
12. To select a task name, click the browse button next to the **Task name** field.

    A drop-down list appears at the bottom of the window.

13. In the drop-down list, select a task name.

    To store or view a document created from PDF files in PDF format, a registered Adobe Acrobat Reader task must be selected.

    To store the files in TIFF format or to process PCL files, <*N/A*> must be selected.

    To initiate conversion of PDF files to TIFF or DMS files, the files must be printed on a virtual printer. Before a virtual printer can be selected, the print driver must be installed.

Note: The NED Image Printer Driver is optional third party software that must be ordered from Exigen.

14. To install and configure the NED Image Printer Driver, proceed as follows:
    1. To install the NED Image Printer Driver, follow the instructions described in the NED Image Printer Driver's `readme.txt` file.
    2. After the NED Image Printer Driver is installed, select **Start > Settings > Printers.**
    3. Right click **NED Image Printer** and select **Properties.**
    4. The **NED Image Printer Properties** window appears.

5. Select the **Advanced** tab.

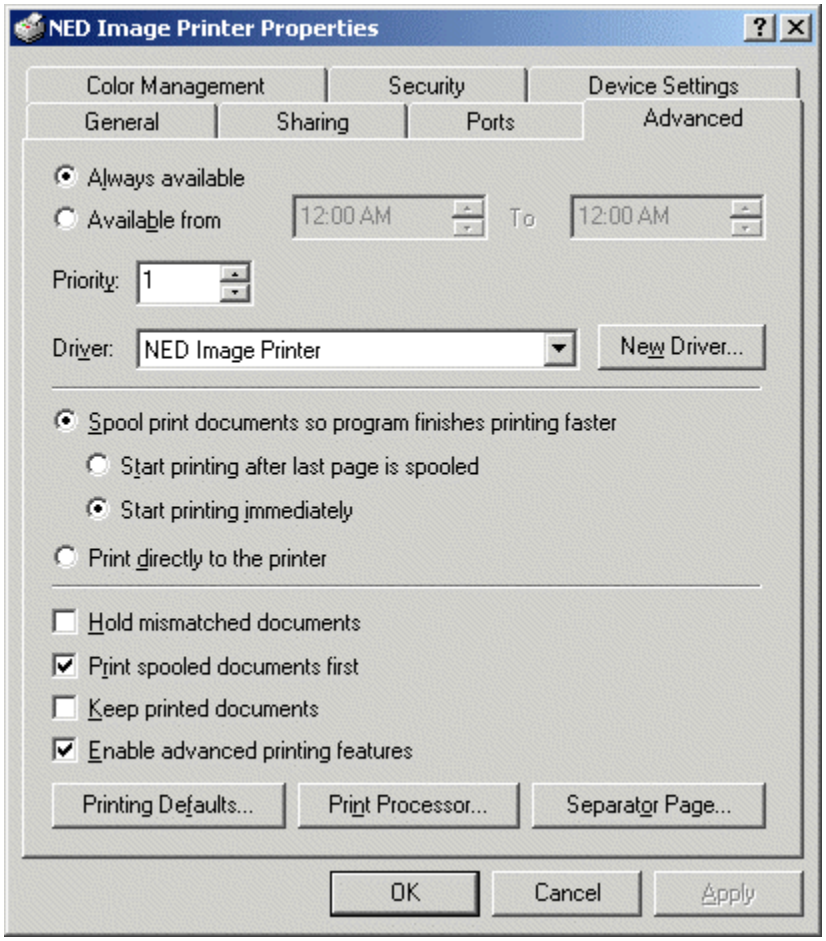


Figure 127: NED Image Printer Properties window

6. Select the **Print directly to the printer** option.
7. Click **OK.**

15. To select the virtual printer, click **Printer.**

    The **Conversion Setup** window appears.

16. In the **Driver name field,** select the virtual printer.
17. Click **OK.**
18. In the **Assign to subfolder** field, select the default subfolder to which processed documents are assigned.

    This feature can only be used if the folder, subfolder, document indexing structure, and default subfolder feature are used. If the requirements are met, it is possible to select a predefined default subfolder. All documents coming from the selected directory are assigned to the selected subfolder after processing.

    If <*N/A*> is selected, documents are not assigned to a subfolder.

19. In the **Default document type** field, select a default document type for documents arriving in the selected directory.

    All document types defined in the project are available for selection, but if the project is configured so that administrators can define a list of available document types for each default subfolder, only the assigned document types are available for selection depending on the selected default subfolder.

    This option has the lowest priority and does not occur in the following situations:

    - The required document type is extracted from the document content.

      The coordinates for extraction must be assigned in E-Capture Definition Utility. This assignment has the highest priority.

    - The document type of the processed document is recognized based on the set of assigned keywords.

      This option works only in batch separation mode. The newly recognized document type replaces the default document type.

    <N/A> means no default document type is assigned.

20. To apply the selections, click **Next.**

Recording History and Log Files, and Enabling Custom Scripts

The **E-Capture Server Setup: Step 3** window appears.

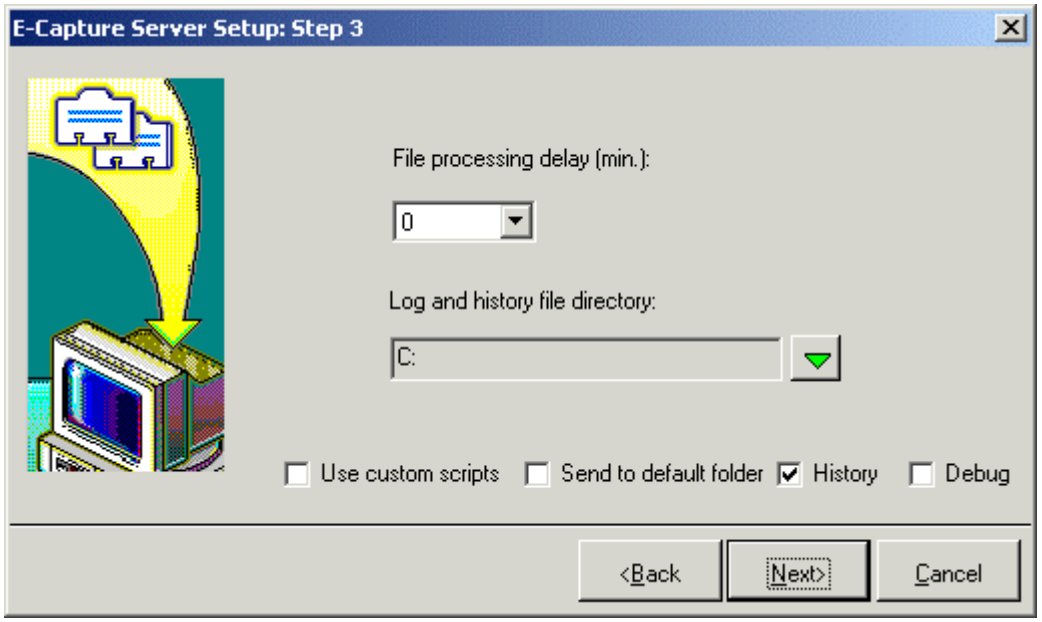


Figure 128: E-Capture Server Setup: Step 3

To record history and log files, and enable custom scripts, proceed as follows:

1. In the **E-Capture Server Setup: Step 3** window, specify the following settings:

E-Capture Server Setup: Step 3 window objects	
Object	**Description**
File processing delay (min.)	Number of minutes for delaying file processing. For example, this can be the minimum delay between the time the file is created and the time it can be processed.
Log and history file directory	Directory in which the history and log files are placed.
Use custom scripts	If selected, enables E-Capture Server to execute registered custom scripts. Custom scripts are registered in E-Capture Administrator.
Send to default folder	If selected, assigns all processed documents to the default folder. The default folder ID is 999999999.
History	If selected, enables E-Capture Server to record the processing history.
Debug	If selected, enables E-Capture Server to display messages about processing status to assist in setup verification. This feature is not applicable if E-Capture Server is used in production.

2. To go to the next step of the wizard, click **Next.**

Specifying Settings for Batch Separation, Preprocessing, and Verification

The **E-Capture Server Setup: Step 4** window appears.

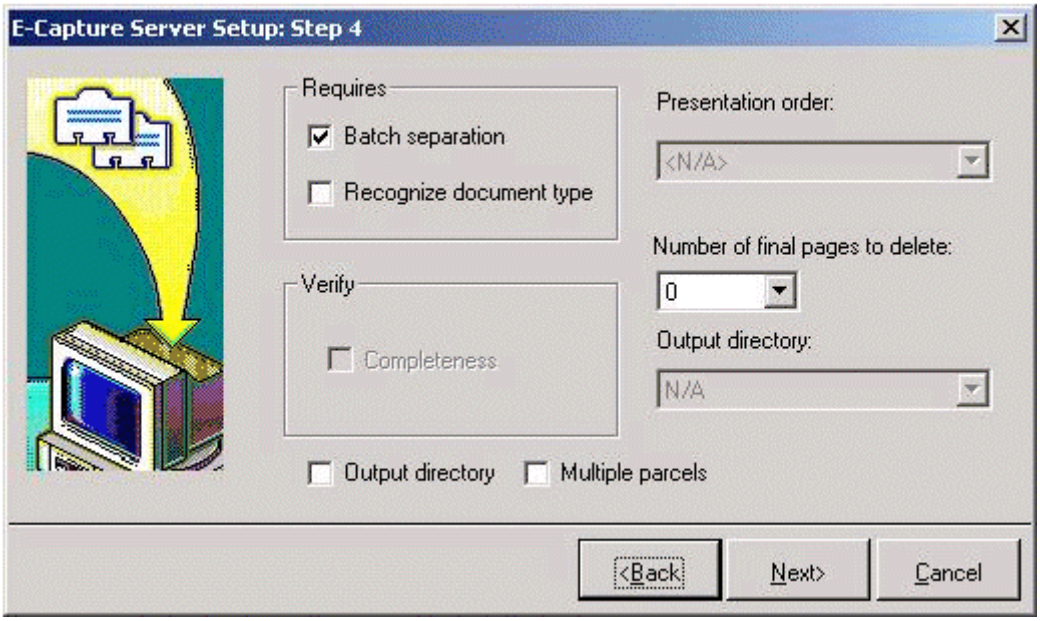


Figure 129: E-Capture Server Setup: Step 4

The appearance of the window and the set of available options depend on the selected configuration settings.

To specify settings for batch separation, preprocessing, and verification, proceed as follows:

1. In the **E-Capture Server Setup: Step 4** window, configure parameters as described in the following table:

E-Capture Server Setup: Step 4 window objects	
Object	**Description**
Batch separation	Enables batch separation mode. Batch separation mode splits complex batches of documents into separate documents for processing. By default, documents are processed normally as Exigen Workflow documents. If the **Output directory** option is selected, documents are sent to the specified output directory. For batch separation mode to work correctly, the following tasks must be completed in the E-Capture Definition Utility: • The first page of each template must be registered as a separator form. • A multipage indicator must be mapped.
Recognize document type	Replaces the **Preprocessing** check box when the **Batch separation** check box is selected. Selecting the check box opens the **Document Type Recognition** window as described in Defining Recognized Document Types.
Preprocessing	If selected, enables E-Capture Server to use default preprocessing or customized scripts for preprocessing. The scripts are registered in E-Capture Administrator. Preprocessing refers to any preliminary file processing that does not require validation or transformation. Preprocessing is used to determine additional useful information about a processed file. E-Capture supports the following sources of information for preprocessing: • *Control Record* refers to the information contained on the first page of a PCL file. After processing, this control record page becomes the last in the Exigen Workflow document. • *Control File* refers to information contained in a separate, single page text file. This file has the same name as the source file, but a different extension. After processing, the control file is deleted. • *File Name* refers to the file name, which in some cases can provide preliminary information. You can configure E-Capture Server to preprocess additional data with custom scripts.
Completeness	If selected, enables E-Capture Server to verify the completeness of compound documents. To verify completeness, E-Capture Server compares the content of a compound document to its schedule of forms. Verification of completeness is available only in compound document mode. The check box is enabled only if the following requirements are met: • The **Batch separation** check box is cleared. • A schedule of forms is registered for the current Exigen Workflow project using E-Capture Definition Utility.

<table>
<tr><th colspan="2">E-Capture Server Setup: Step 4 window objects</th></tr>
<tr><th>Object</th><th>Description</th></tr>
<tr><td>Presentation order</td><td>Defines the form presentation order as follows:
<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td>Original</td><td>Keeps forms in their original sequence. If preprocessing is required, the control record page is placed at the end of the file. Similarly, a control file is converted to an image and placed at the end of the file.</td></tr>
<tr><td>Categories Based</td><td>Rearranges forms of the compound document according to the sequence of the form categories defined using E-Capture Administrator. The control record page and converted control file are placed at the end of the file.</td></tr>
</table>
The list box is enabled only in compound document mode.</td></tr>
<tr><td>Number of final pages to delete</td><td>Specifies the number of pages to be deleted from the end of a processed batch.

This option is typically used when the final pages in a batch contain company internal information that has no relation to the content of documents inside the batch.

This option is available only when the following requirements are fulfilled:
• The Batch separation option is enabled.
• The Task name field in the E-Capture Server Setup: Step 2 - Workflow Components window contains the value <N/A>.</td></tr>
<tr><td>Control file extensions</td><td>Defines the set of control file extensions used for preprocessing.

The field is enabled only when the Preprocessing check box is selected.

The file extensions must be delimited by a comma and the following file extensions must not be used:
• <code>.txt</code>
• <code>.ps</code>
• <code>.pdf</code>
• <code>.tif</code>
• <code>.pcl</code>

When preprocessing using control files, it is recommended that file processing be delayed using the File processing delay option. This ensures that control files arrive in the source directory before the corresponding source file is processed.</td></tr>
<tr><td>Output directory check box</td><td>If selected, activates the Output directory combo box, which contains all input directories except the one that is currently selected and used.

The check box is enabled only if the Batch separation check box is selected.</td></tr>
<tr><td>Output directory combo box</td><td>Defines the directory where files are sent after batch separation. The files are not saved to Exigen Workflow storage, but can be processed using the selected output directory as the input directory for the created files.</td></tr>
<tr><td>Multiple parcels</td><td>Each new document is assigned to a separate parcel.</td></tr>
</table>

E-Capture Server Setup: Step 4 window objects	
Object	**Description**
Use reference table	Enables E-Capture Server to use additional information from a reference table named <Project_ID>_REF_TABLE. The table can be created using Project Builder. The reference table can be used to extract additional indexing information for imported documents and folders and subfolders containing them. The table contains two types of columns: • columns containing known information that is used in the SQL *WHERE* conditions • columns containing the retrieved information used for indexing If no records are found, the corresponding information is sent to the exception queue. Reference documents are created if more than one record appears in the record set. A SQL query statement based on a script template specific to the reference table must be written and added to the `TransRefTableCondition` script. All required information must be added to activate the script. For information on the SQL statement, see the corresponding script template.

2. To go to the next wizard step, click **Next.**

Specifying File Types and Post-Processing Actions

The **E-Capture Server Setup: Step 5** window opens.

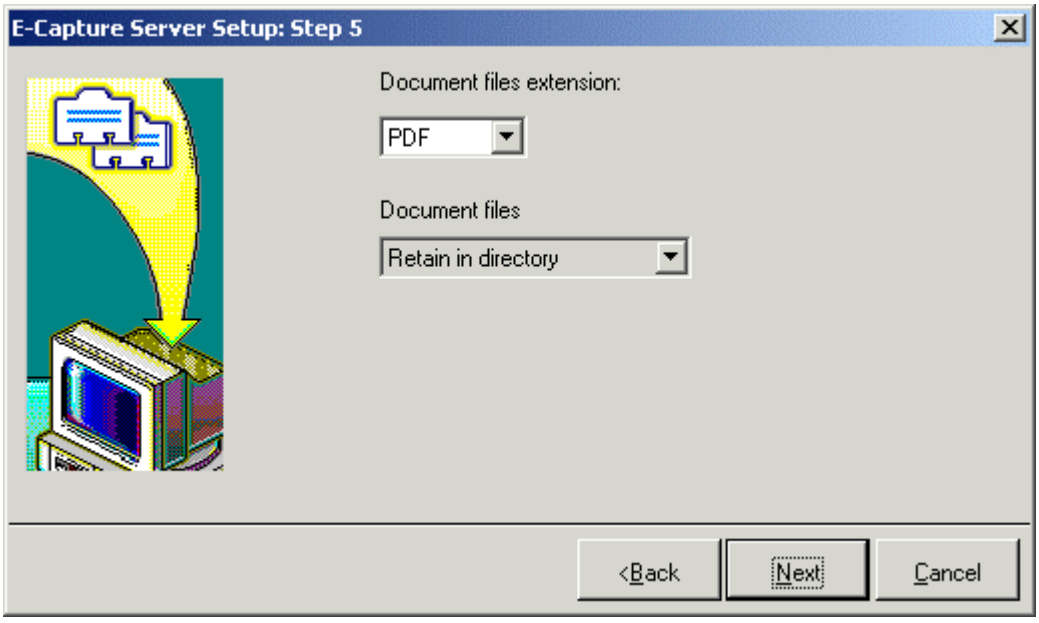


Figure 130: E-Capture Server Setup: Step 5

To specify file types and post-processing actions, proceed as follows:

1. In the **E-Capture Server Setup: Step 5** window, configure parameters as described in the following table:

<table>
<tr><th colspan="2">E-Capture Server Setup: Step 5 window objects</th></tr>
<tr><th>Object</th><th>Description</th></tr>
<tr><td>Document files extension</td><td>Extension for files processed in the source directory.
E-Capture Server can process only one type of file from each source directory.
The appearance of the E-Capture Server Setup: Step 5 window depends on the selected file extension.
If batch separation mode is used and the PCL file extension is selected, additional objects appear in the window as described in Processing PCL Files.</td></tr>
<tr><td>Document files</td><td>Action performed with source files after processing.
The following options are available:
<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td>Move</td><td>Moves source files to a different directory. You are prompted to select the recycle directory.</td></tr>
<tr><td>Delete</td><td>Deletes processed source files.</td></tr>
<tr><td>Remain in directory</td><td>Leaves the files in the source directory
E-Capture Server stops after all source files are processed.</td></tr>
<tr><td>Rename</td><td>Renames all processed source files, providing the extension "___".
In this case, E-Capture Server does not stop and continues scanning for new source files.</td></tr>
</table></td></tr>
<tr><td>Recycle directory</td><td>Directory where the processed source files are moved.
This option appears only when the Move option is selected.</td></tr>
<tr><td>Document type reference file</td><td>Path of the text file containing the following reference information:
• signature on the form of the first page of the extracted document
• predefined document type
This option is available only if the following conditions are true:
• The PDF file type is specified.
• The <Use Ref. file> document type is selected.</td></tr>
<tr><td>Use bookmarks</td><td>If selected, enables E-Capture to separate PDF files into Exigen Workflow documents based on bookmarks.
If selected, the information in the Number of final pages to delete option in step 4 is ignored.
This option is available only if the following conditions are true:
• The Batch separation check box is selected.
• The PDF file type is specified.
• The document type is not <Use Ref. file>.</td></tr>
</table>

E-Capture Server Setup: Step 5 window objects	
Object	**Description**
New folder is not allowed	If selected, E-Capture does not create a new folder when processing PDF files. If no corresponding folder exists, the original PDF file is sent to the exception queue. This option is available only if the following conditions are true: • The **Use bookmarks** check box is selected. • An exception queue is selected. • An exception user is selected.
Bookmark control file document type	If selected, displays the document type of the Exigen Workflow text document that is created by E-Capture in **Use bookmarks** mode. The text document lists document numbers and their associated bookmarks as extracted from the original PDF file. The text document is located in the destination queue and is assigned to the destination user. If cleared, E-Capture does not create a text document. This option is available only if **Use bookmarks** is selected.
Rejection keyword	Word that identifies a page in documents having multiple pages. For example, the word *Page* can be used to identify pages. The rejection keyword is used to filter out bookmarks that point to individual pages in a multiple page document. All bookmarks containing the rejection keyword as the first word are eliminated from consideration, that is, these bookmarks are not used for document separation. This option is available only if **Use bookmarks** is selected.
Delete empty pages	If selected, blank pages are removed from the processed documents. This option is available only if the **Batch separation** check box is selected.

2. If the **Retain in directory** option is not selected, to finish the configuration process, click **Finish.**
3. If the **Retain in directory** option is selected, click **Next.**

Specifying Files to Process

The **E-Capture Server Setup: Step 6** window appears.

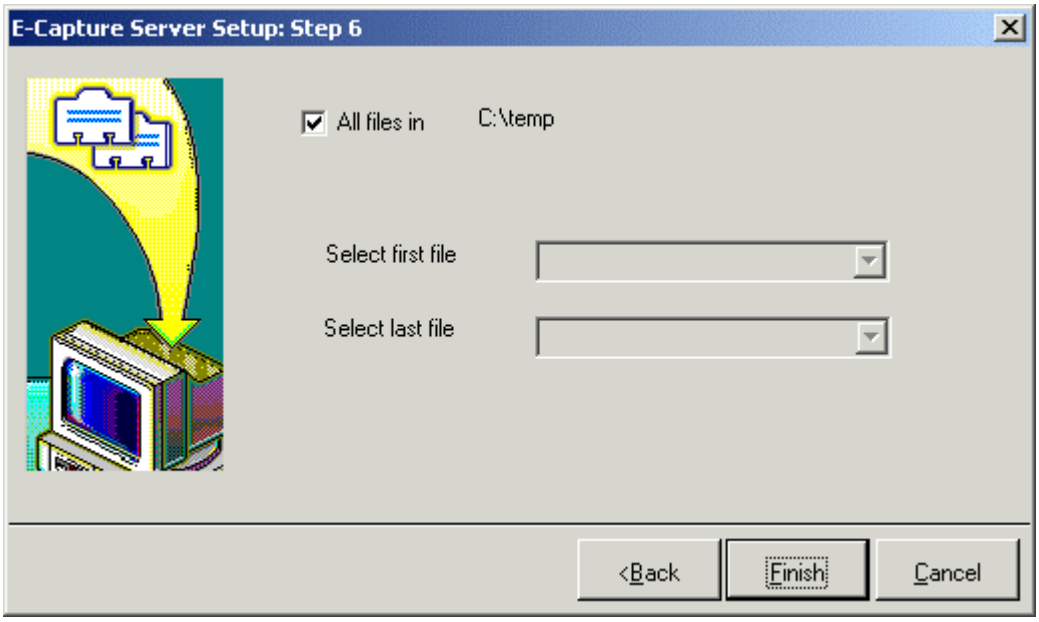


Figure 131: E-Capture Server Setup: Step 6

This window is used to specify the files to be processed from the named source directory.

To specify the files to be processed, proceed as follows:

1. In the **E-Capture Server Setup: Step 6** window, to enable E-Capture Server to process all files in the named directory, select the **All files in** option.

   Selecting **All files in** disables the **Select first file** and **Select last file** list boxes.

2. To specify a group of files to be processed, in the **Select first file** and **Select last file** list boxes, select appropriate files.

   These list boxes display all the files in the named directory.

3. To apply the new configuration, click **Finish.**

Defining Recognized Document Types

E-Capture Server can assign document types to processed documents based on a set of defined keywords extracted from the source files.

To define the keywords used to recognize document types, proceed as follows:

1. In the **E-Capture Server Setup: Step 4** window, select the **Recognize doc type** check box.

   The **Recognize doc type** check box is available only when the **Batch separation** check box is selected.

   The **Document Type Recognition** window appears.

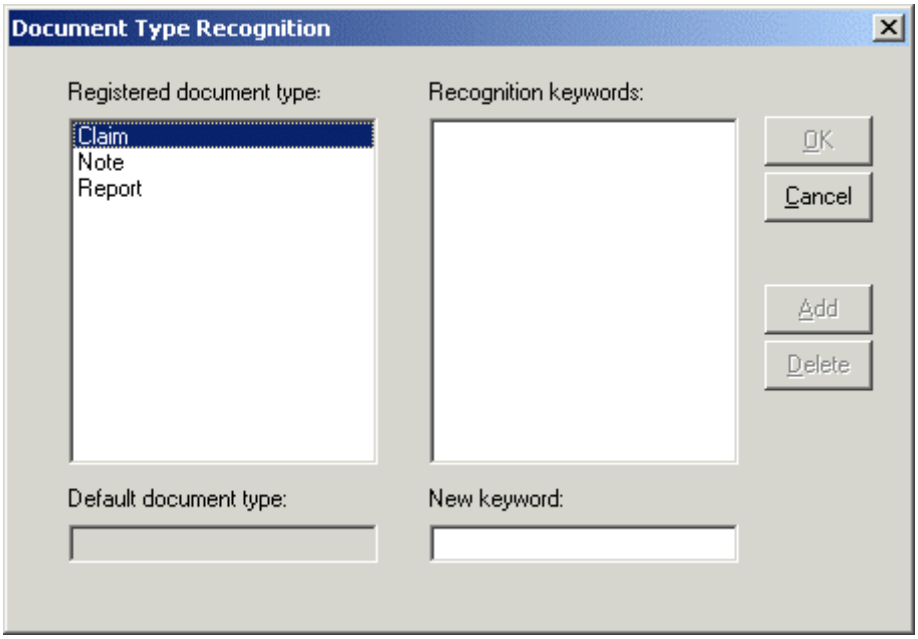


Figure 132: Recognize Doc Types window

In the **Document Type Recognition** window, all document types defined in the project are listed in the **Registered document type** text box. The **Recognition keywords** text box lists all keywords for the selected document type.

2. To add a new keyword to the selected document type, in the **New keyword** field, enter the keyword and click **Add.**
3. To delete a keyword, select it and click **Delete.**

   The set of keywords for each document type must be unique.

   A document type is recognized if all assigned keywords are found on the first document page. If no document type is recognized, the default document type is assigned to the document.
4. To save the changes, click **OK.**

Processing PCL Files

If the *PCL* file extension is selected in the **E-Capture Server Setup: Step 5** window, additional window objects appear.

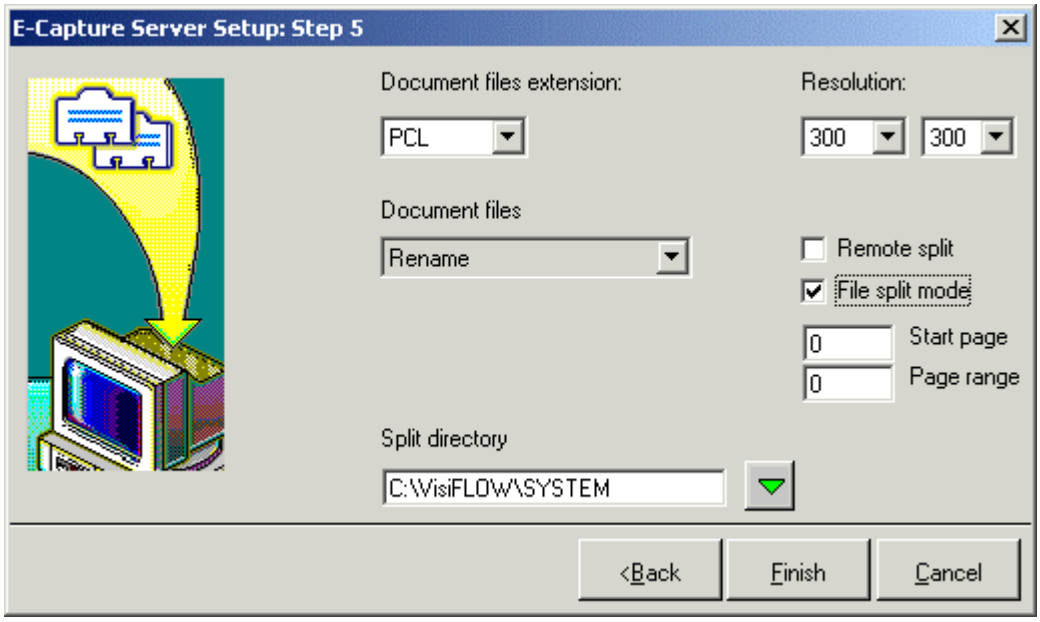


Figure 133: Processing PCL files

The following table describes the **E-Capture Server Setup: Step 5** window additional objects:

Additional E-Capture Server Setup: Step 5 window objects	
Object	**Description**
Resolution	Image resolution of the TIFF files produced from the original PCL files.
Remote split	Enables E-Capture Server to create small, split PCL files in specific child directories. Each child directory has a corresponding input directory in which the large PCL source files are located. **Note:** All input directories using the same remote split mode must have the same direct parent directory. This option is available only when the **File split mode** check box is selected.
File split mode	Indicates that E-Capture Server produces smaller files from the source PCL files and processes them separately. This option improves network traffic when files are accessed through the network.
Start page	First page in the document from which the information is extracted. This option is available only when the **File split mode** check box is selected.
Page range	Number of pages in a single PCL file portion that is separated as a smaller PCL file. This option is available only when the **File split mode** check box is selected.
Split directory	Directory where newly created files await processing. This option is available only when the **File split mode** check box is selected but the **Remote split** check box is cleared.
Parent input directory	Parent directory containing the automatically created child directories. This option is available only when the **Remote split** check box is selected.

