

Oracle® Fusion Middleware

WebCenter Forms Recognition Runtime
Server User's Guide

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Describes how to use the WebCenter Forms
Recognition runtime server

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Runtime Server

What is Oracle WebCenter Forms Recognition Runtime Server?

Oracle WebCenter Forms Recognition is a product for automatically processing incoming documents. As part of a suite of products, Runtime Server runs in the background as a server process.

Runtime Server automates the import, OCR, classification, data extraction, and export workflow steps.

Multiple instances of Runtime Server can be started simultaneously in a network or on a single machine. Because all instances cooperate with each other, running multiple instances optimizes load distribution.

As large volumes of incoming documents are processed, Oracle WebCenter Forms Recognition organizes them into batches. If batches cannot be entirely processed, the Runtime Server service forwards them to the quality assurance application Verifier for correction.

Runtime Server can be configured to generate new batches and to specify processing options for existing batches.

About the Runtime Service Management Console

System Administrators can administer instances of Runtime Server in the Runtime Service Management Console.

The left pane of the interface displays the Runtime Server Administration, an MMC snap-in where you can perform administrative tasks.

The right pane displays views depending on the object selected in the left pane, such as the batches, statistics, and the events of an instance.

You can perform the following actions.

- Define groups, machines, and instances that process batches.