Modifying a Directory Configuration

To modify a directory configuration, proceed as follows:

1. In the **Input Directories** window, select a directory configuration.
2. Click **Modify.**

   The **E-Capture Server Setup: Step 2 - Workflow Components** window appears and displays the assigned workflow components.
3. To revise any of the workflow component selections, select appropriate values in the list boxes as described in Adding a Directory Configuration.
4. To proceed through the E-Capture Server setup wizard, click **Next.**
5. To save the changes, in the final wizard window, click **Finish.**

Deleting a Directory Configuration

To delete a directory configuration, proceed as follows:

1. In the **E-Capture Server Setup: Input Directories** window, select a directory configuration.
2. Click **Delete.**

   The confirmation window appears.

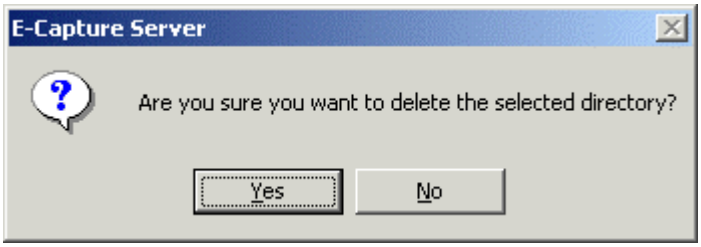


Figure 134: Deleting a directory configuration

3. To delete the directory configuration, click **Yes.**
4. To cancel your request, click **No.**

Exporting and Importing Configuration Settings

E-Capture Server configuration settings can be exported from one environment and imported into another. The export and import feature makes it possible to use the same setup for different E-Capture Servers.

An environment is defined by one or more of the following factors:

- network
- computer
- Windows version
- workflow that includes E-Capture Server
- workflow to which E-Capture Server sends processed documents
- workflow node that represents E-Capture Server
- workflow node that receives documents from E-Capture server
- workflow user who receives documents from E-Capture Server
- exception queue for processing problematic documents in the new environment
- user receiving documents in the exception queue
- task name in the new environment
- default subfolder to which documents are assigned in the new environment
- default document type for incoming documents in the new environment

The following topics are included in this section:

Exporting E-Capture Server Configuration Settings

To export E-Capture Server configuration settings, proceed as follows:

1. In the **E-Capture Server** window, select **File > Export.**

   The **Export Setup** window appears.

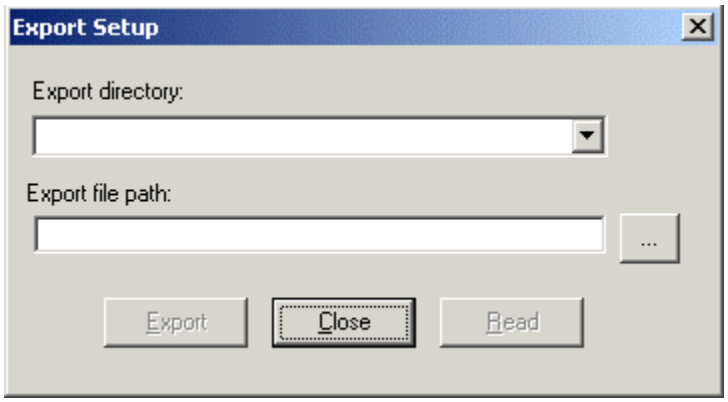


Figure 135: Exporting E-Capture Server setup

2. To select an E-Capture Server setup to export, in the **Export directory** field, select the setup directory.
3. To specify the export destination file, in the **Export file path** directory, perform one of the following steps:
   - Enter a path and file name.
   - Click the browse button  , select a file and path name, and click **Open.**

   The export file is a text file. Its file extension is `.ini`.

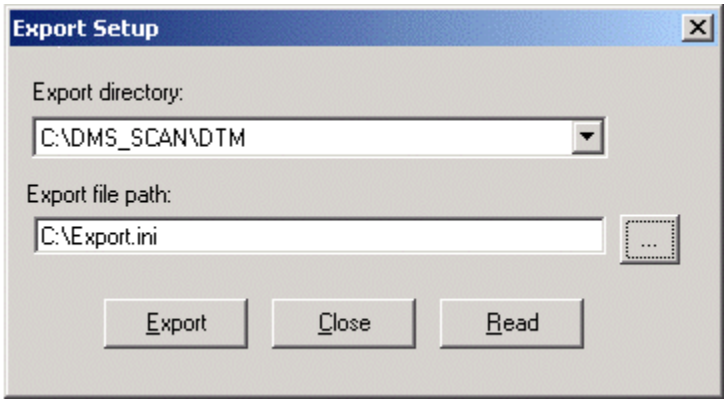


Figure 136: Defining export settings

4. To create the export file, click **Export.**
5. To view the contents of the export file, click **Read.**

   The export file is displayed.

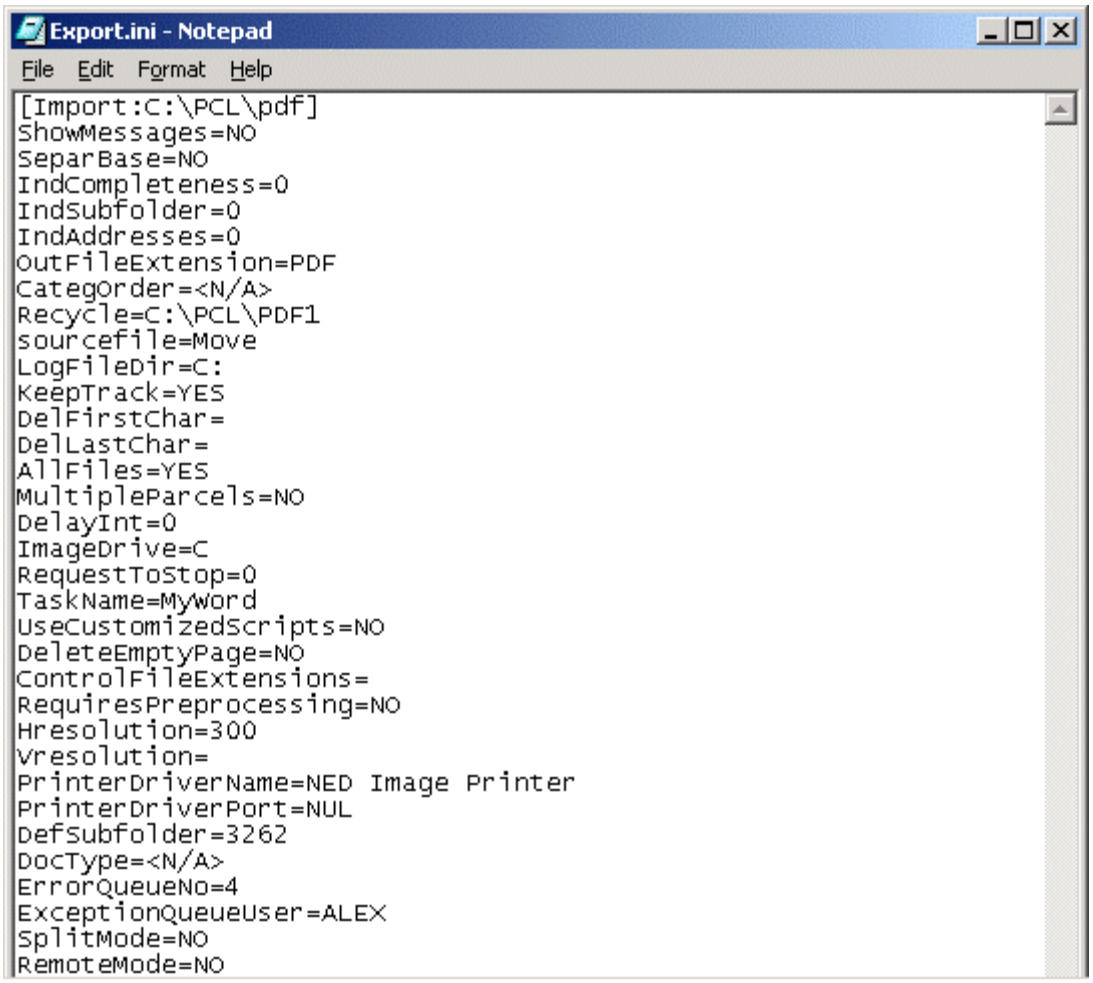


Figure 137: Export file

6. To save changes and close the window, click **Close.**

For information on importing E-Capture Server configuration settings, see Importing E-Capture Server Configuration Settings.

Importing E-Capture Server Configuration Settings

E-Capture Server configuration settings must be exported before they can be imported.

For information on exporting E-Capture Server configuration settings, see Exporting E-Capture Server Configuration Settings.

To import E-Capture Server configuration settings, proceed as follows:

1. In the **E-Capture Server** window, select **File > Import.**

   The **Import setup** window appears.

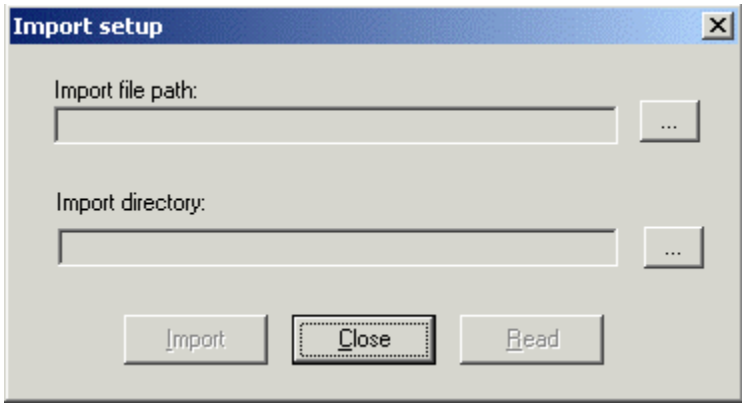


Figure 138: Importing an E-Capture Server setup

2. To select the setup to import, click the browse button next to the **Import file path** field, select a path, and click **Open.**
3. To read the selected import file, click **Read.**
4. To select the import directory, click the browse button next to the **Import directory** field, select a path, and click **Open.**

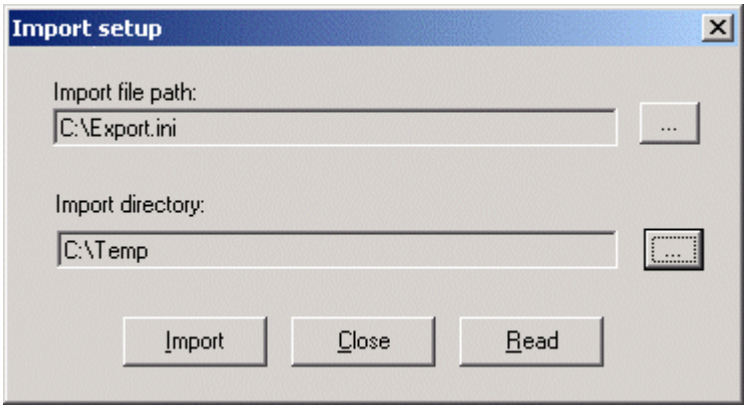


Figure 139: Specifying import settings

5. To import the setup, click **Import.**

   The **Check Imported Workflow Components** window appears. The following table describes the values displayed in the **Check Imported Workflow Components** window:

Check Imported Workflow Components window values	
Value	**Description**
Not Found	Imported workflow component does not match the new environment.
Any other value	Imported workflow component matches the new environment or a match is not possible.

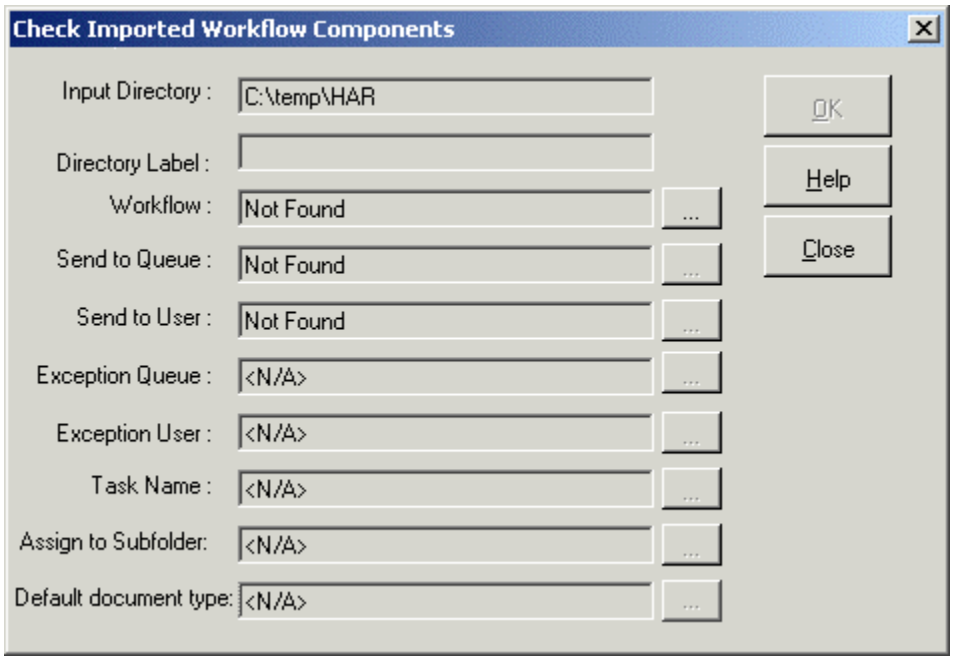


Figure 140: Checking imported components

The following table describes the fields in the **Check Imported Workflow Components** window:

Check Imported Workflow Components window fields	
Field	**Description**
Input Directory	Directory into which E-Capture Server setup is imported.
Directory Label	Import directory descriptive name. This field is optional.
Workflow	Destination workflow.
Send to Queue	Destination queue.
Send to User	Destination user.
Exception Queue	Workflow node to which problematic processed documents are sent.
Exception User	User to whom documents are sent in the exception queue.
Task Name	Task name.
Assign to Subfolder	Default subfolder to which processed documents are assigned.
Default Document type	Default document type for documents arriving in the selected directory.

If any field contains **Not Found,** the E-Capture Server setup cannot be imported. The **OK** button is disabled.

6. To enable E-Capture Server setup import, in all fields containing the value **Not Found,** enter an appropriate value from the new environment.

   A value can be selected using the browse button or entered manually.

   If the **Workflow** field contains the value **Not Found,** it is recommended to correct it before correcting the other fields.

7. To import the E-Capture Server setup, click **OK.**

   The setup is imported.

Recovering PCL Files

E-Capture Server can recover large PCL files if a problem occurs during processing.

To resolve PCL file processing problems, proceed as follows:

1. In **Exigen Workflow Explorer,** select the appropriate workflow.
2. Double click the **E-Capture Server** icon  .

   The **E-Capture Server** window appears.

3. In the **E-Capture Server** window, select **View > Show Recovery info button.**

   The **E-Capture Server Setup: Input Directories** window appears.

4. In the **E-Capture Server Setup: Input Directories** window, click **Recovery Info.**

   The **Recovery Info** window appears.

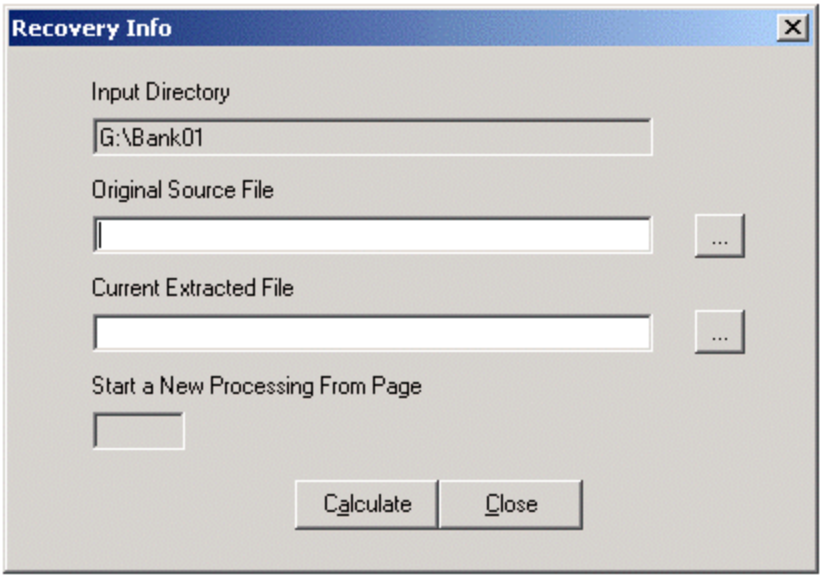


Figure 141: Recovery Info window

   This window is used only in file split mode if the processing of a large PCL file is interrupted, to resume processing from the location where the problem appeared.

8. Click the browse button next to the **Original Source File** field, and select the PCL server where the original files reside for importing.

   When an original file is selected, E-Capture Server automatically tries to locate the current extracted file and add the path in the **Current Extracted File** field.

9. If E-Capture Server cannot find the file automatically, to locate the file manually, in the **Current Extracted File** field, enter the path.

10. Click **Calculate.**

    The correct page number of the extracted file appears in the **Start a New Processing From Page** field.

11. Note the number in the **Start a New Processing From Page** field.

12. Open the **E-Capture Server Setup: Step 5** window and enter the page number in the **Start page** field.

13. Finish the E-Capture Server setup.

14. If the E-Capture Split Server is stopped, start E-Capture Split Server.

    For more information on E-Capture Split Server, see Chapter 20: E-Capture Split Server.

15. Start the PCL server.

Running E-Capture Server

E-Capture Server pulls the requested files from each checked directory in the **E-Capture Server Setup: Input Directories** window. The files are processed according to the configurations specified in the E-Capture Server setup wizard.

E-Capture Server scans the directories in the sequence listed in the **E-Capture Server Setup: Input Directories** window. After processing all marked directories, E-Capture Server returns to the first directory and repeats scanning until you stop the server. Only directories configured to leave processed files in the source directory are automatically cleared.

The following topics are described in this section:

Starting the Server

In the **E-Capture Server** window, to start E-Capture Server, click **Start Server.**

If directories are properly configured, the status section of the **E-Capture Server** window displays the following messages as it searches for and processes files:

- `Searching for files`
- `Import in Process`

The message window also displays the source directory and the name of the file that the server is currently processing.

The following status information appears in the **E-Capture Server** window:

E-Capture Server window	
Status	**Description**
Start date	Date that E-Capture Server was opened.
Start time	Time that E-Capture Server was opened.
Received documents	Number of documents placed into Exigen Workflow.
Received pages	Total number of pages placed into Exigen Workflow documents.

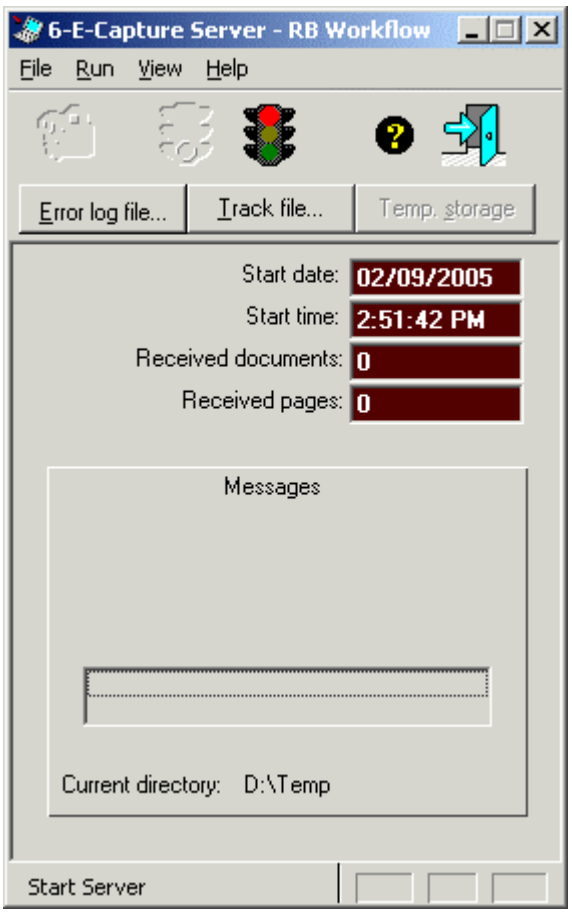


Figure 142: Running E-Capture Server

E-Capture Server requires at least one selected directory before it can start. If no directories are checked, an error message appears.

Figure 143: E-Capture Server error message

Note: You cannot configure directories for processing while the server is running.

Note: File names in the 1000.pdf - 9999.pdf range are reserved. Files with names in this range cannot be used as input files for processing.

For information on running E-Capture Server as a service, see Appendix B: Maintaining Exigen Workflow Servers as Services.

Stopping the Server

To stop the server, click **Stop Server.**

Viewing an Error Log File

To review any errors E-Capture Server encountered during processing, proceed as follows:

1. In the **E-Capture Server** window, click **Error log file.**

   The **Error Log Files for the Input Directories** window appears.

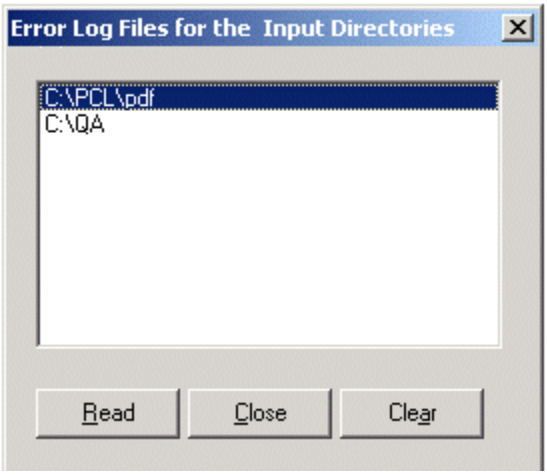


Figure 144: Opening an error log file

   The window displays a list of the source directories E-Capture Server scanned.

2. Select a directory.
3. Click **Read.**

   The text log file opens in Notepad.

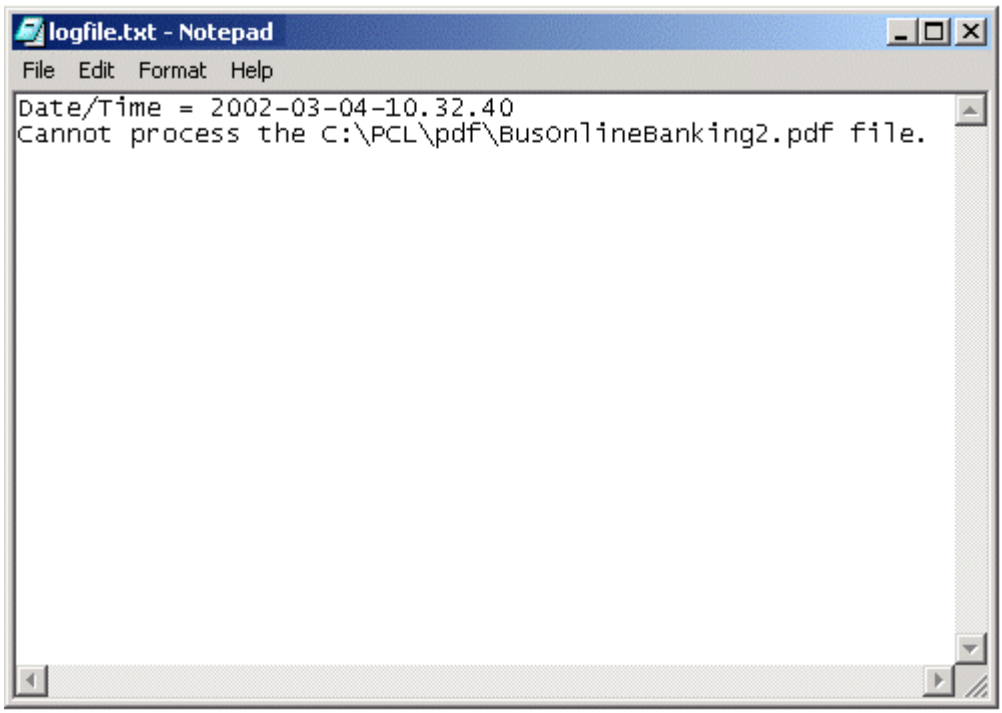


Figure 145: Reviewing an error log file

The log file lists errors, the corresponding file name and path, and the date and time of processing.

4. Close the error log file.
5. To delete the error log, in the **Error Log Files for the Input Directories** window, click **Clear.**
6. To return to the **E-Capture Server** window, click **Close.**

Viewing a History Log

If E-Capture Server is set up to record a history, the history can be viewed after E-Capture Server processes the configured directory.

For information on recording a history, see Adding a Directory Configuration.

To view the history log, proceed as follows:

1. In the **E-Capture Server** window, click **Track file.**

The **Track Log Files for the Input Directories** window appears.

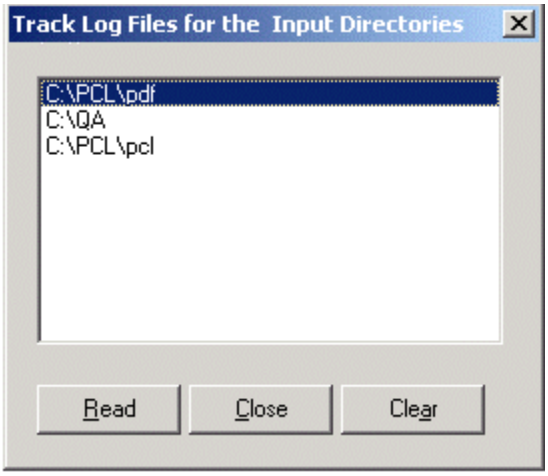


Figure 146: Opening a history log file

The window displays a list of the source directories E-Capture Server scanned.

2. Select a directory.
3. Click **Read.**

   The text log file opens in Notepad.

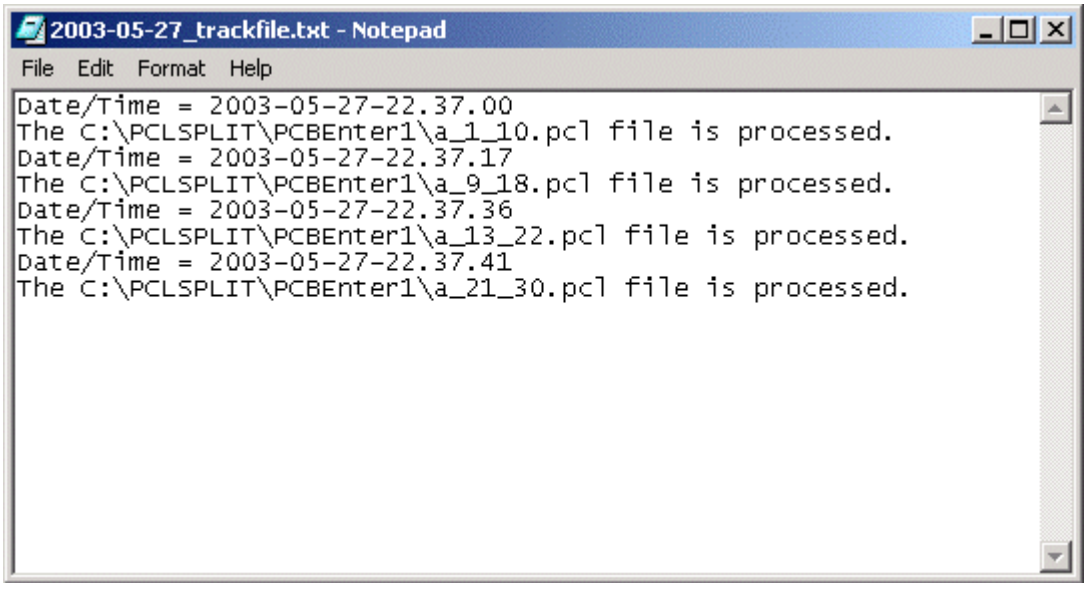


Figure 147: Reviewing a history log file

The log file lists the processing history, the corresponding file name and path, and the date and time of processing.

4. To close the history log file, select **File > Exit.**
5. To delete the history log, in the **Track Log Files for the Input Directories** window, click **Clear.**

6. To return to the **E-Capture Server** window, click **Close.**

   Each day, E-Capture automatically opens a new log file in the predefined directory. The creation date is included in the file name.

Viewing Data in Temporary Storage

Exigen E-Capture gives you the option to view captured information placed in temporary storage. You can also view tables with the following information:

- forms
- locations
- insured persons

The data in these tables can be used by applications other than Exigen Workflow. You can also review the contents of these tables to confirm the accuracy of captured information.

The following topics are described in this section:

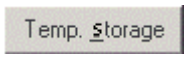
Viewing the Temporary Storage Table

If E-Capture Server is set up to send data to the Temporary Storage table, you can view the contents of this table.

E-Capture Definition Utility is used to configure this option. For information on E-Capture Definition Utility, see the *Exigen Workflow Administrator's Guide, Part 3: Utilities,* Chapter 10: E-Capture Definition Utility.

To view the Temporary Storage table, proceed as follows:

1. In the **E-Capture Server** window, click **Temp. storage.**

   This button is enabled if temporary storage is not empty.

   The **Select Input directory** window appears.

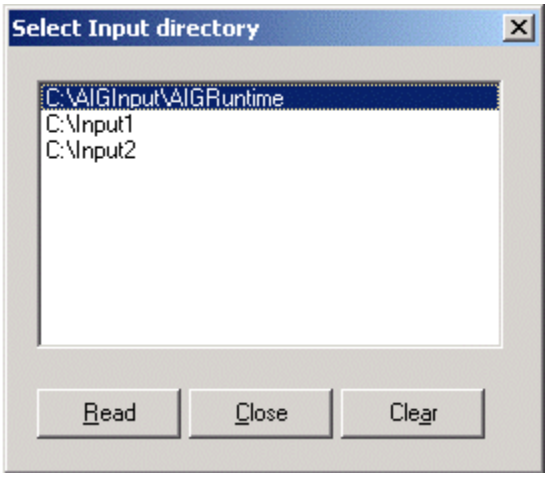


Figure 148: Selecting the input directory

The **Select Input directory** window displays a list of the source directories that E-Capture Server scanned.

In the **Select Input directory** window, proceed as follows:

1. Select the input directory from the list.
2. To delete the input directory, select a directory and click **Clear.**
3. To return to the **E-Capture Server** window, click **Close.**
4. To open the Temporary Storage table, click **Read.**

The Temporary Storage table appears, displaying relevant data for the selected input directory.

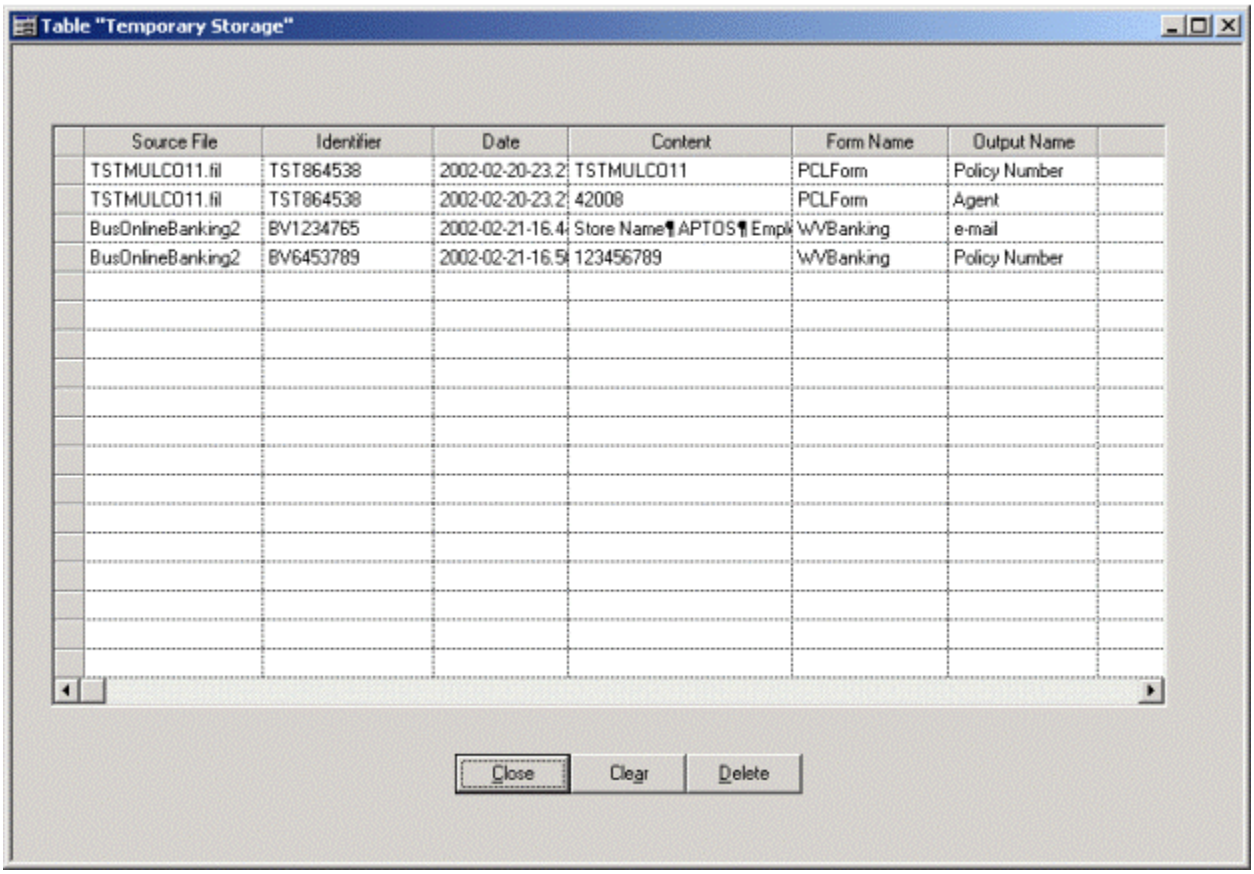


Figure 149: Opening the Temporary Storage table

The Temporary Storage table contains the file name, the extracted data, and other general attributes about the extracted information. The following table describes the Temporary Storage table attributes:

Temporary Storage table attributes	
Attribute	**Description**
Source File	Processed file name.
Identifier	Output field name to which the extracted data is assigned.
Date	Processing date.
Content	Extracted field contents. The ¶ character delimits rows extracted from a box with multiple lines.
Form Name	Unique form name.
Output Name	Output group associated with the extracted field.
Company Name	Company to which the form is assigned.

2. To delete a record, select it and click **Delete.**
3. To delete the contents of the entire table, click **Clear.**
4. To return to the **E-Capture Server** window, click **Close.**

Viewing the Schedule of Forms Table

To view the Schedule of Forms table, proceed as follows:

1. In the **E-Capture Server** window, click **View > Schedule of Forms Info.**

   The **Select Input directory** window appears.

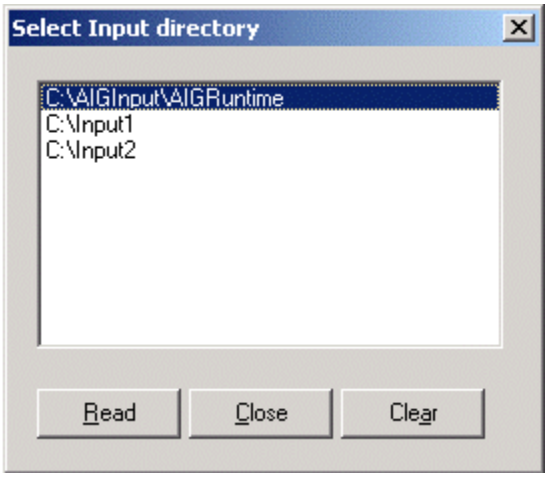


Figure 150: Selecting the input directory

   The **Select Input directory** window displays a list of the source directories that E-Capture Server scanned.

   In the **Select Input directory** window, proceed as follows:

   1. Select the input directory from the list.
   2. To delete the input directory, select a directory and click **Clear.**
   3. To return to the **E-Capture Server** window, click **Close.**
   4. To open the Schedule of Forms table, click **Read.**

   The Schedule of Forms table appears, displaying relevant data for the selected input directory.

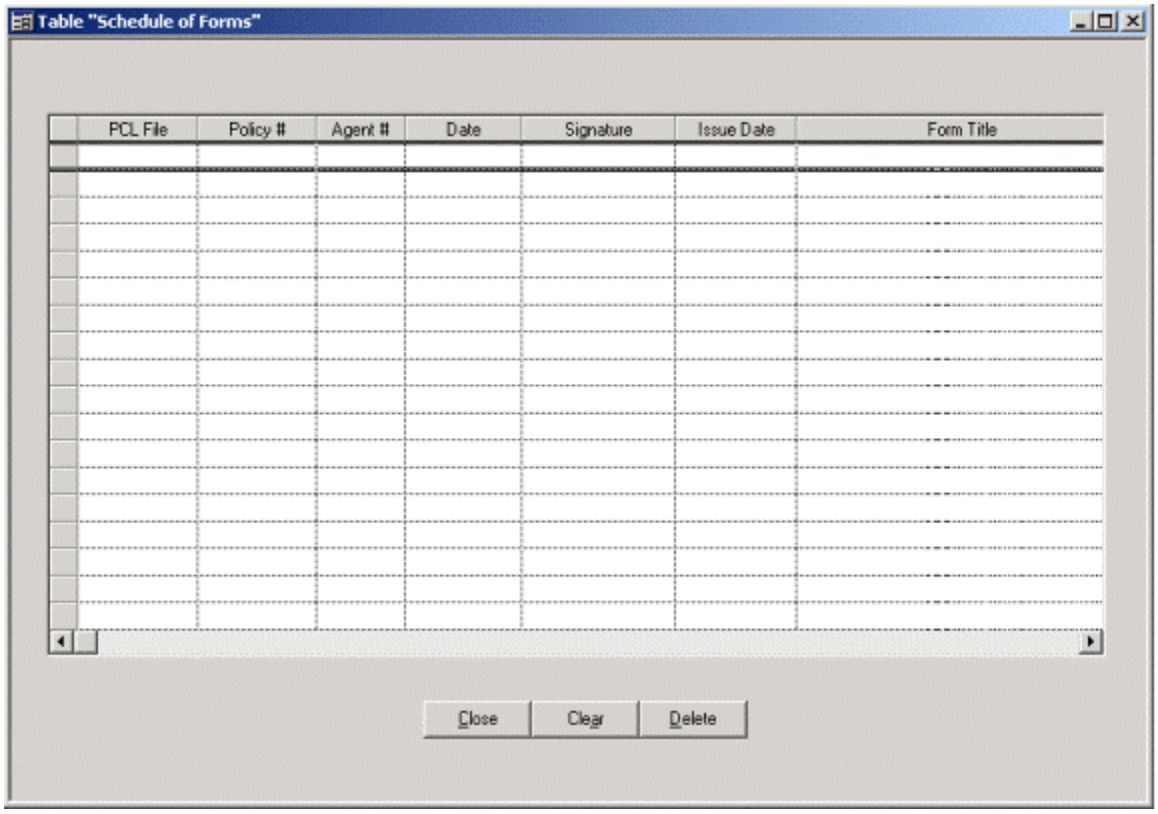


Figure 151: Opening the Schedule of Forms table

This table lists each form within a processed file that contains a Schedule of Forms. Each attribute recorded in the Schedule of Forms table is described in the following table:

Schedule of Forms table	
Attribute	**Description**
Source File	Processed file name containing a Schedule of Forms.
Policy #	Output field that records a client policy number.
Agent #	Output field that records an underwriting agent identification number.
Date	Processing date.
Signature	Form signature.
Issue Date	Date the form was released. This is usually part of the signature.
Form Title	Unique name assigned to the form.

2. To delete a record, select it and click **Delete.**
3. To delete the contents of the entire table, click **Clear.**
4. To return to the **E-Capture Server** window, click **Close.**

Viewing the Schedule of Locations Table

To view the Schedule of Locations table, proceed as follows:

1. In the **E-Capture Server** window, click **View > Schedule of Locations Info.**

The **Select Input directory** window appears.

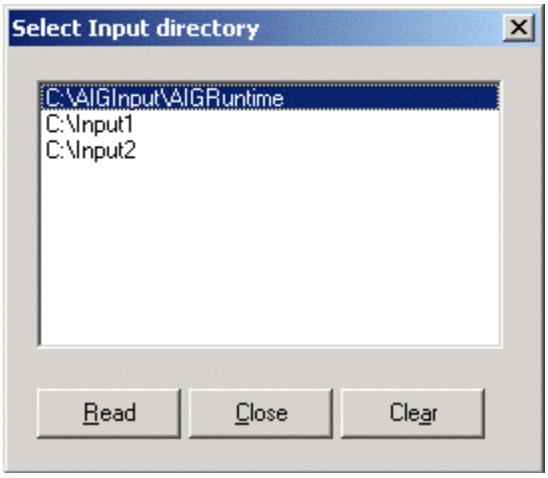


Figure 152: Selecting the input directory

The **Select Input directory** window displays a list of the source directories that E-Capture Server scanned.

In the **Select Input directory** window, proceed as follows:

1. Select the input directory from the list.
2. To delete the input directory, select a directory and click **Clear.**
3. To return to the **E-Capture Server** window, click **Close.**
4. To open the Schedule of Locations table, click **Read.**

The Schedule of Locations table appears, displaying relevant data for the selected input directory.

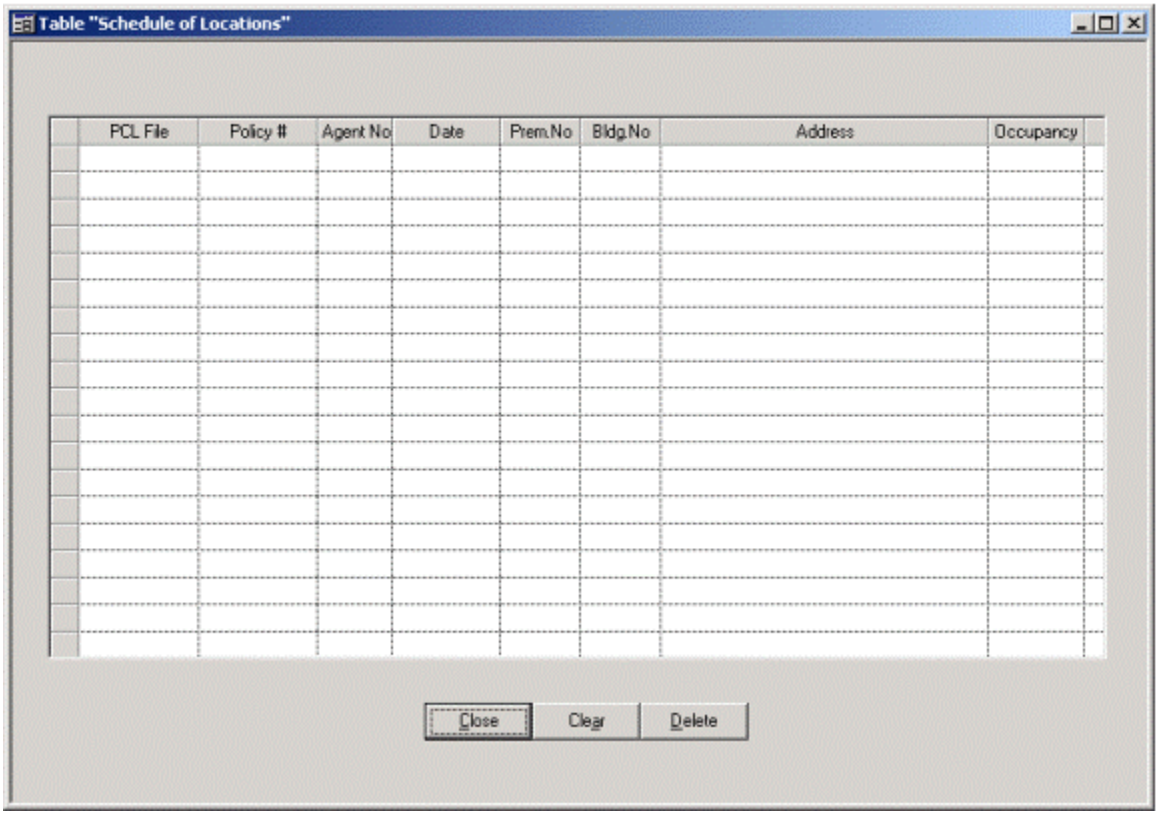


Figure 153: Opening the Schedule of Locations table

The Schedule of Locations table displays each location listed on a schedule of locations. The attributes are similar to those of the Schedule of Forms table. However, the Schedule of Locations table also includes additional mapped fields relevant to the commercial insurance industry, such as premium number, building number, address, and building occupancy.

2. To delete a record, select it and click **Delete.**
3. To delete the contents of the entire table, click **Clear.**
4. To return to the **E-Capture Server** window, click **Close.**

Viewing the Named Insured Table

To view the Named Insured table, proceed as follows:

1. In the **E-Capture Server** window, select **View > Schedule of Named Insured Info.**

   The **Select Input directory** window appears.

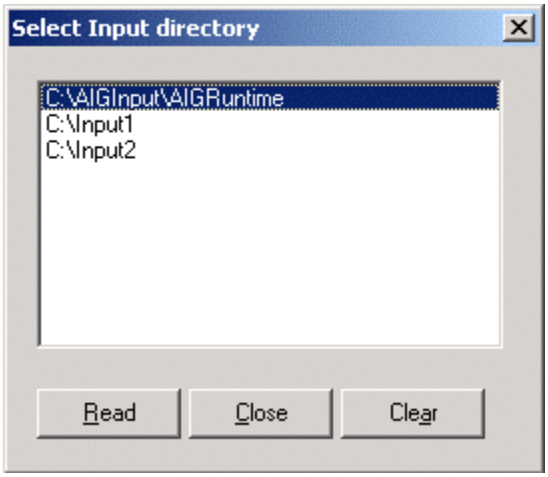


Figure 154: Selecting the input directory

The **Select Input directory** window displays a list of the source directories that E-Capture Server scanned.

In the **Select Input directory** window proceed as follows:

1. Select the input directory from the list.
2. To delete the input directory, select a directory and click **Clear.**
3. To return to the **E-Capture Server** window, click **Close.**
4. To open the Named Insured table, click **Read.**

The Named Insured table appears, displaying relevant data for the selected input directory.

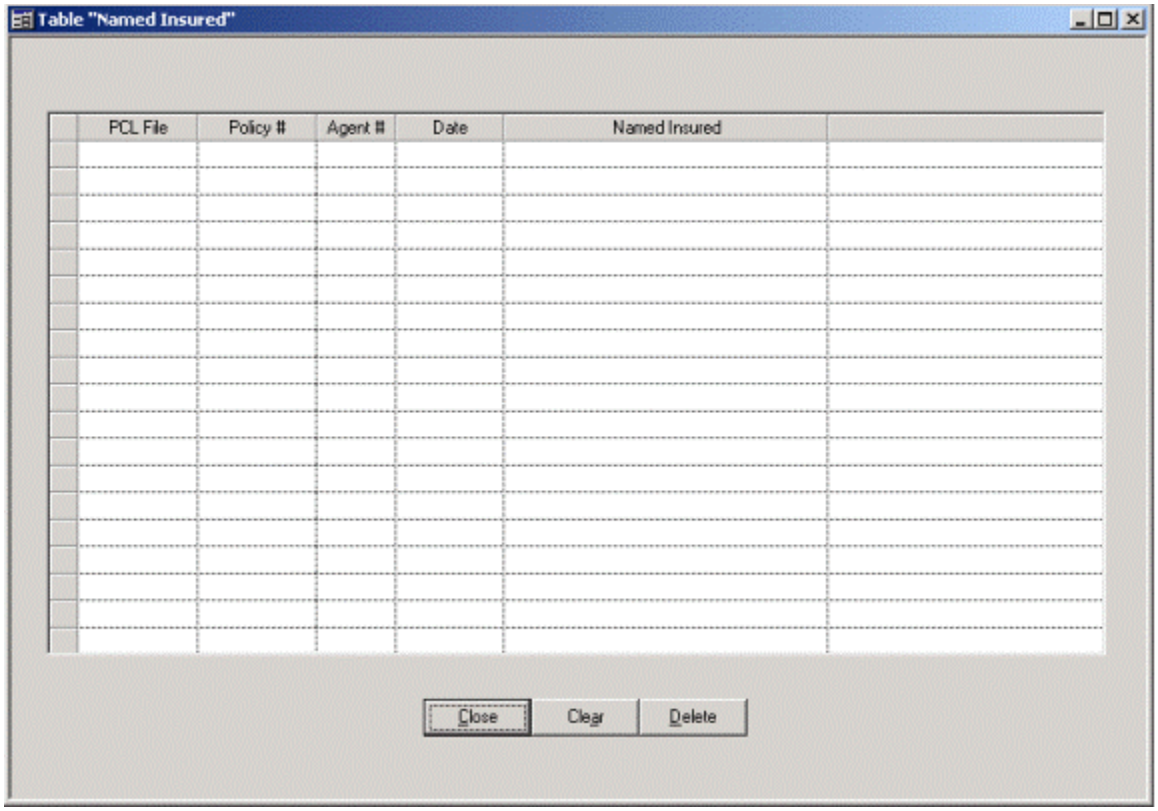


Figure 155: Opening the Named Insured table

The Named Insured table displays the name of each insured person and includes general insurance industry output fields, such as policy number and agent number.

2. To delete a record, select it and click **Delete.**
3. To delete the contents of the entire table, click **Clear.**
4. To return to the **E-Capture Server** window, click **Close.**

Chapter 19: Automatic Queue Server

This chapter describes Automatic Queue Server and explains how to configure it to process automated tasks.

The following topics are described in this section:

For information on installing Automatic Queue Server, see the *Exigen Workflow Installation Guide*, Chapter 9: Installing Automatic Queue Server.

Automatic Queue Server is an automated queue that processes work items in background mode without user interaction. Automatic Queue Server can be mapped to multiple custom scripts that implement customer-specific business logic.

Automatic Queue Server works in tandem with Exigen Workflow Application Services. Application Services provides access to the workflow data store and enables tasks with work items to be executed. Automatic Queue Server and Application Services must be installed on the same computer, and Application Services must be configured before using Automatic Queue Server as described in the *Exigen Workflow Installation Guide,* Chapter 8: Installing Application Services.

Automatic Queue Server replaces Advanced Event Server, which was used in earlier Exigen Workflow releases to process events. For information on processing events using Automatic Queue Server handlers, see Automatic Queue Server Handler for Exigen Workflow Events.

Starting the Automatic Queue Server Service

To start the Automatic Queue Server service, proceed as follows:

1. Select **Start > Settings > Control Panel.**
2. In the **Control Panel** window, double click **Administrative Tools.**

3. In the **Administrative Tools** window, double click **Services.**
4. To start the Automatic Queue Server service, in the **Services** window, right click **Exigen Workflow Automatic Queue Server** and select **Start.**

   Exigen Workflow Engine Cache Supervisor must be running to use the Automatic Queue Server service.
5. To start the Exigen Workflow Engine Cache Supervisor service, in the **Services** window, right click **Exigen Workflow Cache Supervisor** and select **Start.**

Changing Service Startup Options

The following table describes Automatic Queue Server service startup options:

Automatic Queue Server service startup options	
Option	**Description**
Manual	Automatic Queue Server is started manually, as described in Starting the Automatic Queue Server Service.
Automatic	Automatic Queue Server is started automatically when the computer is started.
Disabled	Automatic Queue Server is disabled.

It is recommended that the manual startup option is used if Automatic Queue Server is not fully configured.

The following topics are included in this section:

- Starting Automatic Queue Server Automatically
- Specifying Additional Service Startup Options

Starting Automatic Queue Server Automatically

To set Automatic Queue Server to start automatically, proceed as follows:

1. In the **Services** window, right click **Exigen Workflow Automatic Queue Server** and select **Properties.**
2. In the **Exigen Workflow Queue Server Properties** window, in the **Startup type** options list, select **Automatic.**
3. Click **Apply.**
4. Click **OK.**

Specifying Additional Service Startup Options

To specify additional Automatic Queue Server service startup options, proceed as follows:

1. Select **Start > Settings > Control Panel.**
2. In the **Control Panel** window, double click **Administrative Tools.**

3. In the **Administrative Tools** window, double click **Services.**
4. Right click **Exigen Workflow Queue Server** and select **Properties.**

   The **Exigen Workflow Queue Server Properties** window appears.
5. To temporarily set service startup options, in the **Start parameters** field, add the Automatic Queue Server command line parameter.

   For information on command line parameters, see Starting Automatic Queue Server in Interactive Mode.
6. To start the service, click **Start.**
7. Click **OK.**
8. To permanently set additional startup options for the service, in the system registry, append the appropriate Automatic Queue Server command line parameters to the value of the `ImagePath` variable located in the following directory:

   `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\vfqpsrv`

The effect of these steps is temporary and must be repeated every time the service is restarted.

Adding the command line parameters causes the service startup options to take effect when the service is restarted.

For information on command line options, see Starting Automatic Queue Server in Interactive Mode.

Starting Automatic Queue Server in Interactive Mode

In interactive mode, Automatic Queue Server runs in the command line window and displays its status messages in the window.

1. To start Automatic Queue Server in interactive mode, start it from the command line with the `/local` switch as follows:

   ```
   start VisiFLOW.QP.Service.exe /local
   ```

   In idle mode, Automatic Queue Server suspends execution activities, but it can be configured using Queue Server Console. Adding the `/idle` switch ensures that Automatic Queue Server is in idle mode on startup.
2. To start Automatic Queue Server in idle mode, start it from the command line with the `/idle` switch as follows:

   start VisiFLOW.QP.Service.exe /idle

   By default, Automatic Queue Server uses the configuration file `VisiFLOW.QP.Config.xml` in the `QueueServer` directory. An alternative path to the configuration file can be specified if

required. This is useful if two or more Automatic Queue Servers or Queue Server services must use the same configuration file.

3. To specify an alterative configuration file path, add the `-cfg` switch as follows:

   ```
   start VisiFLOW.QP.Service.exe  -cfg <filename>
   ```

   where <filename> is an absolute or relative location to the `QueueServer` directory.

The following are command line examples:

- `-cfg \\FileServer\Shared\VisiFLOW.QP.Config.xml`
- `-cfg H:\Config\VisiFLOW.QP.Config.xml`
- `-cfg ..\..\Config\VisiFLOW.QP.Config.xml`

All of the preceding command line parameters can be combined and used together as in the following example:

```
start VisiFLOW.QP.Service.exe /local /idle -cfg MyConfig.xml
```

Automatic Queue Server Process

The following information is included in this section:

Automatic Queue Server Job Types

The following table describes Automatic Queue Server job types:

Automatic Queue Server job types	
Type	**Description**
Parcel aware	Triggered by the arrival of an Exigen Workflow parcel at a location specified in the Automatic Queue Server job properties.
Parcelless	Executed during each Automatic Queue Server iteration. Iterations take place at regular intervals. During each iteration, Automatic Queue Server scans the job configuration and executes active jobs.

Automatic Queue Server Process Overview

When a parcel aware job is executed, it scans a workflow location for new parcels as defined in the job parameters. The workflow location that is checked for new parcels is specified by the following job parameters:

- workflow

- node
- mailbox

An Automatic Queue Server filter is used to add additional criteria for workflow nodes. If an Automatic Queue Server filter is specified in the configuration, Automatic Queue Server executes the filter object and retrieves the filter criteria. If an Exigen Workflow parcel arrives at a workflow node and meets the filter criteria, the parcel is ready for processing.

An Automatic Queue Server object, Submitter, retrieves parcels and locks them before submitting the Queue Server job instance to Message Queuing (MSMQ).

Parcel processing occurs as follows:

1. The Submitter object submits a call via MSMQ to another object, Dispatcher.

   Submitter works in a separate transaction, which is committed as soon as the call to Dispatcher is successfully submitted to the MSMQ queue `ewf queue server.`

2. An Automatic Queue Server MSMQ listener executes the Dispatcher object, which starts a new distributed transaction. While Dispatcher is running, the Automatic Queue Server MSMQ listener saves the call to Dispatcher in the designated temporary MSMQ queue.

   The role of Dispatcher is to call the Worker object and control the outcome.

3. The Worker object creates a new distributed transaction and calls the Automatic Queue Server handler object.

   The handler object uses the transaction created by the Worker object.

   If the handler object fails, the distributed transaction is rolled back. This includes all actions performed by the handler object and the Worker object.

4. If the call to the Worker object causes an error that falls within the error range registered for the job, the Dispatcher object calls the error handler object associated with the job.
5. If the error handler object finishes work without exceptions, the Dispatcher object commits the distributed transaction.
6. If there is no error handler associated with the job, or if the associated error handler fails, the Dispatcher object raises an error.
7. If the call to the Dispatcher object fails, the distributed transaction initiated by the Dispatcher object is rolled back, and the Automatic Queue Server MSMQ listener places the call to the Dispatcher at the end of the MSMQ queue. If the job instance fails five times, the call to the Dispatcher object is removed from MSMQ and the locked parcel is released.
8. If the call to Dispatcher succeeds without exceptions, the distributed transaction initiated by the Dispatcher object is committed and the locked parcel is released.

Automatic Queue Server Submitter Optimization Process

During the Automatic Queue Server Submitter optimization process, the Submitter object retrieves parcels and locks them before submitting an Automatic Queue Server job instance to MSMQ. The parcel retrieval process is constantly adjusted during run-time to minimize the number of SQL queries sent to the database and improve the performance of the parcel retrieval process.

Submitter maintains two virtual sets of Automatic Queue Server jobs:

- a combined set that contains jobs whose parcel retrieval can be merged into one database query

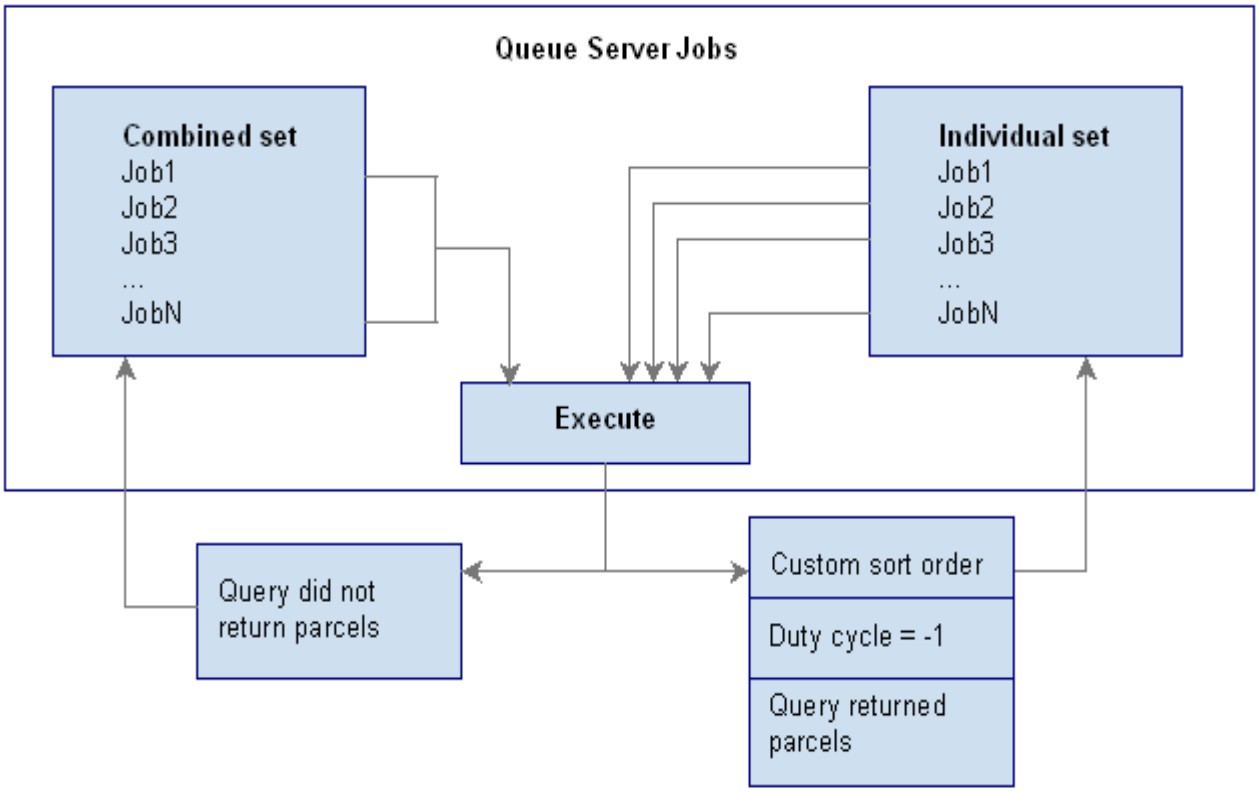


Figure 156: Automatic Queue Server process

During the first Automatic Queue Server iteration, all jobs belong to the individual set. If parcel retrieval for a job does not return any parcels, the job falls into the combined set. This rule does not apply to jobs that must always be executed in separate queries. This is especially the case when a job has a custom sort order property defined or when the job's duty cycle is set to -1. When executed from an individual set, the job preserves its batch size configuration parameter.

A database query for jobs that belong to the combined set is constructed using the following rules:

```
(job 1 query as 1) UNION

(job 2 query as 2) UNION

....

(job n query as n)
```

A combined query uses the largest batch size from all jobs in the combined set. The job that returns the largest number of parcels in the combined query is transferred to the individual set and is executed in a separate database query during the next Automatic Queue Server iteration.

COM+ and Blocked Calls

A known limitation of COM+ is that apartment-threaded objects avoid blocked calls. When an apartment-threaded object encounters a blocked call, errors can result. The following are examples of situations in which a call is blocked:

- A handler is sleeping.
- A handler is waiting for a semaphore.
- A handler is waiting for the release of a database lock.

If a call is blocked, and COM+ assigns other objects to the same apartment from the single-threaded apartment (STA) pool, some objects may stop responding. This occurs because all scripting objects are apartment-threaded, and a handler that is not responding causes other handlers to stop responding.

To release a blockage, proceed as follows:

1. In the handler trace log, locate the call that is causing the blockage.
2. To correct the error, modify the handler.

To avoid blocked calls, implement the following recommendations:

- Use free-threaded objects instead of apartment-threaded objects.
- If the use of free-threaded objects cannot be avoided, implement the following recommendations:
  - Ensure that jobs are short.
  - Avoid using calls that can result in blockage.
- If the system includes database operations that can be blocked, use lock hints.

For more information on COM+ and the STA pool, see the following:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dncomser/html/PortingWinNTApps_MTStoCOM.asp

Queue Server Console

The following topics are included in this section:

Overview

Queue Server Console is a snap-in for the Management Console (MMC) and is used to perform the following tasks:

- manage Automatic Queue Server components
- manage Automatic Queue Server jobs
- configure Automatic Queue Server instances
- start Automatic Queue Server jobs
- stop Automatic Queue Server jobs
- export or import Automatic Queue Server job configurations

- control Automatic Queue Server job instances submitted to MSMQ
- manage remote Automatic Queue Server instances

An **Automatic Queue Server component** is a COM component that is registered in COM+ in the Exigen Workflow Event Handlers COM+ library application. An Automatic Queue Server component is usually implemented as a Windows script component script file with the file extension `.wsc`. Sample scripts are installed with Automatic Queue Server in the Automatic Queue Server working directory in the `Sample Scripts` subfolder.

An **Automatic Queue Server job** is a combination of parameters describing a subset of work items processed by an Automatic Queue Server component. A **job** describes the iteration cycle and priority.

Starting Queue Server Console

To start Queue Server Console, perform one of the following steps:

- In the `QueueServer` directory, run the `QSConsole.msc` file.
- Select **Start > Programs > Exigen Solution > Exigen Workflow > Queue Server Console.**

The **QSConsole** window appears.

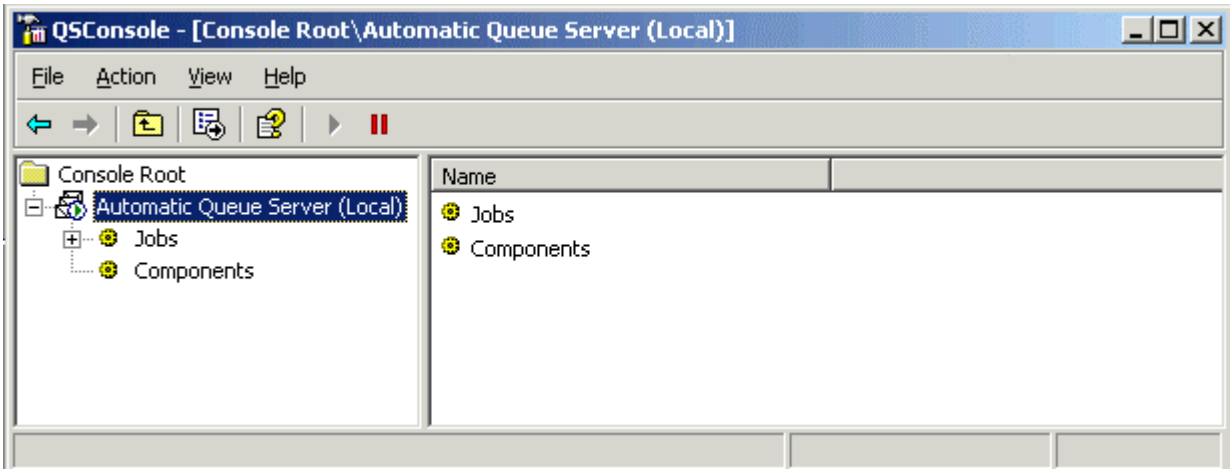


Figure 157: Exigen Workflow Queue Server Console

The left pane displays the Automatic Queue Server instances to which the console is connected. By default, the Automatic Queue Server instance on the local computer is displayed.

The right pane displays the following information:

- When the **Jobs** node is selected, the right pane displays a list of all registered Automatic Queue Server jobs.
- When a job category is selected, the right pane displays only jobs that belong to the selected category.

- When the **Components** node is selected, the right pane displays a list of Automatic Queue Server components.

For information on **QSConsole** window buttons, see QSConsole Window Buttons.

Registering an Automatic Queue Server Component

Before creating a job in Queue Server Console, at least one Automatic Queue Server component must be registered.

One or more jobs can be associated with a single Automatic Queue Server component.

The Automatic Queue Server component registration process includes the following steps:

- registering the Automatic Queue Server COM component on a local computer
- registering the Automatic Queue Server COM component as part of the Exigen Workflow Event Handlers COM+ library application

To register an Automatic Queue Server component, proceed as follows:

1. In the left pane of the **QSConsole** window, click **Components.**
2. To initiate component registration, perform one of the following steps:
   - Select **Action > New > Register Component.**
   - Right click **Components** and select **New > Register Component.**

   The **Open** dialog appears.
3. In the dialog, select the `.dll` or `.wsc` file of the COM component to register.
4. Click **Open.**
5. Close the **Open** window.

   The registered component is listed in the right pane of the **QSConsole** window.

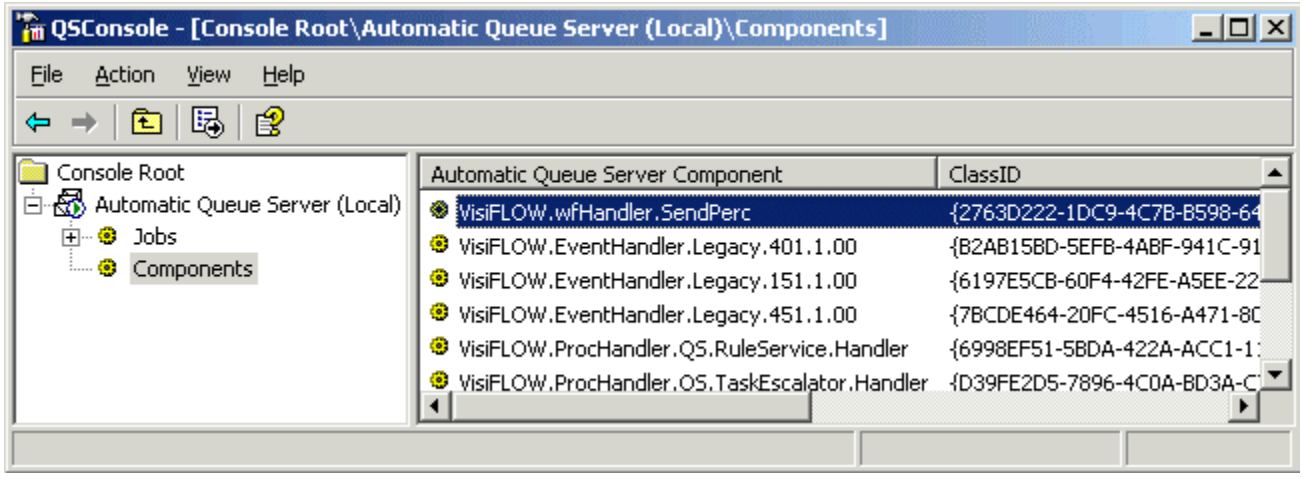


Figure 158: Registered Automatic Queue Server components

The following table describes the columns in the right pane of the **QSConsole** window when the **Components** node is selected:

QSConsole window, component columns	
Column	**Description**
Automatic Queue Server Component	COM component programmatic identifier (progid).
ClassID	COM component class ID (classid).
Path	Full path to the COM component `.wsc` or `.dll` file.

Unregistering an Automatic Queue Server Component

To unregister an Automatic Queue Server component, proceed as follows:

3. In the right pane of the **QSConsole** window, select the associated component.
4. To unregister the component, perform one of the following steps:
   - Right click the component and select **Unregister.**
   - Select **Action > Unregister.**

   The COM component is unregistered from the local computer and from the Exigen Workflow Event Handlers COM+ library application.

Creating an Automatic Queue Server Job

After a component is registered, a job associated with the component can be created in Queue Server Console.

To create an Automatic Queue Server job, proceed as follows:

1. In the left pane of the **QSConsole** window, select **Jobs.**

   The right pane displays a list of jobs associated with the current Automatic Queue Server instance.

   If a job category is selected, only jobs in that category are displayed in the right pane.

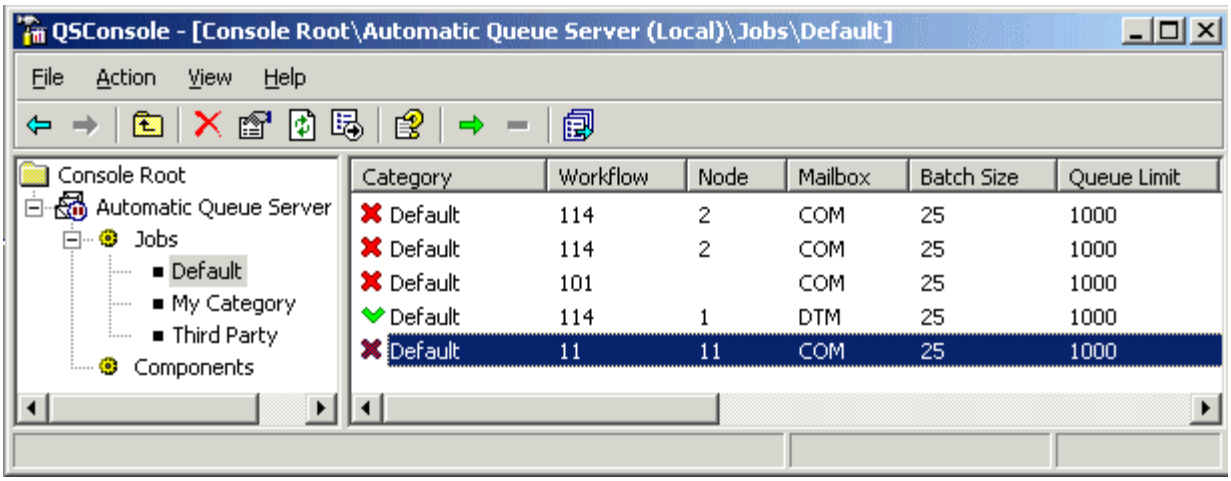


Figure 159: Viewing registered jobs

2. To initiate job creation, perform one of the following steps:
   - Select **Action > New > Job.**
   - Right click **Jobs** and select **New > Job.**

   The **New Queue Server Job** dialog appears.

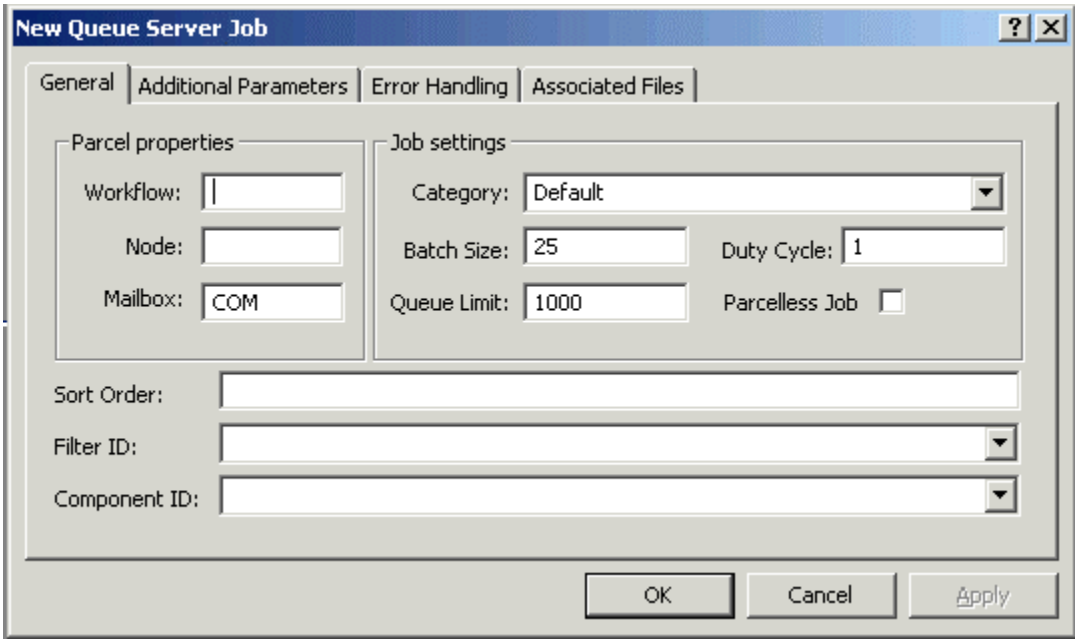


Figure 160: Creating a job

In the **New Queue Server Job** dialog, job properties are grouped in the following tabs:

New Queue Server Job dialog tabs	
Tab	**Description**
General	General job properties.
Additional	Custom job parameters.

New Queue Server Job dialog tabs	
Parameters	
Error Handling	Job error handler properties.
Associated Files	Files associated with the job.

3. In the **General** tab, enter appropriate values as described in the following table:

New Queue Server Job window, General tab parameters	
Parameter	**Description**
Workflow	Target workflow identifier. For parcelless jobs, this property is passed to the handler as part of a cognomen parameter. If a parcelless job does not require a workflow identifier, this property must be set to an arbitrary, non-zero value. This property is mandatory.
Node	Target workflow node identifier. This is a number identifying a node, such as Exigen Workflow Retrieve. This property is optional. If this property is omitted, Automatic Queue Server submits parcels for processing without considering the parcel node.
Mailbox	Exigen Workflow user ID. This property is optional. If omitted, Automatic Queue Server submits parcels for processing without considering the user ID.
Category	Job category. Categories are used to group jobs in Queue Server Console. Categories are displayed in the left pane as subitems of the **Jobs** node. The drop-down list displays categories that are registered for jobs in Automatic Queue Server. If a category is not available from the drop-down list, it can be entered manually. If the category is not specified, Queue Server Console automatically assigns the default category.
Queue Limit	Maximum number of job instances in MSMQ for the job. When the number of job instances in MSMQ reaches this limit, Automatic Queue Server stops submitting new job instances for the job until MSMQ processes a maximum of one-third of the queue limit value.
Batch Size	Number of parcels processed during a single Automatic Queue Server iteration. Setting the batch size value greater than the queue limit value is not recommended because Automatic Queue Server submits parcels for processing only until the count of job instances in MSMQ is smaller than the queue limit value. The batch size value is optional for parcelless jobs and mandatory for parcel aware jobs.
Duty Cycle	Frequency of job execution in Automatic Queue Server iterations. For example, if the duty cycle is set to 1, the job is executed once during each Automatic Queue Server iteration. If the duty cycle is set to 2, the job is executed once during every second iteration. If the duty cycle is set to -1, Automatic Queue Server does not use an optimized parcel retrieval mechanism for the job.
Parcelless Job	Identifies a job as parcelless. When this option is enabled, the node, mailbox, batch size, filter ID, and

New Queue Server Job window, General tab parameters	
	sort order job properties are ignored.
Filter ID	Filter component progid. The filter component can implement additional criteria and reduce the subset of parcels returned to Automatic Queue Server for processing. The drop-down list displays the components that are registered on the local computer and available for use. When Queue Server Console is used to configure a remote Automatic Queue Server instance, the drop-down list is empty and the filter ID can be entered manually.
Sort Order	String that defines the order of retrieved work items. A string of work item fields delimited by commas and spaces is entered. Each field can be preceded by a sorting option, where + is ascending alphabetical order and - is descending alphabetical order. Ascending order is the default and can be omitted. The following are examples of **Sort Order** strings: • `+A_MYFIELD, -A_YOURFIELD` • `A_FIELD, A_FIELD_2, A_FIELD_3` This property is ignored for parcelless jobs.
Component ID	Automatic Queue Server component progid. The drop-down list displays the components that are registered on the local computer and available for use. When Queue Server Console is used to configure a remote Automatic Queue Server instance, the drop-down list is empty and the component ID must be entered manually.

4. In the **Additional Parameters** tab, enter appropriate values as described in the following table:

New Queue Server Job window, Additional Parameters tab parameters	
Parameter	**Description**
Job Description	Information that describes the business context or the meaning of the job.
Parameter Strings	Set of KEY=VALUE parameters that are passed to the handler object as a parameter collection object.

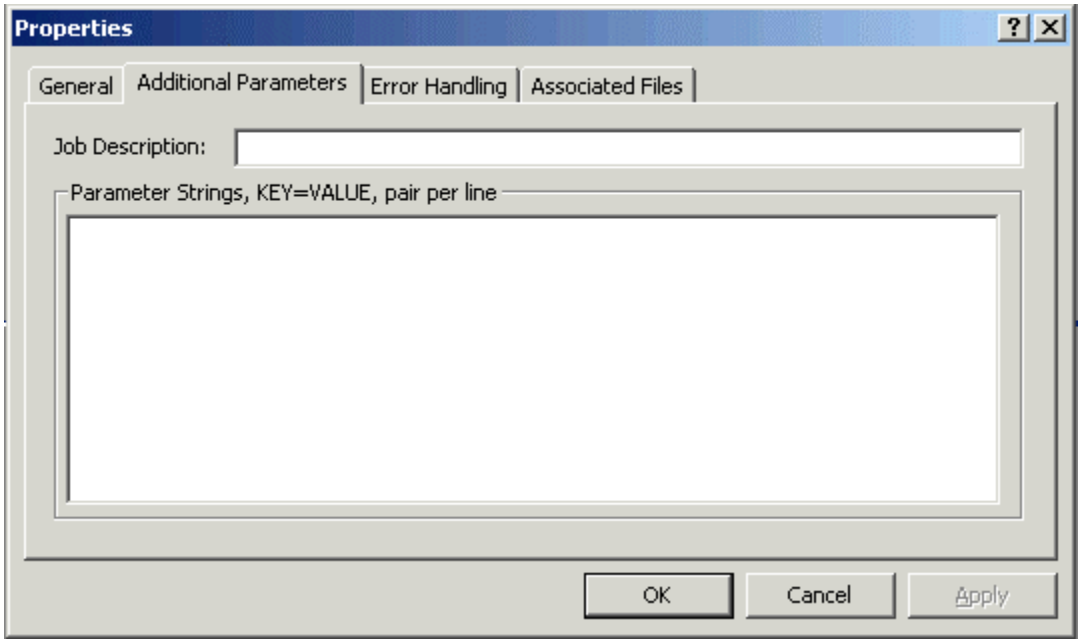


Figure 161: Additional Parameters tab

5. In the **Error Handling** tab, enter appropriate values as described in the following table:

New Queue Server Job window, Error Handling tab parameters	
Parameter	**Description**
Error Handler ID	Automatic Queue Server error handler component progid.
Error list	Error codes that are handled by the assigned error handler object. The list can contain single error codes or ranges of error codes separated by commas. A range of error codes must consist of two error numbers separated by two consecutive periods. The following is an example of an error range string: `-1000,-900..-800,100..150,181,183`

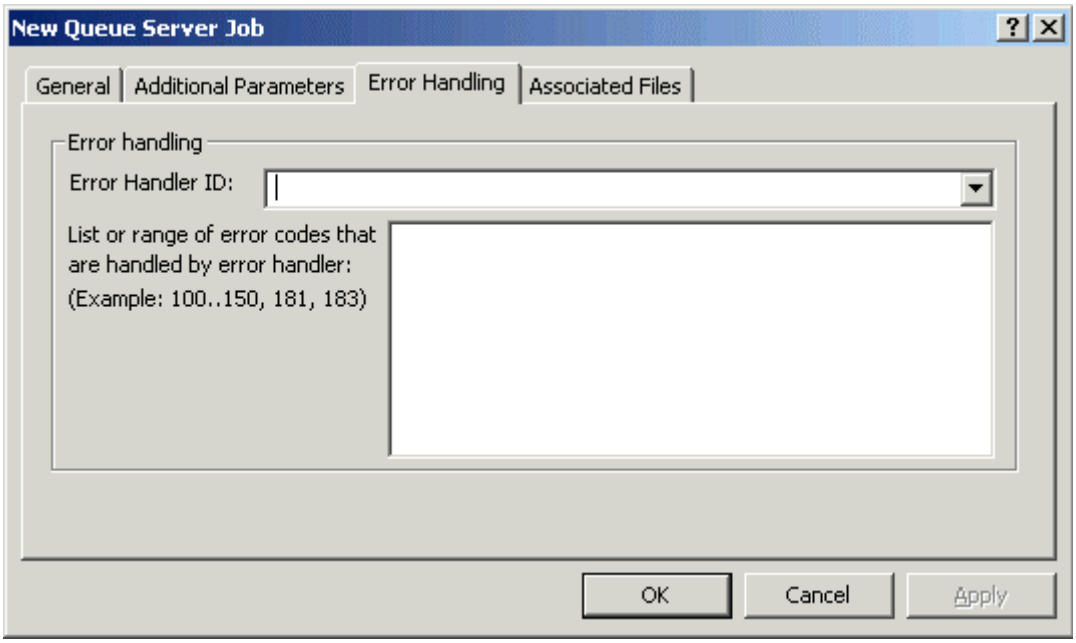


Figure 162: Error Handling tab

6. In the **Associated Files** tab, enter appropriate values as described in the following table:

New Queue Server Job window, Associated Files tab parameters	
Parameter	**Description**
Associated Files	List of files associated with the job. Queue Server Console calculates the checksum for these files and saves it in the job configuration. If an associated file is later modified or missing, Queue Server Console displays an **Invalid** status in the **Associated Files** column of the **Jobs** list. Associated files are exported with the job component file during the Export Configuration Package procedure.

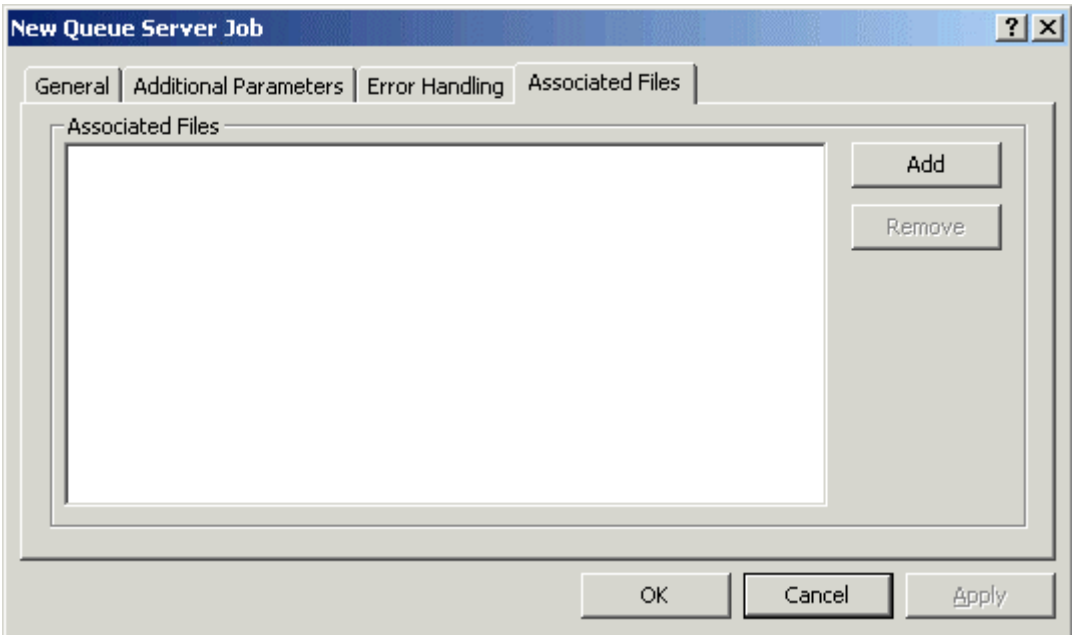


Figure 163: Associated Files tab

7. To apply the settings, click **Apply.**
8. To apply the settings and close the window, click **OK.**
9. To close the window without saving the settings, click **Cancel.**

   The job appears in the **QSConsole** window.

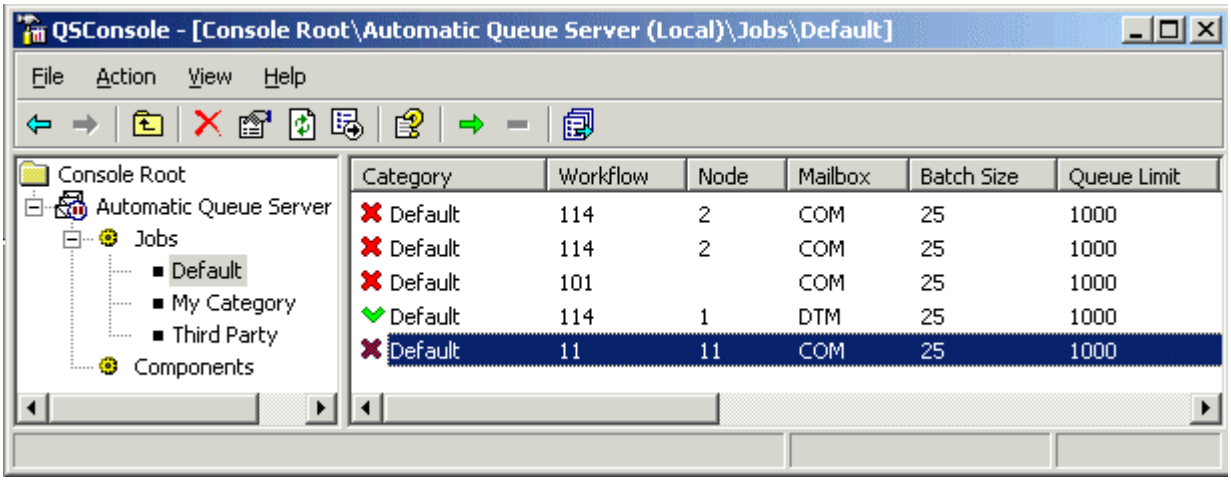


Figure 164: Automatic Queue Server job list

The following table describes the columns in the right pane of the **QSConsole** window when the **Jobs** node is selected:

QSConsole window, job columns	
Name	**Description**
Symbols	indicates that a job is passive. indicates that a job is active.
Category	Job category name.
Workflow	Workflow identifier.
Node	Workflow node identifier.
Mailbox	Exigen Workflow user ID.
Batch Size	Number of parcels submitted for processing in a single Automatic Queue Server iteration.
Queue Limit	Maximum number of job instances in MSMQ for the job.
Component ID	progid of the Automatic Queue Server component.
Filter ID	progid of the Automatic Queue Server filter component.
Associated Files	Checksum status of the files associated with the job. The following values are available: **Ok** — Checksum matches the information saved in the configuration file. **Invalid** — Checksum does not match the information saved in the configuration file.
Error ID	Automatic Queue Server error handler component progid.
Status	Automatic Queue Server job status. The following values are available: • **Active** • **Passive**
Message	Message returned by Automatic Queue Server for a job registration error.

Modifying an Automatic Queue Server Job

To modify an Automatic Queue Server job, proceed as follows:

1. To open the **Properties** window, perform one of the following steps:
   - Select the job in the right pane of the **QSConsole** window and select **Action > Properties.**
   - Right click the job and select **Properties.**
   - Double click the job.
2. In the **Properties** window, modify the parameters.
3. To apply the new settings, click **OK.**

Deleting an Automatic Queue Server Job

To delete an Automatic Queue Server job, perform one of the following steps:

- In the right pane of the **QSConsole** window, right click the job and select **Delete.**
- In the right pane of the **QSConsole** window, select the job and select **Action > Delete.**
- In the right pane of the **QSConsole** window, select the job and press **Delete.**

Starting an Automatic Queue Server Job

To start an Automatic Queue Server job, proceed as follows:

1. In the left pane of the **QSConsole** window, select **Jobs.**
2. In the right pane, select one or more jobs.
3. To start the jobs, perform one of the following steps:
   - Click **Start Job**  .
   - Right click the job and select **Start Job.**
   - Select **Action > All Tasks > Start Job.**

Stopping an Automatic Queue Server Job

To stop an Automatic Queue Server job, proceed as follows:

1. In the left pane of the **QSConsole** window, select **Jobs.**
2. In the right pane, select one or more jobs.
3. To stop the jobs, perform one of the following steps:
   - Click **Stop Job**  .
   - Right click the job and select **Stop Job.**
   - Select **Action > All Tasks > Stop Job.**

Clearing All Job Instances from MSMQ

To clear all job instances from MSMQ, proceed as follows:

1. In the left pane of the **QSConsole** window, select the instance.
2. Perform one of the following steps:
   - Select **Action > Clear Queue.**
   - Right click an instance and select **Clear Queue.**

Automatic Queue Server clears instances of all jobs from MSMQ and releases parcels locked by these instances.

Viewing Automatic Queue Server Job Statistics

To view statistics for a selected Automatic Queue Server job, proceed as follows:

1. In the left pane of the **QSConsole** window, select **Jobs.**
2. In the right pane, select a job.

3. Perform one of the following steps:
   - Right click the job and select **Job Statistics.**
   - Select **Action > Job Statistics.**

   The **Job Statistics** window appears.

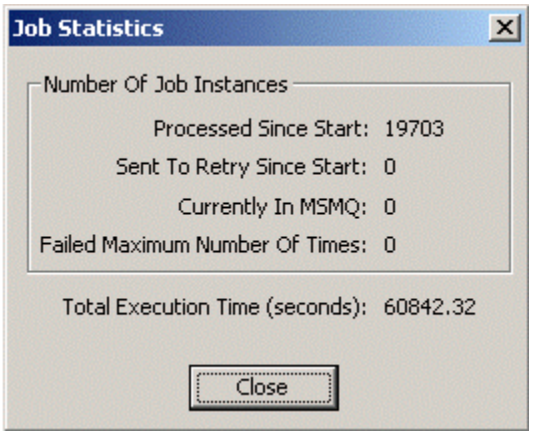


Figure 165: Viewing job statistics

The following table describes the information displayed in the **Job Statistics** window:

Job Statistics window items	
Item	**Description**
Processed Since Start	Number of job instances processed since the last time Automatic Queue Server was started.
Sent To Retry Since Start	Number of job instances sent back to MSMQ as a result of a job handler failure since the last time Automatic Queue Server was started.
Currently In MSMQ	Number of job instances waiting in MSMQ.
Failed Maximum Number Of Times	Number of job instances that failed the maximum number of times since the last time Automatic Queue Server was started. The maximum number of failures is currently five.
Total Execution Time	Total time in seconds spent processing job instances since the last time Automatic Queue Server was started.

4. To close the **Job Statistics** window, click **Close.**

Exporting an Automatic Queue Server Job Configuration Package

To export an Automatic Queue Server job configuration package, proceed as follows:

1. In the left pane of the **QSConsole** window, select **Jobs.**
2. In the right pane, select one or more jobs.
3. Perform one of the following steps:

- Click **Export Configuration Package**  .
- Right click the jobs and select **Export Configuration Package.**
- Select **Action > Export Configuration Package.**

4. In the **Save As** dialog, select the target directory.
5. In the **File name** window, enter the file name for the configuration package CAB file.
6. To complete the export, click **Save.**

The configuration package is a CAB file containing the following files:

- `exported_config.xml` file contains the configuration of the selected jobs.
- Automatic Queue Server component files contains selected jobs in `.dll` or `.wsc` file format.
- Files are included that are associated with the selected jobs.
- A generated `deploy.bat` batch file is included that copies exported files to appropriate directories and registers exported Automatic Queue Server components.
- `filelist.txt` file contains a list of files in the CAB package.
- Generated VBScript files are included that are used by the `deploy.bat` batch file to deploy Automatic Queue Server components.

Importing an Automatic Queue Server Job Configuration Package

To import an Automatic Queue Server job configuration package, proceed as follows:

1. Extract the contents of the configuration package CAB file to a temporary directory.
2. Run the `deploy.bat` batch file.
3. In Queue Server Console, import the extracted `exported_config.xml` file as described in Importing Automatic Queue Server Jobs.

Configuring an Automatic Queue Server Instance

To configure an Automatic Queue Server instance, proceed as follows:

1. In the left pane of the **QSConsole** window, select the instance.
2. To open the **Automatic Queue Server Configuration** window, perform one of the following steps:
   - Select **Action > Configuration.**
   - Right click the instance and select **Configuration.**

   The **Automatic Queue Server Configuration** window appears.

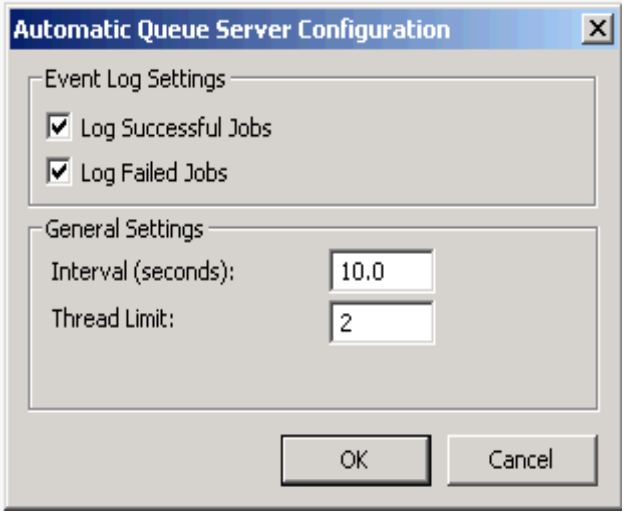


Figure 166: Configuring an Automatic Queue Server instance

3. To configure the instance, enter appropriate values as described in the following table:

Automatic Queue Server Configuration window fields	
Field	**Description**
Log Successful Jobs	Automatic Queue Server logs successfully executed jobs to the Windows event log.
Log Failed Jobs	Automatic Queue Server logs failed jobs to the Windows event log.
Interval (seconds)	Number of seconds between Automatic Queue Server iterations. The default value is 10. If the default value is used, Automatic Queue Server scans the job configuration and executes active jobs every 10 seconds.
Thread Limit	Maximum number of concurrent Automatic Queue Server worker threads.

4. To save the settings, click **OK.**

Importing Automatic Queue Server Jobs

To import Automatic Queue Server jobs, proceed as follows:

1. In the left pane of the **QSConsole** window, select an instance.
2. To import Queue Server jobs, perform one of the following steps:
   - Select **Action > Import.**
   - Right click the instance and select **Import.**
3. In the **Open** dialog, select an XML file to import.
4. Click **Open.**

   The **Import** window appears.

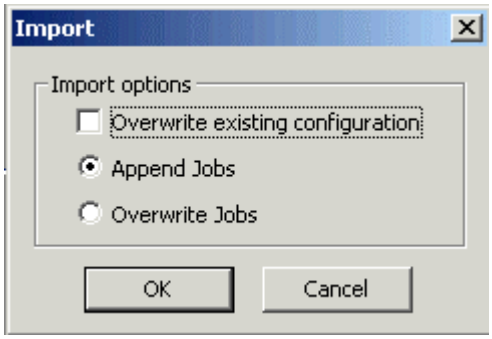


Figure 167: Importing Automatic Queue Server jobs

5. To overwrite the existing Automatic Queue Server configuration, select **Overwrite existing configuration.**
6. To append the imported jobs to existing jobs, select **Append Jobs.**
7. To overwrite existing jobs, select **Overwrite Jobs.**
8. To save the changes and close the window, click **OK.**

Pausing an Automatic Queue Server Instance

To pause an Automatic Queue Server instance, proceed as follows:

1. In the left pane of the **QSConsole** window, select the instance.
2. To pause, perform one of the following steps:
   - Click **Pause** .
   - Select **Action > Pause.**
   - Right click the instance and select **Pause.**

The Automatic Queue Server instance switches to idle mode. In idle mode, Automatic Queue Server suspends execution activities, but it can be configured using Queue Server Console. Automatic Queue Server can be paused only when it is in active mode.

Resuming an Automatic Queue Server Instance

To resume an Automatic Queue Server instance, proceed as follows:

1. In the left pane of the **QSConsole** window, select the instance.
2. To resume the Automatic Queue Server instance, perform one of the following steps:
   - Click **Resume** .
   - Select **Action > Resume.**
   - Right click the instance and select **Resume.**

The Automatic Queue Server instance switches to active mode. In active mode, Automatic Queue Server continues job processing.

An Automatic Queue Server instance can be resumed only when Automatic Queue Server is in idle mode.

Registering and Viewing Several Automatic Queue Servers in a Console

This section describes how to register and view several Automatic Queue Servers in a single Queue Server console using the following procedures:

- Registering Snap-Ins
- Connecting a Snap-In to a Computer
- Saving the Configuration

Registering Snap-Ins

To register snap-ins, proceed as follows:

1. In the Windows **Start** menu, select **Start > Run.**
2. In the **Open** field, enter `mmc` **.**
3. Click **OK.**

   The **Console** window appears.

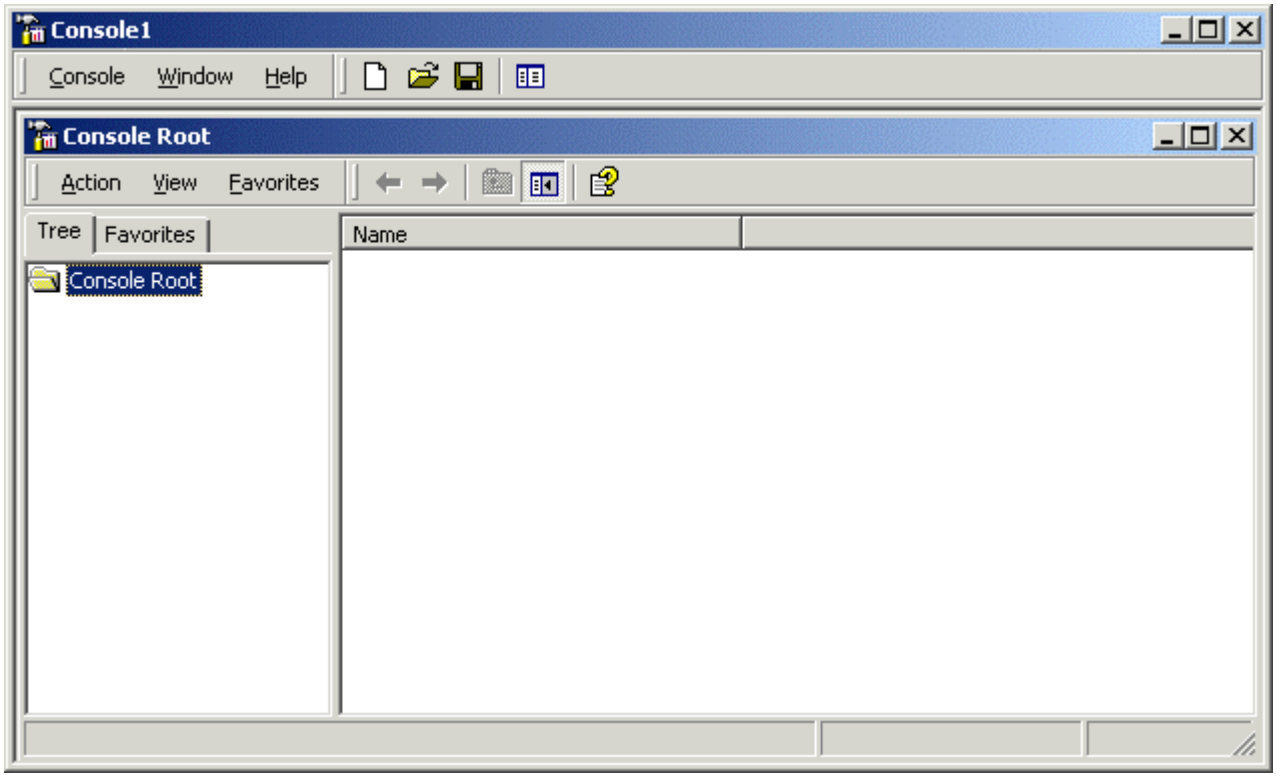


Figure 168: Creating a Management Console file

The **Console** window is used to create an MMC file. In the file, a snap-in must be added for each Automatic Queue Server to be managed. Snap-ins provide management functionality via the MMC interface.

4. To add one or more snap-ins, select **Console > Add/Remove Snap-in.**

   The **Add/Remove Snap-in** window appears.

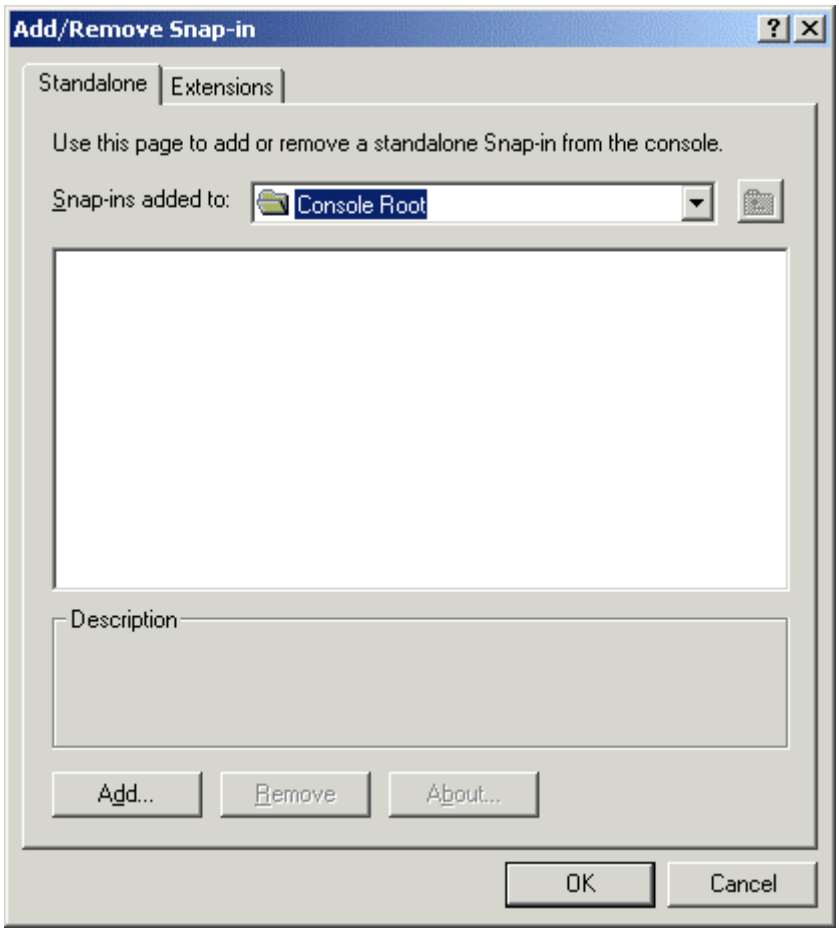


Figure 169: Adding a snap-in

5. Click **Add.**

   The **Add Standalone Snap-in** window appears.

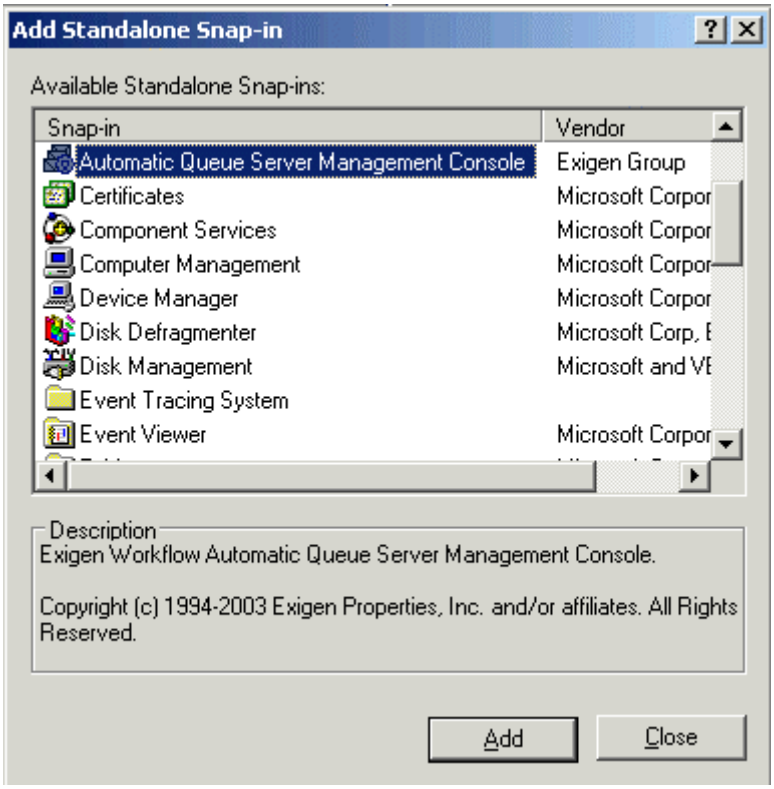


Figure 170: Selecting an Automatic Queue Server snap-in

6. In the **Available Standalone Snap-in** box, use the scroll bar to view available snap-ins and select the **Automatic Queue Server Management Console** snap-in.
7. Click **Add.**
8. To register more than one Automatic Queue Server, repeat steps 6 and 7 for each Automatic Queue Server to be added.
9. In the **Add Standalone Snap-in** window, click **Close.**
10. In the **Add/Remove Snap-In** window, click **OK.**

    The registered snap-ins appear in the **Console Root** window.

Connecting a Snap-In to a Computer

To connect a snap-in to a computer, proceed as follows:

1. Select the snap-in and right click.
2. In the pop-up menu, select **Connect to another computer.**

   The **Select Computer** window appears.
3. To select a computer, enter the computer name or click **Browse,** select the computer, and click **OK.**
4. To close the **Select Computer** window, click **OK.**

By default, Queue Server Console is in Author mode, which allows adding and removing snap-ins. If User mode is selected, the number of snap-ins is locked and cannot be changed.

Saving the Configuration

To save the configuration, proceed as follows:

1. To select User mode and permanently lock in the number of snap-ins, select **Console > Options.**
2. In the **Options** window, in the **Console mode** field, select **User mode - limited access, single window.**
3. Click **OK.**
4. To save the console configuration, select **Console > Save.**

   The **Save As** window appears and displays an `.msc` file for saving the console configuration.
5. To save the `.msc` file, click **Save.**
6. To exit the **Console** window, select **Console > Exit.**

   The console configuration is saved.
7. To view the configuration, in Windows Explorer, double click the saved `.msc` file.

Managing a Remote Automatic Queue Server Instance

Queue Server Console is used to manage Automatic Queue Server instances on remote computers.

An Automatic Queue Server instance can be managed remotely only if the interactive user of the local computer has administrative access rights for the remote computer and DCOM support is enabled on both computers.

To manage a remote Automatic Queue Server instance, proceed as follows:

1. In the left pane of the **QSConsole** window, select the current Automatic Queue Server instance.
2. Select **Action > Connect.**

   The **Connect to Remote Computer** window appears.
3. To initiate connection to a remote computer, select **Remote computer.**
4. In the **Remote computer** field, enter the name of the remote computer.
5. To save changes and connect to the remote computer, click **Finish.**

   The remote connection appears in the left pane of the **QSConsole** window.

Note: The **Components** node is not available for remote computers.

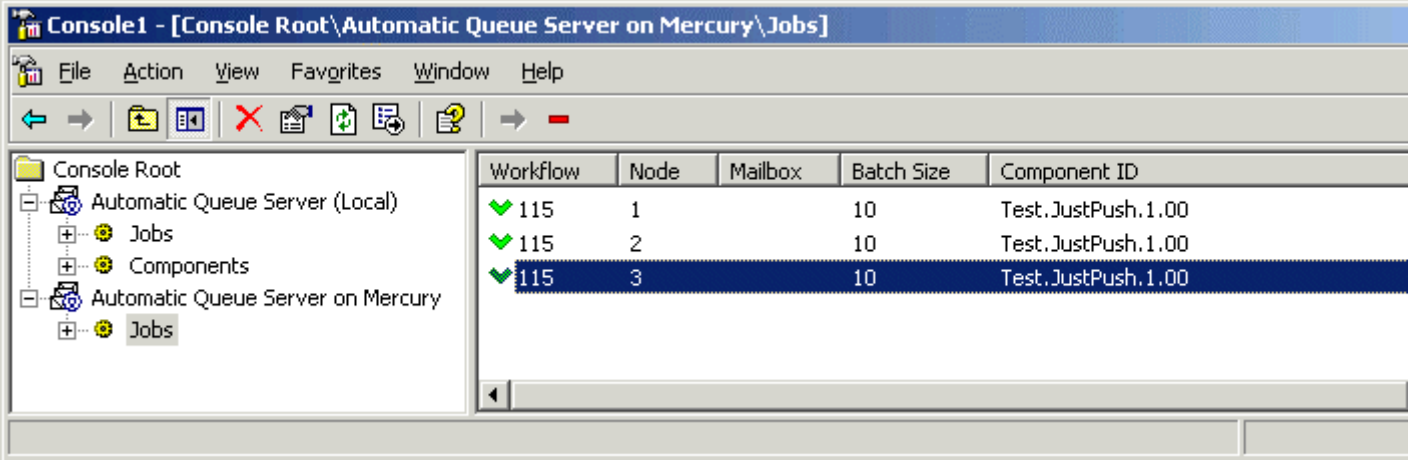


Figure 171: Connecting to a remote computer

6. To create an Automatic Queue Server job, follow the instructions as described in Creating an Automatic Queue Server Job.
7. To modify an Automatic Queue Server job, follow the instructions as described in Modifying an Automatic Queue Server Job.
8. To delete an Automatic Queue Server job, follow the instructions as described in Deleting an Automatic Queue Server Job.
9. To configure an Automatic Queue Server instance, follow the instructions as described in Configuring an Automatic Queue Server Instance.
10. To start an Automatic Queue Server job, follow the instructions as described in Starting an Automatic Queue Server Job.
11. To stop an Automatic Queue Server job, follow the instructions as described in Stopping an Automatic Queue Server Job.

QSConsole Window Buttons

The following table describes the **QSConsole** window buttons:

QSConsole window buttons		
Button	**Name**	**Description**
	Back	Selects the previous item.
	Forward	Selects the next item.
	Up One Level	Select the next higher level in the pane.
	Resume Server	Resumes the Automatic Queue Server instance.
	Pause Server	Pauses the Automatic Queue Server instance.
	Delete	Deletes an Automatic Queue Server job.
	Properties	Displays Automatic Queue Server job properties.

QSConsole window buttons		
	**Refresh**	Updates the **QSConsole** window by retrieving the latest data from the Automatic Queue Server service.
	**Export List**	Exports Queue Server Console columns to a text file.
	**Help**	Displays Queue Server Console online help.
	**Start Job**	Starts an Automatic Queue Server job.
	Stop Job	Stops an Automatic Queue Server job.
	**Export Configuration Package**	Exports the selected configuration package.

Note: Depending on the action performed, some buttons may be hidden or disabled.

Automatic Queue Server Scripts

An Automatic Queue Server handler component is created by using VBScript to create a `.wsc` file.

The following topics are included in this section:

- Automatic Queue Server Script Template
- Automatic Queue Server Error Handler Script Template
- Automatic Queue Server Filter Script Template

Automatic Queue Server Script Template

The following topics are included in this section:

- Sample Automatic Queue Server Script Template
- Modifying the Automatic Queue Server Script Template

Sample Automatic Queue Server Script Template

The following is an Automatic Queue Server error handler script template:

```
<?xml version="1.0"?>

<component>

<registration

      description="replace with description of the component"

      progid="replace with progid of the component"
```

```
      version="1.0"
      classid="replace with classid of the component"
>
</registration>
<public>
        <method name="Process" dispid="1">
                <PARAMETER name="nameItem"/>
                <PARAMETER name="param"/>
        </method>
</public>
<script language="VBScript">
<![CDATA[
Option Explicit
sub Process (nameItem, param)
      add code here
End Sub
]]>
</script>
</component>
```

The Automatic Queue Server handler exports a single method, `Process`. The following table describes the `Process` parameters:

Process parameters	
Name	**Description**
`nameItem`	Cognomen of work items that Automatic Queue Server passes to a handler component. The cognomen is defined by configuration information for the job with additional criteria set by the filter script, if present.
`param`	Collection of additional KEY=VALUE parameters as defined by the Automatic Queue Server configuration information for the appropriate job.

Modifying the Automatic Queue Server Script Template

To modify the Automatic Queue Server script template, proceed as follows:

1. In the registration part of the script, replace the following properties:

Script properties	
Name	**Description**
`Description`	Component description.
`progid`	Component progid, for example, “`Workflow.Handler.Form`”.
`classid`	Newly generated globally unique identifier (GUID).

2. To generate a GUID, run the following file:

   `guidgen.exe`

   This utility is included in Visual Studio® Tools and is delivered with Microsoft Platform SDK.

3. To implement the functionality, add code to the `Process` procedure.

Automatic Queue Server Error Handler Script Template

The Automatic Queue Server error handler script handles logical errors thrown by the Automatic Queue Server handler script. The Automatic Queue Server error handler is called only if an error code falls into the range of error codes registered for the job. The only difference from the regular handler object is that the clump parameter receives the following additional key and value pairs:

Error handler clump parameter additional keys	
Key	**Value**
`__ERROR_CODE`	Error number.
`__ERROR_MESSAGE`	Error message.
`__ERROR_SOURCE`	Error source.

The following is a template of the Automatic Queue Server error handler script:

```
<?xml version="1.0"?>

<component>

<registration

      description="<description of the component>"

      progid="<component progid, for example Workflow.ErrorHandler.Test>"

      version="1.0"

      classid="<component classid>"

>

</registration>

<public>

        <method name="Process" dispid="1">
```

```
                <PARAMETER name="nameItem"/>

                <PARAMETER name="param"/>

        </method>

</public>

<script language="VBScript">

<![CDATA[

Option Explicit

sub Process (nameItem, param)

‘param(“__ERROR_CODE”)  - error code

‘param(“__ERROR_MESSAGE”) – error message

‘param(“__ERROR_SOURCE”) – error source

‘<your code to Process procedure that implements the necessary functionality>

End Sub

]]>

</script>

</component>
```

The Automatic Queue Server error handler exports one method named `Process`, which requires the following parameters:

Process method parameters	
Parameter	**Description**
`nameItem`	Cognomen of work items that Automatic Queue Server passes to the error handler component. The cognomen is defined by the configuration information for the job with additional criteria set by the filter script, if it exists.
`param`	Collection of additional KEY=VALUE parameters as defined by the Automatic Queue Server configuration information for the corresponding job.

In the registration part of the script, replace the `classid` property with a newly generated GUID. You can use the `guidgen.exe` utility to generate a new GUID. The `guidgen.exe` utility is a part of Visual Studio Tools and is delivered together with Microsoft Platform SDK.

Automatic Queue Server Filter Script Template

The Automatic Queue Server filter script returns additional criteria that define the subset of work items passed to the handler component of the corresponding Automatic Queue Server job.

The following topics are included in this section:

Sample Automatic Queue Server Filter Script Template

The following is an Automatic Queue Server filter script template:

```
<?xml version="1.0"?>

<component>

<registration

        description="replace with description of the component"

        progid="replace with progid of the component"

        classid="replace with classid of the component"

>

</registration>

<public>

        <method name="GetFilter" dispid="1">

                <PARAMETER name="nameVault"/>

                <PARAMETER name="clump"/>

        </method>

</public>

<script language="VBScript">

<![CDATA[

function GetFilter (nameVault, clump)

  Set f = CreateObject ("EWF.VO.Filter")

  ‘ Example ‘ f.Construct 5, "BAT_PRIORITY", 0, "42"

  Add custom criteria to the filter here

  Set GetFilter = f

end function
```

```
]]>

</script>

</component>
```

The Automatic Queue Server filter script exports a single method, `GetFilter`. The following table describes the `GetFilter` parameters:

GetFilter parameters	
Name	**Description**
`nameVault`	Vault access that Automatic Queue Server passes to a filter component.
`clump`	Collection of additional KEY=VALUE parameters.

Modifying the Automatic Queue Server Filter Script Template

To modify the Automatic Queue Server filter script template, proceed as follows:

1. In the registration part of the script, replace the filter properties described in the following table:

Filter properties	
Name	**Description**
`Description`	Description of the component to be created.
`progid`	Progid of the component, for example, “`Workflow.Filter.Form`”.
`classid`	Newly generated GUID.

2. To set the filter criteria, add code to the `GetFilter` procedure.

   The code creates and returns a filter object to Automatic Queue Server. The code’s content is defined by business logic and individual requirements.

Using Automatic Queue Server to Apply Security

Automatic Queue Server can be used to automatically assign security to documents that are imported into Exigen Workflow or created by an Exigen Workflow process such as high volume scanning.

After the documents are imported or created, they are sent to the Automatic Queue Server node, where Automatic Queue Server designates security.

Automatic Queue Server obtains the security settings based on entitlements or on a legacy system.

If information must be retrieved from a legacy system, the security designation process is driven by an Automatic Queue Server script, which may contain Exigen Integrator method invocations. On the basis of the information retrieved, an access control list (ACL) is generated.

For information on entitlements, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 4: Setting Up Exigen Workflow, Defining Entitlements.

For more information on Exigen Workflow security, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 3: Creating Projects, Exigen Workflow Security.

Viewing the Automatic Queue Server Log

Automatic Queue Server automatically logs errors to the Exigen Workflow section of the Windows event log.

To view the log entries in the Windows Event Viewer, proceed as follows:

1. Select **Start > Settings > Control Panel.**
2. In the **Control Panel** window, double click **Administrative Tools.**
3. In the **Administrative Tools** window, double click **Event Viewer.**

The Automatic Queue Server event log can contain messages from other Exigen Workflow components with which it interacts, such as Application Services.

Trace information that is produced by Automatic Queue Server can be controlled by the trace QueueServer mask.

For information on trace masks, see *Exigen Workflow Installation Guide,* Chapter 8: Installing Application Services, Configuring Application Services.

Chapter 20: E-Capture Split Server

This section describes how to configure and use E-Capture Split Server.

The following topics are described in this section:

E-Capture Split Server Overview

E-Capture Split Server is an optional E-Capture module that extracts small portions from PCL files and sends them to a child directory for processing in E-Capture Server.

For information on E-Capture Server and child directories, see Chapter 18: E-Capture Server.

E-Capture Split Server does not require a login name, password, or registration in the Administrator utility and is not connected to the Exigen Workflow database.

E-Capture Split Server must be installed and run on the computer where the original PCL files are located.

E-Capture Split Server extracts a portion of a PCL file based on the following information provided by E-Capture Server:

- source PCL file
- first page in the portion
- number of pages to be extracted

E-Capture Split Server requires access to the Centura runtime environment and a PCLTool SDK environment.

Using E-Capture Split Server

To configure and use E-Capture Split Server, proceed as follows:

1. To run E-Capture Split Server, in the `EWF\SYSTEM` directory, run the `ecapsplt.exe` file.

   The **E-Capture Split Server** window appears.

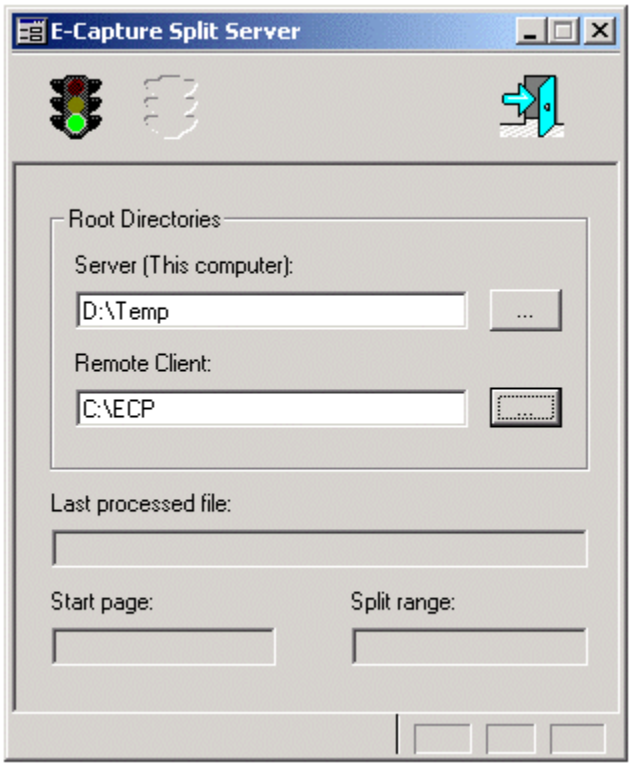


Figure 172: E-Capture Split Server window

2. In the **Server (This computer)** field, enter the path to the parent directory for the child directories containing the original PCL files that require processing.

   The child directories are remote input directories for E-Capture Server. There is no limitation on the number of child directories. If only one input directory is used for processing large PCL files, it can be entered instead of the parent directory.

3. In the **Remote Client** field, enter the path to the local parent directory specified for E-Capture Server.

4. To start E-Capture Split Server, click **Start**  .

   During processing, the following fields in the **E-Capture Split Server** window are updated:

E-Capture Split Server window fields	
Field	**Description**
Last processed file	Source PCL file from which the last portion was extracted.
Start page	First page number in the source PCL file.
Split range	Number of pages extracted from the source PCL file starting from the start page.

5. To stop E-Capture Split Server, click **Stop**  .

6. To exit E-Capture Split Server, click **Exit**  .

Chapter 21: Exigen Workflow Handlers

Exigen Workflow handlers use automated Automatic Queue Server processes to perform workflow jobs. Exigen Workflow handlers can be used in place of Exigen Workflow servers. In systems with large workflows and a high processing volume, server maintenance issues can be avoided by using Exigen Workflow handlers instead of servers.

After Exigen Workflow handlers are configured in Queue Server Console, they become Automatic Queue Server jobs. These jobs are started automatically by Automatic Queue Server, and can be monitored and administered remotely using Queue Server Console.

Exigen Workflow handlers are fault tolerant and are designed to automatically retry operations that fail. If an error occurs, Exigen Workflow handlers send messages to the Windows event log, so that the administrator can investigate and correct problems. By using Exigen Workflow handlers, some network and database problems can be resolved automatically without administrator intervention.

The Exigen Workflow installation package includes a component named Automatic Queue Server Handlers. These are Automatic Queue Server script templates, which are described in Automatic Queue Server Scripts.

The following topics are included in this section:

- Commit Handler
- Task Oriented Workflow Engine
- Automatic Queue Server Handler for Exigen Workflow Events

Commit Handler

Commit Handler commits documents to permanent storage using an automated Automatic Queue Server process.

Commit Handler supports only the **In Place** option for committing files. This means that documents are not physically moved, but are marked in the database as committed. For more information on the commit process, see the *Exigen Workflow User's Guide,* Chapter 8: Committing Documents.

To ensure that parcels are committed in the correct order, the Automatic Queue Server filter sorts the parcels in the queue based on the value in the PARCEL_ACT_DATE field. The oldest parcel is placed at the beginning of the queue. Commit Handler processes the oldest parcel first and marks it as processed, sending it to the end of the queue.

The following topics are included in this section:

- Installing Commit Handler
- Setting up the Operating System

Installing Commit Handler

To install Commit Handler, install Exigen Workflow, ensuring that the following components are selected:

- Commit Handler
- Application Services
- Automatic Queue Server
- Configuration Accessor
- DMS COM API
- File Management COM

For more information on installing Exigen Workflow, see the *Exigen Workflow Installation Guide.*

The Commit Handler installation process performs the following tasks:

- registers the Commit Handler assemblies in the Global Assembly Cache
- registers the handler assembly as a COM component
- imports the components in COM+
- activates the Transactions Supported mode

The following progids are created:

- VisiFLOW.ProcHandler.QS.Commit.Handler
- VisiFLOW.ProcHandler.QS.Commit.FilterDelayedParcels

Setting up the Operating System

To ensure optimal performance, the operating system must be set up before configuring Commit Handler.

To set up the operating system, proceed as follows:

1. To set the Distributed Transaction Coordinator (MSDTC) transaction timeout, proceed as follows:
   - Select **Start > Settings > Control Panel.**
   - Double click **Administrative Tools.**
   - Double click **Component Services.**
   - Double click **Computers.**
   - Right click **My Computer** and select **Properties.**
   - In the **My Computer Properties** window, select **Options.**
   - In the **Transaction timeout** field, enter a value equal to or exceeding 300.
   - Click **OK.**

   Entering a value equal to or exceeding 300 seconds ensures that documents containing hundreds of pages can be processed. The timeout value can be increased if required.

2. To ensure optimal script performance, optionally set the maximum number of COM+ threads to 4.

   If the Exigen Workflow system is running on Windows XP, there is no need to change the COM+ thread settings.

3. If the Exigen Workflow system is running on Windows 2000, to set the maximum number of COM+ threads, proceed as follows:
   - In the Windows **Start** menu, select **Start > Run.**
   - In the **Open** field, enter *regedit.*
   - Click **OK.**
   - In the **Registry Editor** window, in the left pane, locate the following directory:

     `HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\COM3\Debug`

   - If the `Debug` key does not exist, to create it, right click **COM3** and select **New > Key.**
   - In the key name, enter *Debug.*
   - Right click **Debug** and select **New > DWORD Value.**
   - Rename the newly created value to `QCListenerMaxThreads.`
   - Double click the value and, in the **Value data** field, enter *4.*
   - Click **OK.**
   - Close the **Registry Editor** window.

Configuring Commit Handler

Commit Handler reads the configuration in the following order:

1. `VISICLT.INI` file parameters
2. Exigen Workflow database parameters
3. Queue Server Console parameters

This means that the Commit Handler parameters set in Queue Server Console override the Exigen Workflow database parameters, and the Exigen Workflow database parameters override the `VISICLT.INI` file parameters.

If Commit Server is installed and configured, Commit Handler uses the existing Commit Server configuration. This configuration can be retained or modified as described in the following section.

To configure Commit Handler, proceed as follows:

1. In the Windows system directory, locate the `VISICLT.INI` file.
2. In the `VISICLT.INI` file, in the `[setup_commit]` section, set appropriate configuration options as described in the following table:

`VISICLT.INI` file configuration options

Keyword	Description
OriginalDocuments	Specifies whether the original document is committed. The following values are available: **Commit** — Original document and the DMS file created from it are committed. This is the default. **Delete** — Original document is deleted.
CommitVersions	Specifies whether revision information is retained in the DMS file. The following values are available: **All** — All revision information is retained in the DMS file. This is the default. **Current** — Only the current revision information is retained in the DMS file.
UseAuditFilters	Specifies whether audit event filters are used when DMS audit information is saved to the database. The following values are available: **YES** — Filters are used. **NO** — Filters are not used, and all audit information is saved to the database. This is the default.

3. To specify settings for deleting parcels and audit information, in the **Exigen Workflow Explorer** window, double click **Project Builder.**
4. In the **Project Builder** window, select the project.
5. Select **Project > Project Configuration.**
6. Select the **Optical** tab.

7. To ensure that a parcel is deleted when its document is committed, select the **Delete Parcel after Commit** option.
8. To ensure that a parcel is not deleted when its document is committed, clear the **Delete Parcel after Commit** option.
9. To ensure that all audit event information is removed from the DMS file after the document is committed, select the **Delete DMS audit information after Commit** option.
10. To ensure that audit event information is not removed from the DMS file after the document is committed, clear the **Delete DMS audit information after Commit** option.

    Options for committing DMS files are specified when creating or modifying an Automatic Queue Server job. Parameters and values are entered in the **Parameter strings** field. For more information on creating an Automatic Queue Server job, see Creating an Automatic Queue Server Job.

11. To specify options for committing DMS files, in the **Parameter strings** field, enter appropriate values as described in the following table:

DMS file commitment options

Keyword	Description
COMMIT_ACTION	Specifies whether committed files are physically moved. The following values are available: **INPLACE** — Files are marked as committed, but are not moved. This option is supported. **OPTICAL** — Files are moved. This option is not supported.
CREATE_QUICK_TILES	Specifies whether thumbnails are generated in the DMS file. The following values are available: **TRUE** — Thumbnails are generated. **FALSE** — Thumbnails are not generated. This is the default.
AUTO_RECOVER_LOCKS	Specifies system behavior if a DMS file is locked. The following values are available: **TRUE** — If a DMS file is locked, the system tries to unlock the file and commit it. This is the default. **FALSE** — If a DMS file is locked, it is not committed.

DMS file commitment options	
Keyword	**Description**
REDUCE_RESOLUTION	Specifies whether the resolution of DMS files is reduced before commitment. The following values are available: 0 — DMS file resolution is not reduced. 100 — DMS file resolution is reduced to 100 dpi. 150 — DMS file resolution is reduced to 150 dpi. 200 — DMS file resolution is reduced to 200 dpi.
FILE_PROCESSING_TIMEOUT	Specifies the interval in seconds after which file processing is interrupted and Commit Handler is restarted. Any value equal to or exceeding 20 can be entered. The default is 50. It is recommended that you specify a value that is 5 to 10 seconds less than the MSDTC transaction timeout value. This allows time for Commit Handler cleanup.

12. To specify options for testing or debugging Commit Handler, in the **Parameter strings** field, set appropriate options as described in the following table:

Testing and debugging options	
Keyword	**Description**
DISABLE_DMS_PROCESSING	Specifies whether DMS files are processed before being committed. The following values are available: TRUE — DMS files are not processed before being committed. FALSE — DMS files are processed before being committed. This is the default.
OVERRIDE_AUDIT_PROJECT	Overrides the project ID of DMS audit events. To override an existing project ID, a new one is entered. Overriding the project ID is useful if the DMS file contains audit events from different projects.

Testing and debugging options	
Keyword	**Description**
SKIP_AUDIT_SYNC	Specifies whether audit event information is synchronized in the DMS file and the database. The following values are available: TRUE — Audit events are not synchronized in the DMS file and the database. FALSE — Audit events are synchronized in the DMS file and the database. This is the default.
SKIP_INDEXING_SYNC	Specifies whether indexing information for the current folder, subfolder, and document fields is synchronized in the DMS file. The following values are available: TRUE — Indexing information is not synchronized. FALSE — Indexing information is synchronized. This is the default.
TRACE_LEVEL	Specifies the trace level. The following values are available: 1 — Only critical information is logged. 2 — Only critical and important information is logged. This is the default. 3-5 — Detailed trace is generated. Levels 3 through 5 are recommended for troubleshooting only. The maximum trace level is 5, which generates a highly detailed trace, including information on function calls.

Testing and debugging options		
Keyword	**Description**	
DISABLE_CACHE	Specifies whether data is read from the Exigen Workflow cache. The following values are available:	
	TRUE	Data is not read from the cache. Setting this value impairs system performance. This value is set for testing purposes only.
	FALSE	Data is read from the cache. This is the default.
IGNORE_CONCURRENT_LOCKS	Specifies whether locks on concurrent DMS files are ignored. The following values are available:	
	TRUE	Locks on concurrent DMS files are ignored. If two threads access the same DMS file concurrently, DMS operations may fail. This is used for testing purposes only.
	FALSE	Locks on concurrent DMS files are not ignored. When DMS files are processed concurrently, files must be locked and unlocked to ensure that operations are completed correctly. This is the default.
SINGLE_STAGE	Specifies whether parcels are processed in a single operation. The following values are available:	
	TRUE	Parcels are processed in a single operation.
	FALSE	Parcels are processed in multiple stages to avoid extended transactions. This is the default.

To improve database performance, it may be useful to create a database index for the PARCEL_ACT_DATE column in the project's xxx_BATCHPARCEL table. This can facilitate the Automatic Queue Server parcel sorting process.

13. Optionally, create a database index for the PARCEL_ACT_DATE column.

For information on creating a database index, see the administration documentation for the given database.

14. To test Commit Handler without running Automatic Queue Server, run the `CommitTest.exe` file.

    For more information on running the `CommitTest.exe` file, contact Exigen Support Services.

Viewing the Commit Handler Configuration

To view the Commit Handler configuration, proceed as follows:

1. Set the trace level to 5 as described in Configuring Commit Handler, step 12.
2. Start the Commit Handler job using Queue Server Console.

   For information on starting an Automatic Queue Server job, see Starting an Automatic Queue Server Job.

   After Commit Handler reads and parses the configuration and receives documents and starts processing them, it prints a report to the log file. The report contains configuration data and information about actions to be performed.

   The DbgView utility is used to view configuration information in the log file. To download the DbgView utility, see the following website:
   http://www.sysinternals.com/ntw2k/freeware/debugview.shtml
3. Run the `dbgview.exe` file.

   Commit Handler log messages appear in the **Debug View** window.

Uninstalling Commit Handler

To uninstall Commit Handler using the Commit Handler installer file, proceed as follows:

1. In the `\EWF\Windows\CommitHandler` directory, run the `CommitHandler.msi` file.
2. Follow the uninstall instructions in the windows.

To uninstall Commit Handler using the **Add/Remove Programs** window, proceed as follows:

1. In the Windows **Start** menu, select **Start > Settings > Control Panel.**
2. Double click **Add/Remove Programs.**
3. Select **Exigen Commit Handler.**
4. Click **Remove** and follow the uninstall instructions in the windows.

The Commit Handler components are removed from COM+, unregistered from COM, and removed from the Global Assembly Cache.

Running Commit Handler

Before running Commit Handler, Commit Handler jobs must be created for all commit nodes in the workflow, and the jobs must be started.

To create and start a job, proceed as follows:

1. Create a job as described in Creating an Automatic Queue Server Job.

   The following table describes the mandatory fields for a Commit Handler job:

Commit Handler job mandatory fields	
Field	**Description**
Workflow	Target workflow identifier.
Node	Target workflow node identifier.
Component ID	Automatic Queue Server component progid. For Commit Handler, this must be the following: VisiFLOW.ProcHandler.QS.Commit.Handler
Filter ID	Filter component progid, usually a script. For Commit Handler, this must be the following: VisiFLOW.ProcHandler.QS.Commit.FilterDelayedParcels

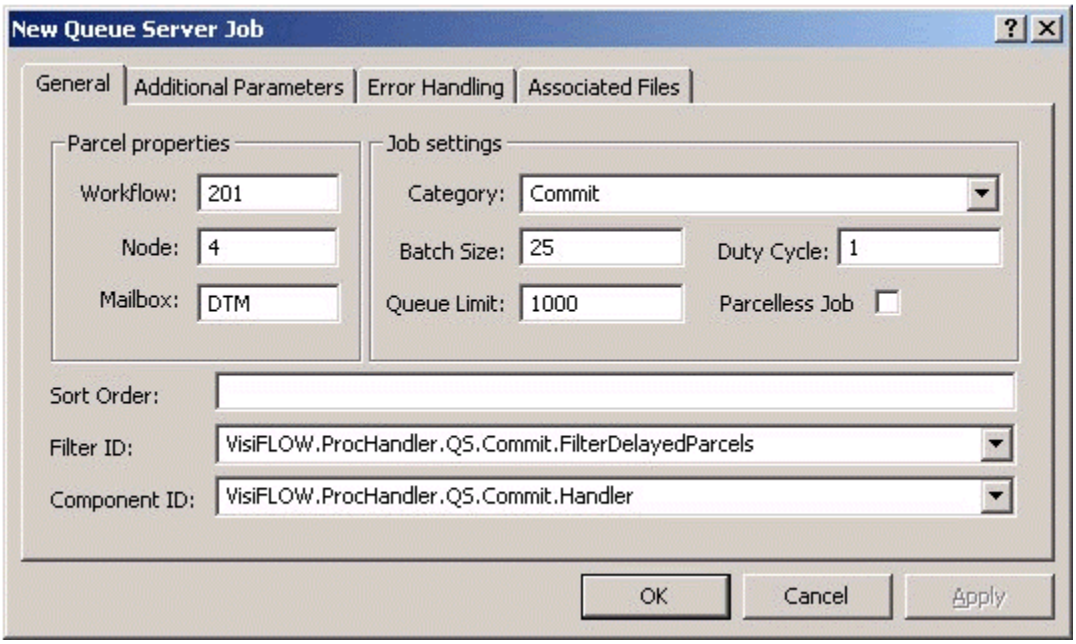


Figure 173: Creating a Commit Handler job

2. To specify a configuration other than the default, in the **Additional Parameters** tab, enter KEY=VALUE parameters.

   The following is an example of KEY=VALUE parameters:

```
COMMIT_ACTION=INPLACE
CREATE_QUICK_TILES=TRUE
REDUCE_RESOLUTION=100
FILE_PROCESSING_TIMEOUT=50
SKIP_AUDIT_SYNC=TRUE
TRACE_LEVEL=5
```

For more information on parameters, see Configuring Commit Handler.

For more information on the **Additional Parameters**, **Error Handling**, and **Associated Files** tabs, see Creating an Automatic Queue Server Job.

3. To start the job, proceed as described in Starting an Automatic Queue Server Job.

Using the Exigen Workflow Cache

When Commit Handler retrieves configuration information from the database, the information is stored in the Exigen Workflow cache. When modifying a workflow, it is recommended that Automatic Queue Server be stopped to ensure that Commit Handler is also stopped. Otherwise, Commit Handler continues to use previous configuration values until the values expire in the cache.

Before restarting Automatic Queue Server, restart the Exigen Workflow Engine Cache Supervisor service.

If the Exigen Workflow database workflow schema or configuration is modified, the Exigen Workflow Engine Cache Supervisor service must be stopped and restarted.

To start and stop the Exigen Workflow Engine Cache Supervisor service, proceed as follows:

1. In the Windows **Start** menu, select **Start > Settings > Control Panel.**
2. Double click **Administrative Tools.**
3. Double click **Services.**
4. To start the service, right click **Exigen Workflow Engine Cache Supervisor** and select **Start.**
5. To stop the service, right click **Exigen Workflow Engine Cache Supervisor** and select **Stop.**

Commit Handler Error Handling

The error handling process is as follows:

1. If an error is detected in a parcel, the parcel is pushed automatically from the Commit node to the error queue, which is the next node in the workflow.
2. Commit Handler writes a message to the Windows Event Log.
3. A system administrator inspects the error message and the parcel in the error queue.
4. The system administrator corrects the error.

To ensure that error handling functions correctly, a link must be created from the Commit node to the error queue. The link must be assigned an automatic routing rule to ensure that parcels are pushed to the error queue automatically. A simple Else routing rule is used.

For information on setting up workflow nodes, links, and routing rules, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Chapter 5: Designing a Workflow.

Commit Handler Audit Event

Commit Handler writes one custom audit event, 76901:

```
DMS file committed
```

For information on audit events, see the *Exigen Workflow Administrator's Guide, Part 1: Design and Configuration,* Appendix D: Audit Data in Exigen Workflow.

Commit Algorithm

The following algorithm is applied when committing documents using Commit Handler:

1. Commit Handler checks the document's assigned commit date and time.
2. If the commit date and time are later than the current time and time, the document is skipped because it is scheduled for future commitment.
3. Commit Server checks the IMAGE_LOCATION parameter to determine the file's current location:
   - If the IMAGE_LOCATION value is O for optical or H for image server, an error is generated because only magnetic storage is supported.
   - If the IMAGE_LOCATION value is L, it means the document is committed. No action is taken.
   - If the IMAGE_LOCATION value is M for magnetic, the document is processed.
4. If the document is a reference document, the following options are available:
   - If the **First reference** option is specified in the **Optical** tab during project configuration, the original document is committed, and document and parcel records of the reference document are updated.
   - If the **Last reference** option is specified in the **Optical** tab during project configuration, Commit Server checks whether all related reference documents are collected in the Commit node. If so, the original document is committed and the document and parcel records of the reference document are updated. If not, the current reference document is skipped. It is marked as waiting for other documents to arrive.
5. Commit Server processes the DMS document as follows:
   - If this option is configured, Commit Server changes the document image resolution.
   - If this option is configured, Commit Server creates thumbnails.
   - If this option is configured, Commit Server retrieves indexing information on folder, subfolder, and document additional fields, and writes the information to the DMS file in XML format.
   - Commit Server saves audit events in the DMS file to the database.

   For information on configurable options, see Configuring Commit Handler.

6. Commit Server updates the document record as follows:
   - NODE_ID=0
   - USER_ID=NULL
   - IMAGE_LOCATION=L
   - COMMIT_DATE=<current date/time>
7. Commit Server updates the document parcel as follows:
   - NODE_ID=0
   - NODE_ID_FROM=<current node>
   - USER_ID_FROM=<current user>
8. If the **Delete Parcel after Commit** option is selected during project configuration, the parcel is deleted.
9. If an error occurs while processing a document in a parcel, the parcel is pushed to the error queue for inspection, and Commit Handler writes an error message to the Windows Event Log, in the `Exigen Workflow` section.

Task Oriented Workflow Engine

In Exigen Workflow systems, Task Oriented Workflow is implemented to automate business processes by means of electronic tasks lists, interactive scripts, and automatic task processing using Automatic Queue Server.

Task Oriented Workflow Engine performs automatic operations on parcels in queues and marks the parcel as processed. Task Oriented Workflow Engine contains a script that allows replacing Taskflow Server with an Automatic Queue Server job.

To ensure that parcels are processed in the correct order, Automatic Queue Server sorts the parcels in the queue according to the value in the PARCEL_ACT_DATE field. The oldest parcel is placed at the beginning of the queue. TaskList Handler processes the oldest parcel first and marks it as processed, sending it to the end of the queue.

Note: For more information on Task Oriented Workflow, see the *Task Oriented Workflow User's Guide* and *Task Oriented Workflow Administrator's Guide.*

The following topics are included in this section:

System Requirements

Before installing Task Oriented Workflow Engine, Exigen Workflow must be installed. The Exigen Workflow installation must include the following components:

- Application Services
- Automatic Queue Server
- Configuration Accessor

Installing Task Oriented Workflow Engine

To install Task Oriented Workflow Engine, perform one of the following steps:

- Run the `TOWHandler.msi` file.
- At the command prompt, run the `TOWInstall.bat` batch file.

The installation process registers the Task Oriented Workflow assemblies in the Global Assembly Cache as COM components, sets the Transactions Supported mode, and imports the following progids:

- VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.API
- VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.Handler
- VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.FilterDelayedParcels
- VisiFLOW.ProcHandler.QS.TOWEngine.TaskList.API
- VisiFLOW.ProcHandler.QS.TOWEngine.TaskList.Handler

To access Task Oriented Workflow Engine functionality from a custom Automatic Queue Server script, the Taskflow API is used. For more information on custom Automatic Queue Server scripts, contact Exigen Support Services.

Configuring Task Oriented Workflow Engine

The following topics are described in this section:

- Configuring Task Oriented Workflow Engine TaskList Handler
- Configuring Task Oriented Workflow Engine TaskFlow Handler

Configuring Task Oriented Workflow Engine TaskList Handler

To configure Task Oriented Workflow Engine TaskList Handler, proceed as follows:

1. For each taskflow node in the workflow, create an appropriate Automatic Queue Server job.

   For information on creating an Automatic Queue Server job, see Creating an Automatic Queue Server Job.

   The following table describes the mandatory fields when creating a Task Oriented Workflow Engine TaskList Handler job:

Task Oriented Workflow Engine TaskList Handler job mandatory fields	
Field	**Description**
Workflow	Target workflow identifier.
Node	Target workflow node identifier.
Component ID	Automatic Queue Server component progid. For Task Oriented Workflow Engine TaskList Handler, this must be the following: VisiFLOW.ProcHandler.QS.TOWEngine.TaskList.Handler
Sort Order	String that defines the order of retrieved work items. For Task Oriented Workflow Engine TaskList Handler, this must be the following: PARCEL_ACT_DATE

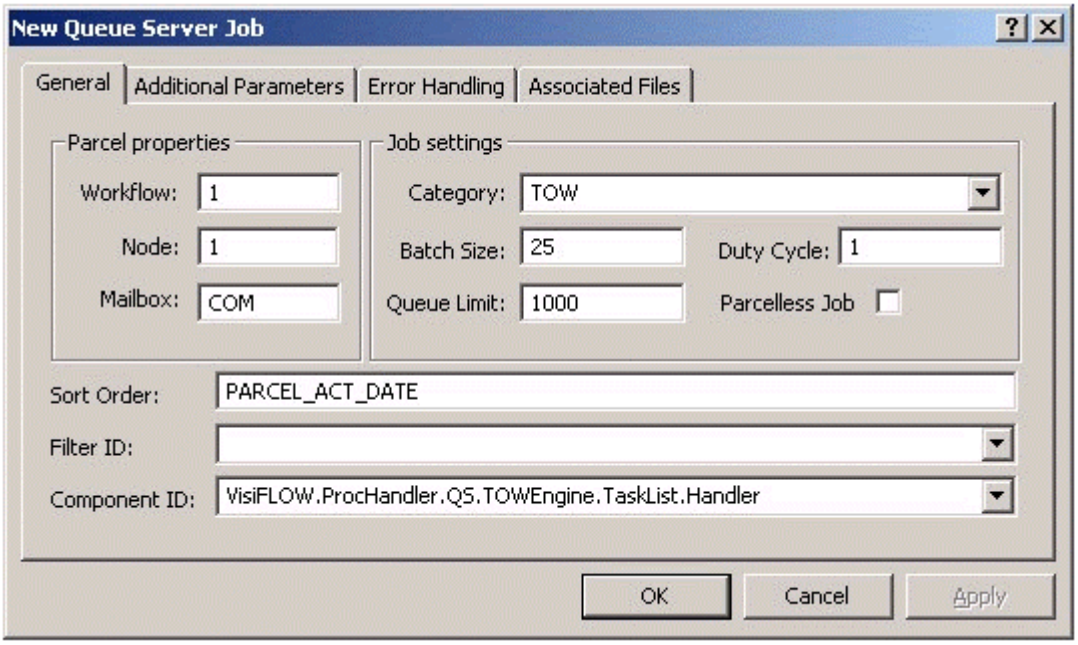


Figure 174: Creating a Task Oriented Workflow Engine TaskList Handler job

2. To specify a configuration other than the default, in the **Additional Parameters** tab, enter KEY=VALUE parameters.

   The following is an example of a KEY=VALUE parameter:

   ```
   TRACE_LEVEL=3
   ```

   For more information on parameters, see Configuring Commit Handler.

   For more information on the **Additional Parameters**, **Error Handling**, and **Associated Files** tabs, see Creating an Automatic Queue Server Job.

3. If a trace is required for troubleshooting, in the **New Queue Server Job** dialog, set the trace level as described in Configuring Commit Handler, step 12.

4. Optionally, to improve database performance, in the project's xxx_BATCHPARCEL table, create a database index for the PARCEL_ACT_DATE column.

   This can facilitate the Automatic Queue Server parcel sorting process.

5. To create a database index for the PARCEL_ACT_DATE column, follow the instructions in the administration documentation for the database.

6. To test Task Oriented Workflow Engine TaskList Handler without running Automatic Queue Server, run the `TaskListTest.exe` file.

   For more information on running the `TaskListTest.exe` file, contact Exigen Support Services.

Configuring Task Oriented Workflow Engine TaskFlow Handler

To configure Task Oriented Workflow Engine TaskFlow Handler, proceed as follows:

1. For all nodes in the taskflow, create an appropriate Automatic Queue Server job.

   For information on creating an Automatic Queue Server job, see Creating an Automatic Queue Server Job.

   The following table describes the mandatory fields when creating a Task Oriented Workflow Engine TaskFlow Handler job:

Task Oriented Workflow Engine TaskFlow Handler job mandatory fields	
Field	**Description**
Workflow	Target workflow identifier.
Node	Target workflow node identifier. This field must be left empty. The handler monitors all nodes.
Mailbox	Exigen Workflow user ID. For Task Oriented Workflow Engine TaskFlow Handler, this must be QS.
Component ID	Automatic Queue Server component progid. For Task Oriented Workflow Engine TaskFlow Handler, this must be the following: VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.Handler

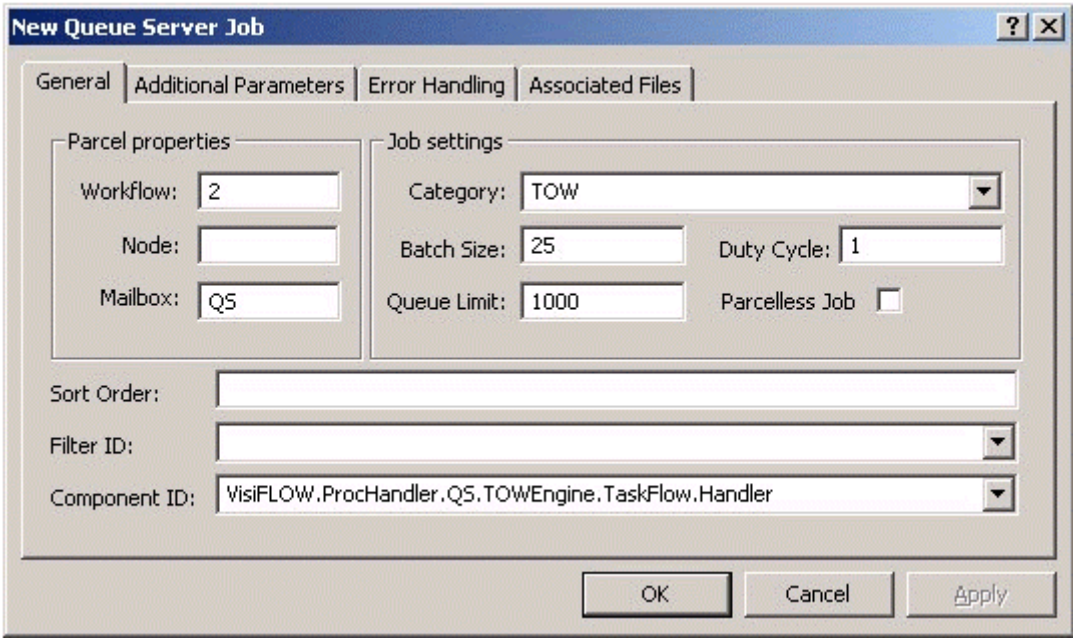


Figure 175: Creating a Task Oriented Workflow Engine TaskFlow Handler job

2. To specify options for configuring Task Oriented Workflow Engine TaskFlow Handler, in the **Parameter strings** field, set appropriate parameters as described in the following table:

Task Oriented Workflow Engine TaskFlow Handler optional configuration parameters

Parameter	Description	Example
TRACE_LEVEL	Specifies the trace level. The following values are available: 1 — Only critical information is logged. 2 — Only critical and important information is logged. This is the default. 3-5 — Detailed trace is generated. Levels 3 through 5 are recommended for troubleshooting only. The maximum trace level is 5, which generates a highly detailed trace, including information on function calls.	TRACE_LEVEL=4

Task Oriented Workflow Engine TaskFlow Handler optional configuration parameters

Parameter	Description	Example
DISABLE_CACHE	Specifies whether data is read from the Exigen Workflow cache. The following values are available: TRUE — Data is not read from the cache. Setting this value impairs system performance. This value is set for testing purposes only. FALSE — Data is read from the cache. This is the default.	DISABLE_CACHE=TRUE
PCS_DS_URL	Location URL of server where PCSDS Web Services runs. If it is empty, DS calls fail. This parameter is required if Exigen Workflow contains conditions that depend on the PCS_DS service.	PCS_DS_URL=http://appvno01.exigengroup.com:18080/PCSDSWS/services/PCSDecisionService
WS_RETRY_TIMEOUT	Timeout period in seconds. This specifies how long to keep trying if the Web Service call fails. If the value is set to 0, if there is a Web Service call, the parcel is sent to the ERR queue for later inspection by an administrator. In a production environment, it is recommended to set the timeout to a few hours, that is, 3600 or more. The maximum value, 432000 seconds, is approximately 5 days. The errors are logged to the Windows Event Log, and the WS call is retried again until the timeout expires. If unsuccessful, the parcel is sent to the ERR queue and the message is logged to the Event Log.	WS_RETRY_TIMEOUT=7200
CUSTOMIZATION_PLUGIN	Name of the TaskFlow customization plugin assembly to load. This assembly provides customer specific functionality. The assembly implements the CTaskFlowPlugin class that provides the VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.Plugin.ITaskFlowPlugin interface. The assembly must be signed with a special strong name key and installed in the Global Assembly Cache.	CUSTOMIZATION_PLUGIN=VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.Plugin.HelloWorld

Task Oriented Workflow Engine TaskFlow Handler optional configuration parameters		
Parameter	**Description**	**Example**
FOLDER_HIERARCHY_PLUGIN	Name of the TaskFlow plugin assembly to load. This assembly provides FolderHierarchy functionality. The assembly implements the CFolderHierarchyPlugin class that provides the VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.Plugin.IFolderHierarchyPlugin interface. The assembly must be signed with a special strong name key and installed in the Global Assembly Cache.	FOLDER_HIERARCHY_PLUGIN=VisiFLOW.ProcHandler.QS.TOWEngine.TaskFlow.Plugin.FolderHierarchy

All of the parameters in the preceding table are optional.

For more information on **Additional Parameters**, **Error Handling**, and **Associated Files** tabs, see Creating an Automatic Queue Server Job.

3. To test Task Oriented Workflow Engine TaskFlow Handler without running Automatic Queue Server, run the `TaskFlowTest.exe` file.

   For more information on running the `TaskFlowTest.exe` file, contact Exigen Support Services.

Uninstalling Task Oriented Workflow Engine

To uninstall Task Oriented Workflow Engine, proceed as follows:

1. In the `\EWF\Windows\TOWHandler` directory, run the `TOWHandler.msi` file.
2. Follow the uninstall instructions in the windows.

The Task Oriented Workflow Engine components are removed from COM+, unregistered from COM, and removed from the Global Assembly Cache.

Running Task Oriented Workflow Engine

To run Task Oriented Workflow Engine, start the appropriate Task Oriented Workflow Engine job as described in Starting an Automatic Queue Server Job.

When Task Oriented Workflow Engine retrieves configuration information from the database, the information is stored in the Exigen Workflow cache. Cache operations are similar for Task Oriented Workflow Engine and Commit Handler. For information on using the Exigen Workflow cache, see Using the Exigen Workflow Cache.

Automatic Queue Server Handler for Exigen Workflow Events

In earlier Exigen Workflow releases, Advanced Event Server processed Exigen Workflow events.

Advanced Event Server is replaced by Automatic Queue Server. For compatibility reasons, the Exigen Workflow installation package contains an Automatic Queue Server handler that simulates Advanced Event Server.

Automatic Queue Server Handler for Exigen Workflow Events uses the VisiFLOW.ProcHandler.EventServer component to process Exigen Workflow events as Advanced Event Server did.

To set up Automatic Queue Server Handler for Exigen Workflow Events, proceed as follows:

1. Create an Automatic Queue Server job as described in Creating an Automatic Queue Server Job.
2. In the **General** tab, in the **Component ID** field, enter the VisiFLOW.ProcHandler.EventServer component ID.
3. To ensure that jobs are created without parcels, in the **General** tab, select the **Parcelless Job** option.
4. In the **Additional Parameters** tab, in the **Parameter Strings** field, specify the project whose events are processed in the following format:

   PROJECT_ID=<project id>
5. In the **Parameter Strings** field, specify the number of events to process in a single iteration in the following format:

   BATCH_SIZE=<number>

   The default and recommended value is 25.
6. In the **Parameter Strings** field, specify the honor event date in the following format:

   HONOR_EVENT_DATE=<True|False>

   If `False`, all pending events are processed. This is the default. If `True`, only events whose time is equal to or earlier than the current database time are processed. This setting ensures that events can be assigned a future date and time, and Automatic Queue Server waits until the specified date and time to process the event.
7. In Queue Server Console, register all Advanced Event Server scripts to be used in the workflow as components as described in Registering an Automatic Queue Server Component.

   For information on Advanced Event Server scripts, see the *Advanced Event Server Administrator's Guide.*

Appendix A: Exigen Workflow Object Menus and Button Bars

The following topics are described in this section:

Barcode Server

The button and menu bars of the **Barcode Server** window contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh List**	**F5**	**Refresh List** Refreshes the job list in Barcode Server.
	**File > Send Batch**	**CTRL+D**	**Send Batch** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Exit**	**F12**	**Exit** Closes the **Barcode Server** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all documents in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.

Button	Menu option	Shortcut key	Description
	**Edit > Delete Document**	**CTRL+DEL**	**Delete Document** Deletes the selected document.
	Edit > Recovery		**Recovery** Recovers the Barcode Server status if the process is interrupted for some reason.
	**Run > Process Setup**	**CTRL+S**	**Process Setup** Opens the **Barcode Setup** window to specify the barcode configurations.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts Barcode Server.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops Barcode Server.
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	Run > Start Test		**Start Test** Used to begin running Barcode Server to test the configurations.
	Run > Release Test		**Release Test** Stops the testing of the barcode configurations.
	Run > Get from Common Queue		**Get from Common Queue** Retrieves a document from the common queue.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.

Button	Menu option	Shortcut key	Description
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the current **Barcode Server** window that appears in the window.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for this application.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Form OCR Server

The button and menu bars of the **Form OCR Server** window contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh List**	**F5**	**Refresh List** Refreshes the job list in Form OCR Server.
	**File > Send Batch**	**CTRL+D**	**Send Batch** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Exit**	**F12**	**Exit** Closes the **Form OCR Server** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all documents in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.
	**Edit > Delete Document**	**CTRL+DEL**	**Delete Document** Deletes the selected document.

Button	Menu option	Shortcut key	Description
	Edit > Recovery		**Recovery** Recovers the Form OCR Server status if the process is interrupted for some reason.
	**Run > Process Setup**	**CTRL+S**	**Process Setup** Opens the **Process Setup** window to set up the Form OCR configurations.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts Form OCR Server.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops Form OCR Server.
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	Run > Start Test		**Start Test** Starts testing the configurations in Form OCR Server.
	Run > Release Test		**Release Test** Stops testing the configurations in Form OCR Server.
	Run > Get from Common Queue		**Get from Common Queue** Loads the next parcel from the common queue.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.

Button	Menu option	Shortcut key	Description
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the current **Form OCR Server** window in the window.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for this application.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Form OCR QA and Form Index Server

The button and menu bars of the **Form OCR QA** and **Form Index Server** windows contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh**	**F5**	**Refresh** Refreshes the job list in the **Server** window.
	**File > Send**	**CTRL+D**	**Send** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Exit**	**F12**	**Exit** Closes the **Server** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all documents in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.
	**Edit > Delete**	**CTRL+DEL**	**Delete** Deletes the selected document.
	Edit > Recovery		**Recovery** Recovers the Server status if the process is interrupted for some reason.

Button	Menu option	Shortcut key	Description
	Edit > Queue Settings		**Queue Settings** Defines queue settings.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts Server.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops Server.
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	Run > Get Next Job	**CTRL+J**	**Get Next Job** When selected, automatically gets the next job.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Dialog Layout		**Dialog Layout** Specifies the position of the document viewer in the **Performing OCR verification** window. The following options are available: • **Left** • **Right** • **System default**
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.

Button	Menu option	Shortcut key	Description
	**File > Save Configuration**		**Save Configuration** Saves the current window configuration.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for this application.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

FTS Preprocessor

The button and menu bars of the **FTS Preprocessor** window contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh List**	**F5**	**Refresh List** Refreshes the job count in FTS Preprocessor.
	**File > Send Batch**	**CTRL+D**	**Send Batch** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Exit**	**F12**	**Exit** Closes the **FTS Preprocessor** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all documents in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.
	**Edit > Delete Document**	**CTRL+DEL**	**Delete Document** Deletes the selected document.
	Edit > Recovery		**Recovery** Recovers the FTS Preprocessor status if the process is interrupted for some reason.
			**Document Info** Displays document information.

Button	Menu option	Shortcut key	Description
	**Run > Process Setup**	**CTRL+S**	**Process Setup** Opens the **FTS Setup** window to set up the FTS configuration.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts FTS Preprocessor.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops FTS Preprocessor.
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the current FTS Preprocessor window that appears in the window.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for this application.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.

Button	Menu option	Shortcut key	Description
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow

FTS Server

The button and menu bars of the **FTS Server** window contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh List**	**F5**	**Refresh List** Refreshes the job count in FTS Server.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the current **FTS Server** window that appears in the window.
	**File > Exit**	**F12**	**Exit** Closes the **FTS Server** window.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts FTS Server.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops FTS Server.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for this application.

Button	Menu option	Shortcut key	Description
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Image Enhancement Server

The **Image Enhancement Server** window button and menu bars contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh List**	**F5**	**Refresh List** Refreshes the job list in Image Enhancement Server.
	**File > Send Batch**	**CTRL+D**	**Send Batch** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Exit**	**F12**	**Exit** Closes the **Image Enhancement Server** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all jobs in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.
	**Edit > Delete Document**	**CTRL+DEL**	**Delete Document** Deletes the selected documents from the queue.
	Edit > Recovery		**Recovery** Recovers the Image Enhancement Server status if the process is interrupted for some reason.
	**Run > Process Setup**	**CTRL+S**	**Process Setup** Opens the **Process Setup** window to configure the Image Enhancement Server.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts Image Enhancement Server.

Button	Menu option	Shortcut key	Description
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops Image Enhancement Server.
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	Run > Start Test		**Start Test** Starts testing the configurations in Image Enhancement Server.
	Run > Release Test		**Release Test** Stops testing the configurations in e Image Enhancement Server.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the current Image Enhancement Server window that appears in the window.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for Image Enhancement Server.

Button	Menu option	Shortcut key	Description
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Import Server

The **Import Server** window menu and button bars contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Import Setup**	**F2**	**Setup** Opens the Import Setup window that is used to configure the import parameters and criteria.
	File > Export Setup		**Export Setup** Opens the Export Setup Data window that is used to write all Import Server data to a `.cnv` file.
	**File > Log File**	**F5**	**Log File** Opens the Log Errors File window to see the errors that occurred during the import process.
	**File > Track File**	**F6**	**Track File** Opens the Track Messages File to view the history of all Import Server activity.
	**File > Exit Import Server**	**F12**	**Exit** Closes the **Import Server** window.
	**Run > Start Import Server**	**F3**	**Start Server** Starts Import Server.
	**Run > Stop Import Server**	**F4**	**Stop Server** Stops Import Server.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for Import Server.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.

Button	Menu option	Shortcut key	Description
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Distribution Server

The **Distribution Server** window menus and button bar contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh List**	**F5**	**Refresh List** Refreshes the job list in Distribution Server.
	**File > Send Batch**	**CTRL+D**	**Send Batch** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Exit**	**F12**	**Exit** Closes the **Distribution Server** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all jobs in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.
	**Edit > Delete Document**	**CTRL+DEL**	**Delete Document** Deletes the selected document.
	Edit > Recovery		**Recovery** Recovers Distribution Server status if the process is interrupted for some reason.
	**Run > Process Setup**	**CTRL+S**	**Process Setup** Opens the **Setup** window.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts Distribution Server.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops Distribution Server.

Button	Menu option	Shortcut key	Description
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the current Distribution Server window that appears in the window.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for Distribution Server.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Escalation Server

The **Escalation Server** window menus and button bar contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh**	**F5**	**Refresh** Refreshes the jobs in Queue count in Escalation Server.
	**File > Save Configuration**		**Save Configuration** Saves the window configuration.
	**File > Process Setup**	**CTRL+S**	**Process Setup** Opens the **Escalation Settings** window.
	**Run > Start Server**		**Start Server** Starts Escalation Server.
	**Run > Stop Server**		**Stop Server** Stops Escalation Server.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for Escalation Server.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.
	**File > Exit**	**F12**	**Exit** Closes the **Escalation Server** window.

Push Server

The **Push Server** window menus and button bar contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Refresh**	**F5**	**Refresh** Refreshes the job list in Push Server.
	**File > Send**	**CTRL+D**	**Send** Opens a dialog to manually send the selected document or parcel to another queue.
	**File > Save Configuration**		**Save Configuration** Saves the configuration of the **Push Server** window in the window.

Button	Menu option	Shortcut key	Description
	**File > Exit**	**F12**	**Exit** Closes the **Push Server** window.
	Edit > Clear All Flags	**CTRL+C**	**Clear All Flags** Clears flags for all jobs in the list.
	Edit > Apply Status Changes	**F9**	**Apply Status Changes** Updates the database with any status changes made.
	**Edit > Delete**	**CTRL+DEL**	**Delete** Deletes the selected job.
	Edit > Recovery		**Recovery** Recovers the Push Server status if the process is interrupted for some reason.
	**Run > Start Server**	**CTRL+E**	**Start Server** Starts Push Server.
	**Run > Stop Server**	**CTRL+Z**	**Stop Server** Stops Push Server.
	Run > Auto Send	**CTRL+A**	**Auto Send** When selected, processed jobs are automatically sent to the next queue in the workflow.
	Run > Server Mode	**CTRL+L**	**Server Mode** When selected, the application runs continuously.
	**View > Right Image Display**	**CTRL+R**	**Right Image Display** Displays the selected document in the Image Viewer on the right side of the window.
	**View > Modify Image**	**CTRL+M**	**Modify Image** Opens the Image Viewer on the right side of the window for document editing.
	View > Advanced Display Settings		**Advanced Display Settings** Opens the **Advanced display settings** dialog to specify document display settings.
	View > Show Original	**CTRL+O**	**Show Original** Displays the original version of the selected document.

Button	Menu option	Shortcut key	Description
	View > Show Versions	**CTRL+V**	**Show Versions** Displays a list of all versions of the selected document. The current version is displayed at the bottom of the list.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for Push Server.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

ERM Indexer

The **ERM Indexer** window menus and button bar contain the following utilities:

Button	Menu option	Shortcut key	Description
			**Settings** Opens the **ERM Server Settings** window that is used to configure the server parameters.
	**Process > Start**	**F3**	**Start** Starts ERM Indexer
	**Process > Stop**	**F4**	**Stop** Stops ERM Indexer.
	**Process > Exit**	**F12**	**Exit** Closes the **ERM Indexer** window.
	**Help > Context Help**	**F1**	**Context Help** Opens the Help section for this application.
	Help > Help Topics	**CTRL+F1**	**Help Topics** Displays a list of available help topics.
	Help > About Exigen Workflow		**About Exigen Workflow** Shows copyright and release information regarding Exigen Workflow.

Report Definition Wizard

The **RDW** window menus and button bar contain the following utilities:

Button	Menu option	Shortcut key	Description
	**File > Open Report**	**CTRL+O**	**Open Report** Opens a report in the report window.
	**File > Close Report**		**Close Report** Closes currently active report.
	File > Close All Reports		**Close All Reports** Closes all currently open reports.
	**File > New Template**	**CTRL+N**	**New Template** Opens a new template.
	**File > Open Template**		**Open Template** Opens an existing template.
	**File > Save Template**	**CTRL+S**	**Save Template** Saves the currently active template.
	File > Save Template As		**Save Template As** Saves the current template with a different name or location.
	File > Export Template > Export to ERM INI File		**Export to ERM INI File** Exports the template to Exigen Workflow ERM INI file, specified in **View > Options.**
	File > Export Template > Export to ERM XML File		**Export to ERM XML File** Exports the template to Exigen Workflow ERM XML file, specified in **View > Options.**
	File > Import Template		**Import Template** Imports template from the Exigen Workflow database.
	File > Print	**CTRL + P**	**Print Report** Prints the report currently active.
	File > Print Preview		**Print Preview** Shows an actual view of the report before it is printed.
	File > Exit		**Exit** Exits Report Definition Wizard, prompting the user to save the unsaved changes.
	**Edit > Cut**	**CTRL+X**	**Cut** Removes selected text and places it on the clipboard. Enabled only for editing text in edit trap box.
	**Edit > Copy**	**CTRL+C**	**Copy** Copies the selected text in the clipboard.

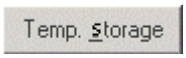
Button	Menu option	Shortcut key	Description
	**Edit > Paste**	**CTRL+P**	**Paste** Inserts the contents of the clipboard at the insertion point. You can paste the text only if cut or copy functions are performed.
	Edit > Select All	**CTRL+A**	**Select All** Selects all report.
	**Edit > Find**		**Find** Searches for the specified text.
	Edit > Find Next	**F3**	**Find Next** Performs the next search
	View > Text Size		**Text Size** Is used to select the font size for the report.
	View > Encoding		**Encoding** Lists possible report encoding.
	View > Toolbars		**Toolbars** Lists possible toolbars combinations. To select one, click on it.
	View > Status Bar		**Status Bar** Displays or hides the status bar.
	View > Options		**Options** Opens options window that is used to specify the file names to which to export the templates.
	Template > Add Trap	**Ins**	**New Trap** Opens the **Trap** window with a new trap added to the template. You can edit the trap in this window.
	Template > Edit Item	**Enter**	**Edit Item** Opens the selected item for editing.
	Template > Delete Item	**Delete**	**Delete Item** Deletes the selected item.
	Template > Clear Template		**Clear Template** Clears the template opened.
	Window > New Window		**New Window** Opens the currently active report in a new window.

Button	Menu option	Shortcut key	Description
	Window > Cascade		**Cascade** Arrange report windows so that they overlap.
	Window > Tile		**Tile** Arranges report windows as non-overlapping tiles.
	Window > Arrange Icons		**Arrange Icons** Arranges icons at the bottom of the report window.
	Help > Help Topics	**F1**	**Help Topics** Opens the Help section for this application.
	Help > About RDW		**About RDW** Shows program information, version number, and copyright.

E-Capture Server

The **E-Capture Server** window menus and button bar contain the following utilities:

E-Capture Server tools			
Button	**Menu option**	**Shortcut key**	**Description**
	**File > Setup**	**F2**	Sets up E-Capture Server.
	File > Local Parent Directory	**F7**	Selects the local parent directory required to process large PCL files.
	View > Show Recovery Info Button		Recovers the corrupted portion of large PCL files if a problem occurs during processing.
	**Run > Start Server**	**F3**	Starts E-Capture Server.
	**Run > Stop Server**	**F4**	Stops E-Capture Server.
	**Help > Context Help**	**F1**	Opens context help.
	Help > Help Topics	**CTRL+F1**	Opens help.

E-Capture Server tools			
Button	**Menu option**	**Shortcut key**	**Description**
	Help > About Exigen Workflow		Displays the Exigen Workflow version and copyright information.
	**File > Exit Server**	**F12**	Closes the application.
	**File > Error Log File**	**F5**	Opens the error log.
	**File > Track File**	**F6**	Opens the history log.
	**View > Temp. Storage Info**		Opens the Temporary Storage table.
	View > Schedule of Forms Info		Opens the Schedule of Forms table.
	View > Schedule of Locations Info		Opens the Schedule of Locations Information table.
	View > Schedule of Named Insured Info		Opens the Named Insured table.

Appendix B: Maintaining Exigen Workflow Servers as Services

The following objects are enhanced to function as true Windows NT® active desktop services:

- Barcode Server
- Distribution Server
- E-Capture Server
- Escalation Server
- Event Server
- Form OCR Server
- Form Index Server
- FTS Preprocessor
- FTS Server
- Image Enhancement Server
- Import Server
- ERM Indexer
- Push Server

These objects are now able to run in service mode; that means they can function without user interaction for a long time, processing documents according to workflow rules.

Note: To use Exigen Workflow servers as true Windows NT–active desktop services, you must specify a user account in the service properties Log On pane.

The following topics are described in this section:

Installing and Configuring Services

The following topics are included in this section:

Installing Services from the User Interface

To install a service from the **Exigen Workflow Explorer** window, proceed as follows:

1. Right click the object that can be used as a service.

   A popup menu appears.

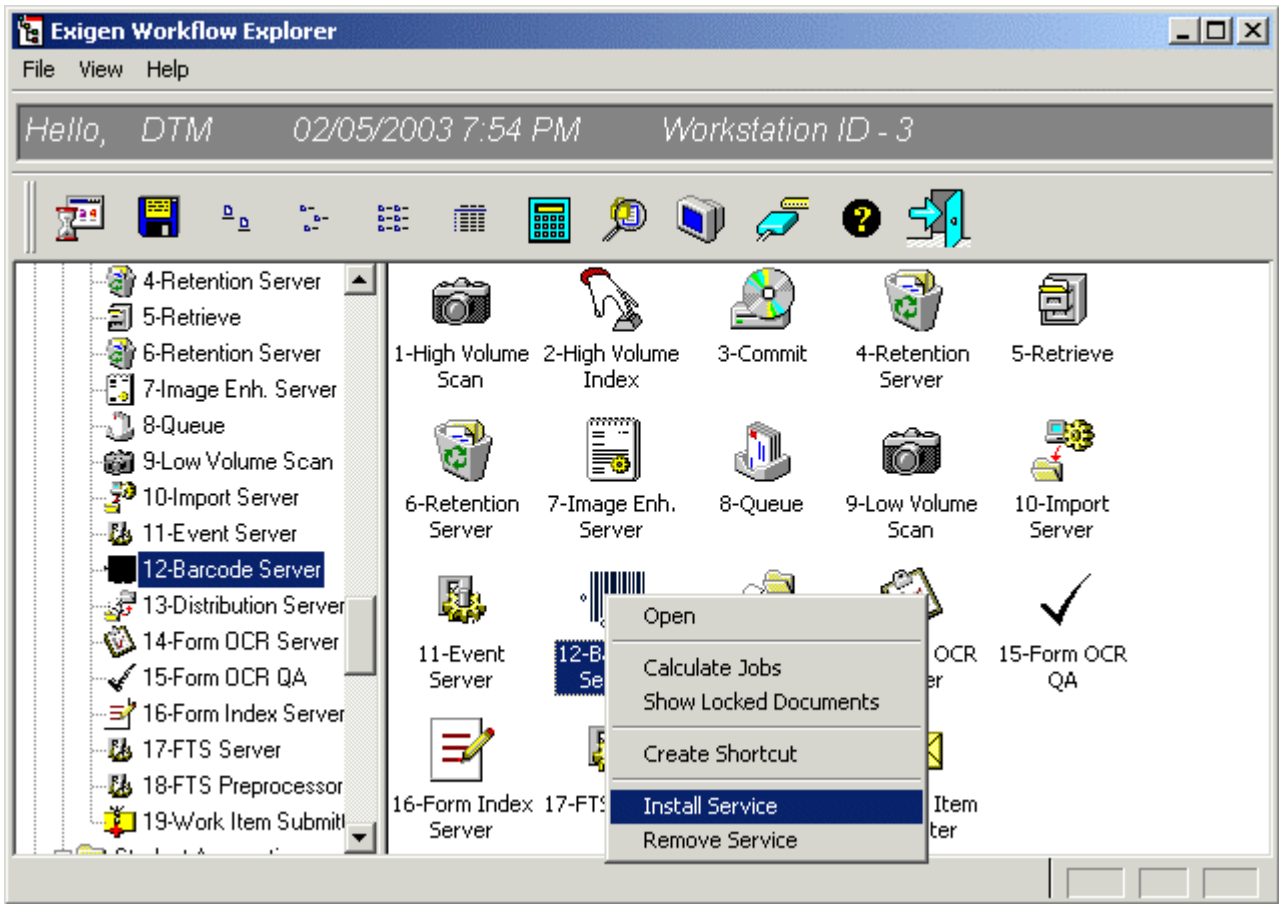


Figure 176: Installing a service from Exigen Workflow Explorer

2. Select **Install Service.**

The relevant sections in the visiclt.ini file are filled in automatically, and the service is installed.

Note: Multiple instances of services can be installed for one server. The maximum number of instances is 99.

Installing Services Using the Command Prompt

To install services using the command prompt, run the following command from the command prompt:

Serv_all.exe –install name description path section_name [response_time]

Parameters for installing services	
Parameter	**Description**
install	Installs a flag.
name	Service name, which must be unique name for each service.
description	Service description.
path	Full path to the serv_all.exe program if it differs from the current install path.
section_name	Corresponding section name in the visiclt.ini file for each Exigen Workflow server.
response_time	Timeout in minutes; if specified and exceeded, the service terminates the server process.

No spaces are allowed in service names.

The description must be passed as one parameter. Text with spaces must be placed in “ ”.

The path parameter is not used; the current path name to serv_all.exe is used instead.

The parameter section_name is used as a reference section name in the visiclt.ini file. Service parameters are stored in the following registry:

HKEY_LOCAL_MACHINE\SOFTWARE\Exigen\Exigen Workflow\Services.

Response time is used to determine if a server is responding in case of an unexpected error. If the service time differs from the server time more than specified in the response time, the service terminates the server and stops.

During the Exigen Workflow installation, the default response_time is set to 10 minutes.

Service status after installation is Not Started, Manual.

The following example represents a part of the visiclt.ini file:

```
…
[setup_import]
Service_StartupString=C:\ExigenWorkflow\SYSTEM\objimpr.exe 19 DTM 8 DTM Y Y
Service_CurrentDir=C:\ExigenWorkflow\SYSTEM
```

```
  Service_Status=stop
  Service_WindowTitle=Import Server
  [setup_escalation]
  Service_StartupString=C:\ExigenWorkflow\SYSTEM\srvesc.exe 4 DTM 1 dtm Y Y
  Service_CurrentDir=C:\ExigenWorkflow\SYSTEM
  Service_Status=stop
  Service_WindowTitle=Escalation Server - IMPORT SERVER TEST
  …
```

The following command-line sample represents the installation of several Exigen servers:

```
serv_all.exe -install DTM_Import "Exigen Import Server" serv_all.exe
SETUP_IMPORT 10

serv_all.exe -install DTM_Escalation "Exigen Escalation Server"
serv_all.exe setup_escalation 10

serv_all.exe -install DTM_Barcode "Exigen Barcode Server" serv_all.exe
setup_barcode 10

serv_all.exe -install DTM_Event "Exigen Event Server" serv_all.exe
setup_event 10

serv_all.exe -install DTM_Push "Exigen Push Server" serv_all.exe
setup_push 10

serv_all.exe -install DTM_Pdf "Exigen E-Capture Server" serv_all.exe
setup_pdf_serv 10

serv_all.exe -install DTM_Ftx "Exigen FTX Server" serv_all.exe
setup_ftx 10
```

Configuring Services

To configure services, proceed as follows:

1. For Windows 2000, select **Start > Settings > Control Panel > Administrative Tools > Services.**
2. For Windows NT, select **Start > Settings > Control Panel > Services.**
3. Right click the service and select **Properties.**
4. To modify the service display name, in the **General** tab, in the **Display name** field, modify the value.

   Although the service display name can be modified, the service name itself cannot be changed.
5. To add or modify an optional service description, in the **Description** field, enter an appropriate text.

6. To specify a user account for the service, select the **Log On** tab and select the **This account** option.

   The following Workflow services perform file and database operations and must be run under a specific DOMAIN user account that is granted read and write access to the Image repository and administrative access on a local computer:

   - Barcode Server
   - Form OCR Server
   - Form Index Server
   - Import Server
   - E-Capture Server
   - Distribution Server
   - Retention Server
   - Image Enhancement Server
   - FTS Server
   - Audit Server

   Workflow services that perform only database operations, such as Push Server and Escalation Server, are not required to run under a specific user account, although it is recommended.

7. In the **This account** field, enter a user account.
8. In the **Password** field, enter the password for the user account.
9. In the **Confirm password** field, enter the password again.
10. To specify system behavior in case of service failure, select the **Recovery** tab and enter appropriate values.
11. To save the settings, click **OK.**

Running Servers as Services Using a Trusted Connection and the CCID Win32 Login

To run servers as services using a trusted connection to the database and the CCID Win32 login to Exigen Workflow, proceed as follows:

1. In the local `visiclt.ini` file, define the following modes:

```
[winclient]
authentication_mode=C
db_connection_mode=T
```

2. Log in to Exigen Workflow under the specific windows user account that is registered in the Exigen Workflow database as a CCID Win32 authentication allowed user.
3. While logged in, install the service.
4. In Exigen Workflow, run the service under the same Windows user that is used to install services.

Uninstalling Services

The following topics are included in this section:

Uninstalling Services from the User Interface

To uninstall a service from the **Exigen Workflow Explorer** window, proceed as follows:

1. Right click the object that can be used as a service.
2. Select **Remove Service.**

   The **Remove Service** dialog appears.

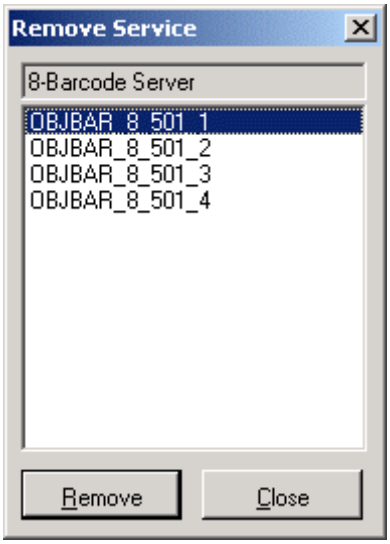


Figure 177: Removing a service

   A list of all services that are installed for the selected server is shown.

3. Select a service instance and click **Remove.**

Uninstalling Services Using the Command Prompt

To uninstall services using the command prompt, run the following command from the command prompt:

```
Serv_all.exe –remove name
```

Parameters for uninstalling services	
Parameter	**Description**
remove	Removes a flag.
name	Service name, which is unique for each service.

The uninstall function marks a service for deletion from the service control manager database.

The database entry is not removed until all open handles to the service are closed and the service has stopped running. A running service is stopped by a call to the `ControlService` function with the `SERVICE_CONTROL_STOP` control code. If the service cannot be stopped, the database entry is removed when the system is restarted.

The service control manager deletes the service by deleting the service key and its subkeys from the registry.

The following sample represents command lines:

```
Serv_all.exe -remove DTM_Import
Serv_all.exe -remove DTM_Escalation
```

Starting Services

To start services, run the following command from the command prompt:

```
Serv_all.exe -start name
```

Parameters for starting services	
Parameter	**Description**
start	Starts a flag.
name	Service name, which is unique for each service.

The following process occurs:

1. When the command for starting a service is run, the server is started with parameters for service mode.

   No messages are displayed in this mode, and no other user interaction is required.

2. The server creates an event that is used as a communications link to monitor the server from the service.
3. After every 10 seconds in the loop, the service reads the server status:
   - If the status changed, the server is running.
   - If the status did not change, the server is busy.
   - If the status has not changed in the last 20 minutes, the service assumes that the server is not responding. The server is terminated and the service stops.

Note: The non-response interval can be modified in the service registry.

- If the service is started and the server runs successfully, the server updates the response values in the `visiclt.ini` file.

4. The service does not restart the server by default. However, in Windows 2000 you can select the corresponding check box to restart the service automatically.
5. The service writes information to the Windows event log.

Stopping Services

To stop services, run the following command from the command prompt:

```
Serv_all.exe -stop name
```

Parameters for stopping services	
Parameter	**Description**
stop	Stops a flag.
name	Service name, which is unique name for each service.

The following results occur:

- Service exits from its loop, sets `Service_Status = stop` in the `visiclt.ini` file, and exits.
- The Exigen Workflow server reads `Service_Status = stop`, terminates the operation, and exits.

Getting Help

To access online help, run the following command from the command prompt:

```
Serv_all.exe /?
```

Events in the Event Log

The following table describes events for services:

Event type	Event number	Event message
Information	1	Service %1 was installed.
Information	2	Service %1 was started.
Information	3	Service %1 was stopped.
Information	4	Service %1 was removed.
Information	12	Service %1 was stopped. Server %2 was stopped by %3.
Error	5	Service %1 was terminated. Server %2 was terminated by an unexpected error.
Error	6	Service %1 was terminated. %4 Event 6 is used to write custom text into an event log. Usually, this is a server error message. If the server displays an error message in service mode, the error is passed to the service and is written to the event log. If there is more than one error message, only the last one is written.
Error	7	Service %1 was terminated. Server %2 timeout (%3 minutes) was exceeded.
Error	8	Service %1 was terminated. No main server window. **Note:** Not used in Exigen Workflow version 5.4.1 and later.
Error	9	Service %1 was terminated. Server cannot be started.
Error	10	Service %1 was terminated. Server was stopped manually.
Error	11	Service %1 was terminated. Service/server communication cannot be established.

Tuning Escalation Server

Escalation Server can be tuned to set the speed of response to a termination request and the intervals for performing escalation. To do this, modify two additional variables in the Escalation Server section `[setup_escalation]` in `visiclt.ini`:

Variables for tuning Escalation Server	
Variables	**Description**
`ExitCheckInterval`	Time interval for checking exit requests; default is 1000 ms or 1 second.
`ProcessInterval`	Time interval for processing; default is 50,000 ms or 50 seconds, and the maximum value is 2147483646 ms, or 24 to 25 days

The following is an example where the interval is 1 day:

```
ProcessInterval=86400000
```

Running Multiple Server Instances from the Command Prompt

Multiple Exigen Workflow server instances can be run. The following example describes how to run multiple instances of Push Server from the command prompt.

1. Create or modify the `[Multiinstance]` section in the `visiclt.ini` file.
2. Create or modify two sections, `OBJPUSH_x_y` and `OBJPUSH_x_y`, where `x` is a workflow node ID and `y` is a workflow ID for each Push Server object that has to be started as a service.

```
[Multiinstance]
      ;the first Push Server (node ID=6, workflow ID=7)
      ;to turn on multiple instances for the following object, set
value to 1, to turn off, set value to 0.
      OBJPUSH_6_7=1
      ;the section name for the first Push Server, where server
information is written (server status and so on).
      OBJPUSH_6_7_section=setup_push1

      ;the second Push Server (node ID =3, workflow ID=2)
      OBJPUSH_3_2=1
      OBJPUSH_3_2_section=setup_push2
```

3. In **Exigen Workflow Explorer,** start each Push Server.

   Starting the Push Server automatically adds a section to the `visiclt.ini` file for this object and fills it with the required run-time information.

   Two new sections are added to the `visiclt.ini` file:

```
      [setup_push1]
      ....
      [setup_push2]
      ....
```

4. If the Exigen Push Server service appears in the services list, remove it by running the following command:

```
   serv_all.exe -remove DTM_Push
```

5. Create a service for each Push Server object by running the following command: `ExigenWorkflow\SYSTEM\serv_all.exe`.
4. To create two services with the sections `setup_push1` and `setup_push2`, run `serv_all.exe` with the following parameters in the command line:

```
      serv_all.exe -install setup_push1 "Exigen Push Server 1"
serv_all.exe setup_push1 10

      serv_all.exe -install setup_push2 "Exigen Push Server 2"
serv_all.exe setup_push2 10
```

6. Open the service properties and specify a system or user account that the service logs in.

Appendix C: Push Server Advanced Functionality

This appendix describes the advanced functionality of Push Server. The following topics are described in this section:

Routing Using a Codetable

In contrast to simple routing, Push Server analyzes the values described in a codetable and performs the corresponding actions. This approach is flexible and convenient because it eliminates the need to describe separate conditions and makes the server work more effectively.

Requirements

The project must contain a codetable. Using Project Builder, create a codetable with the following fields:

Codetable fields			
Field name	**Data type**	**Size**	**Description**
ACT_CODE	VARCHAR	199	Code field, which identifies codetable record. Must contain a value for comparison.
WFL_ID	INTEGER	4	ID of the workflow that uses this table.
NODE_FROM	INTEGER	4	Node ID to which this record applies.
NODE_TO	INTEGER	4	Node ID to which the parcel must be sent if the code field is verified.
UID_TO	VARCHAR	32	User ID to which the parcel must be sent if the code field is verified.
ACT_DESC	VARCHAR	199	Description of the current action record. Can be any text or blank.

To populate the codetable, use the Table Maintenance utility in the Administrator application.

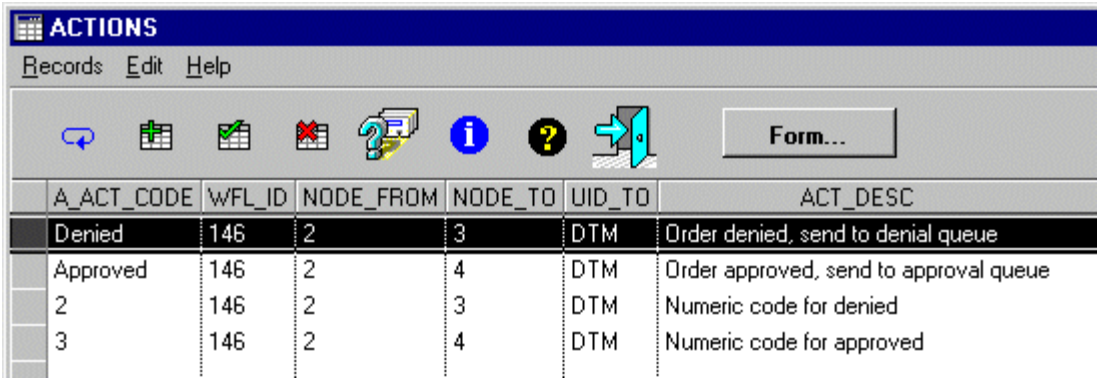


Figure 178: Example of table content

To enable the codetable during a routing procedure, routing rules must contain the keywords <USE TABLE:CODETABLE NAME>.

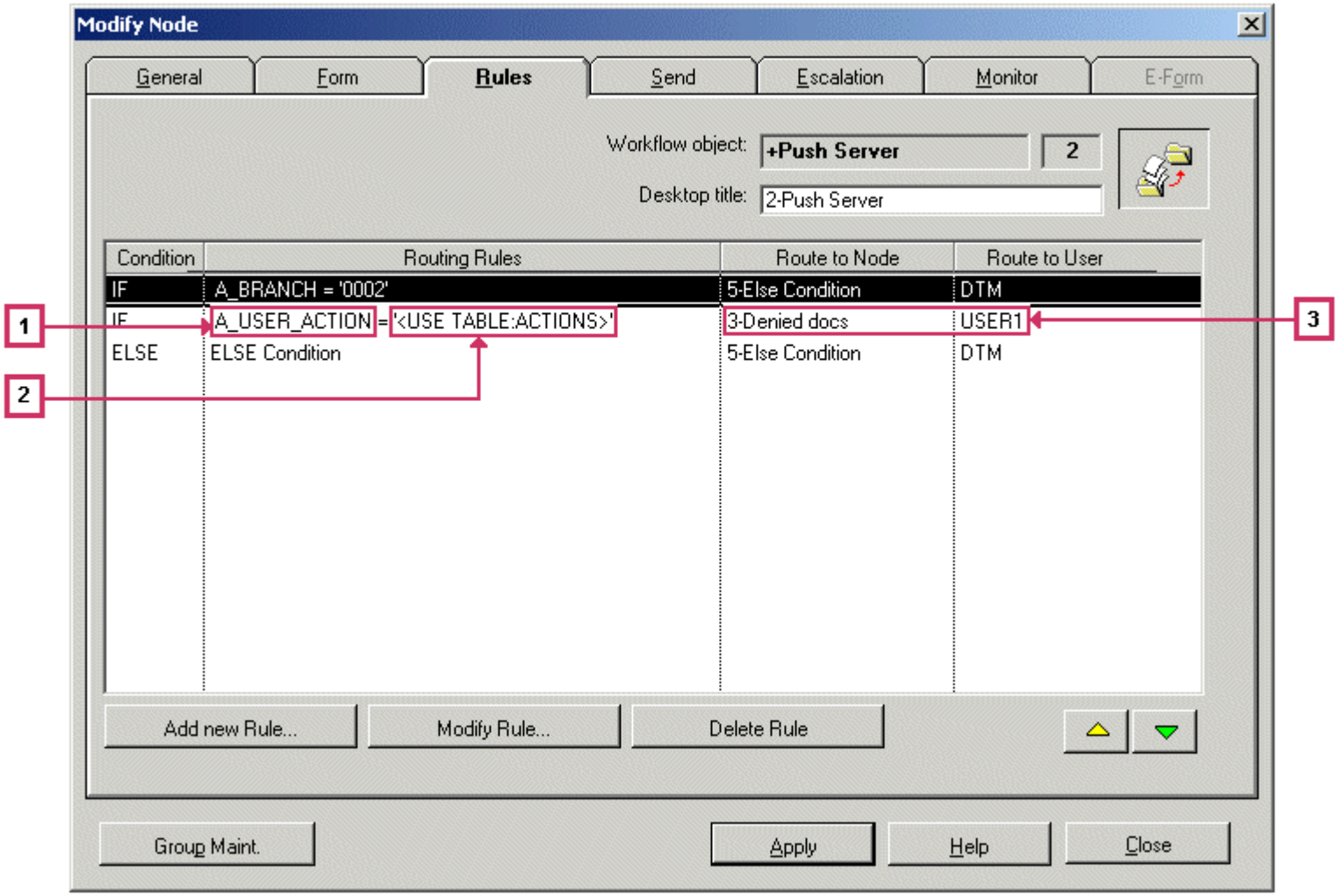


Figure 179: Example of routing rules using a codetable

The following table describes the numbered sections of the preceding figure:

Modify Node window sections	
Section number	**Description**
1	Field to look up in ACTIONS codetable.
2	Keyword that enables use of the ACTIONS codetable.
3	Routes to nodes and users. Values are not used, but are required for compatibility with regular routing rules. It can contain any node and user pair.

This example uses a codetable named ACTIONS and illustrates the situation when a codetable is combined with regular routing rules. In this case, the upper rules are verified sooner. The action sequence for this example is the following:

1. If field A_BRANCH equals **0002,** route parcel to the node named “Else condition” and user “DTM”. If not, proceed to the next routing rule.
2. Take the value from field A_USER_ACTION and try to find this value in the codetable field ACT_CODE. If the value is found in the codetable, route to the node ID and user ID specified in the codetable. If this value is not found in codetable, proceed to the ELSE condition.
3. ELSE condition: route parcel to the node named “Else condition” and user “DTM”.

The routing rule using the ACTIONS table must be the following:

```
<field name> = '<USE TABLE:ACTIONS>'
```

If the field data type is not VARCHAR or CHAR, `<field name>` must also contain the appropriate conversion valid for the current server.

For DB/2 it must resemble the following:

```
cast( <field_name> as varchar(199))
```

`<field_name>` is the field to be used with the codetable.

Example: CAST(A_USER_ACTION AS VARCHAR(199))=’<USE TABLE:ACTIONS>’

Legacy-Based Routing: Integration with Exigen Integrator

Before users can integrate Push Server with Exigen Integrator, Exigen Integrator must be installed.

Note: The Exigen Integrator installation includes the `D32_EIS.DLL` file that is required for integration. The `D32_EIS.DLL` file is not included in the Push Server installation.

Exigen Workflow invokes Exigen Integrator and provides it with the parameters necessary to retrieve the required data.

Function `DTM_EISRoute` accepts appropriate parameters from Exigen Workflow, connects to Exigen Integrator, and executes the `Workflow_Route` method and returns data.

Function DTM_EISRoute takes seven parameters.

```
BOOL DTM_EISRoute(
     LPCTSTR eis_DBSpec,
     LPCTSTR eis_host,
     int eis_port,
     long Doc_ID,
     LPCTSTR Project_ID,
     LPLONG lpReturn,
     LPTSTR lpStrError );
```

Parameters in DTM_EISROUTE	
Parameter	**Description**
eis_DBSpec	RDBMS resource name, which must be used to connect to the database.
eis_host	Hostname on which Exigen Integrator resides.
eis_port	Port number to which Exigen Integrator listens.
Parcel_ID	Parcel ID.
Project_ID	Project ID.
lpReturn	Return code. If function succeeds, a return code contains the value returned by Exigen Integrator.
lpStrError	Error message. If function fails, an error message is passed to this parameter.

If eis_host is blank and eis_port is **0,** the default host localhost and port 9000 are used.

Return values:

If DTM_EISRoute succeeds, it returns TRUE; otherwise, FALSE is returned.

Declaration in Centura:

Function DTM_EISRoute must be declared in Exigen Workflow application code in the following way:

Library name: D32_EIS.DLL

```
Function: DTM_EISRoute
      Description:
      Export Ordinal: 0
      Returns
            Boolean: BOOL
      Parameters
            String: LPSTR
            String: LPSTR
            Number: INT
            Number: LONG
            String: LPSTR
            Receive Number: LPLONG
            Receive String: LPSTR
```

The BATCHPARCEL table must contain a field named A_EIS_ROUTE with type INTEGER.

The visiclt.ini file must contain the section:

```
[EIS_setup]
EIS_Host =
EIS_Port =
```

Appendix D: Example Report

This is an example of a report for Report Definition Wizard.

891623685

STUDENT LOAN INTEREST PAYMENT REPORT
FOR IRS FORM 1098E

SSN: 891-62-3685

SMITH JAMES A
12708 RIVERSIDE ST
DALLAS, TX 75233-5009

*** STAFFORD LOAN ***

LOAN SEQ NUM	LOAN BEGIN DATE	LOAN END DATE	LOAN DAYS DEFERMENT	LOAN GRACE DATE	LOAN ADJUSTED END DATE	IRS 60-MONTH DATE	1998 INTEREST PAID
002	06/21/1995	06/20/2000	0	06/20/1995	06/30/2000	06/20/2000	32.33
003	06/21/1995	06/20/2000	0	06/20/1995	06/30/2000	06/20/2000	56.63
004	06/21/1995	06/20/2000	0	06/20/1995	06/30/2000	06/20/2000	56.81
005	06/21/1995	06/20/2000	0	06/20/1995	06/30/2000	06/20/2000	170.05
006	06/21/1995	06/20/2000	0	06/20/1995	06/30/2000	06/20/2000	170.05
						SUB TOTAL:	485.87

*** SUPPLEMENTAL LOAN FOR STUDENT ***

LOAN SEQ NUM	LOAN BEGIN DATE	LOAN END DATE	LOAN DAYS DEFERMENT	LOAN GRACE DATE	LOAN ADJUSTED END DATE	IRS 60-MONTH DATE	1998 INTEREST PAID
002	08/07/1993	12/06/1999	486	08/06/1993	12/31/1999	08/07/1998	27.50
003	09/07/1993	12/15/1999	464	09/06/1993	12/31/1999	09/07/1998	82.53
004	10/20/1993	12/15/1999	421	10/19/1993	12/31/1999	10/20/1998	82.65
						SUB TOTAL:	192.68

TOTAL INTEREST PAID ON ALL LOANS FOR 1998: 678.55

Figure 180: Example report

Appendix E: ERM Configuration File Keywords

In the following ERM configuration file example, keywords and values related to name conventions are highlighted:

```
[general section]
;general section contains options for ERM Indexer
next entry extension = 500
;this keyword stores next automatically assigned model ID
multimodel = 0
;value (0, default) disables or enables (1) multimodel processing
notstrict = -1
;value (-1) enables variations in traps position
;relative to Monarch model trap
;can be +1 or -1 (default 0)
log = 0
;value (1, default) enables or disables (0) posting messages
;to ETDM log file


[ABC]
;ABC is three-character model ID (extension)
model description = Modern Art Industries Invoice

batch = 0
;value (0) disables batch processing mode which, otherwise, is default

;printer settings
page orientation = Landscape
;or Portrait, Landscape is default

print margins = 0.4 0.4 0.4 0.4
;order of margins is left, right, top, bottom in inches
;0.5 by default

paper size = Letter
font size=9
font face = Lucida Console
;or other in compliance with Windows
;default values are Letter, 8, Courier New

;fixed format reports (d32_mnr.ini)
signature = 0 8
;value lists blank separated trap numbers which are signatures

page shift=-26
;value is the difference between top document line number (0)
;and top trap line number(26) for page header traps which are
;not at the top document line, default value is 0

;trap example
```

```
trap1="           ÑÑÑÑ/ÑÑ/ÑÑ    ÑÑÑÑ/ÑÑ/ÑÑ ß1/"
;keyword: 1 is trap number, trap0 must be on top;
;trap numbers are hexadecimal (trap0, trap1, …, trapF)
;value: trap line in double quotes

;example of index field (for number of field <=9)
field10=2 3 23 CONTRACT
;keyword: 1-trap number, 0-field number (decimal <99)
;value: blank separated row increment(2), start position(3),
;length(23), and field name without blanks (CONTRACT)
descr10=Contract number
;keyword: 1-trap number, 0-field number
;value: field description string (Contact number)

;example of overlay field
field11=-10 1 77 O_TIT
;keyword: same as index field
;value: blank separated row increment(-10), start position (1), length
(77), and field name started with O_ (O_TIT)
descr11=multi 1 5
;keyword: same as index field
;value: separated by blanks keyword multi
;multiline parameter(1)and line count (5)

;example of page header overlay field
field14 = 2 0 3 O_PAG01
;keyword: same as index field
;value: blank separated row increment(2), start position (0)
;length (3), field name started with O_PAG (O_PAG01)
;where 01 is number of page in form overlay template (1, 2, 3, … ,99).
;Field name starting with O_PAG is reserved for page header fields
;and cannot be used otherwise.


;other example of field (for number of field >9)
fieldA13=0 48 12 INVOICE_NO
descrA13=invoice number
;this is index field 13 related to trap A


;delimited reports (d32_dlm.ini)
trap0=3 IN
;keyword: same as fixed format reports
;value: sequential field number (3) starting from 0, trap field (IN)
;where blanks not allowed

;example of index field
field02=8 TO_NAME
;keyword: same as fixed format reports
;value: sequential field number (8) starting from 0
;field name (TO_NAME), blanks not allowed


;XLS templates
xls sheet = Sheet2
;value (Sheet2) is name of sheet where output is directed to
xls Header = Col
```

```
;value (Col) is the prefix for header (and footer) cell names
xls number of levels = 2
;Number (2) of detail and sub-detail levels
;not including ‘header and footer’ level
xls level1 = Det
xls level2 = Sub
;value (Det), (Sub) - prefixes for detail and sub-detail levels
xls start row = 25
;value (25) is the number of template row to insert detail level rows

;TXT templates
lines per page = 58
;limit of table lines per page for multi-page tables
```

Index

D

E

F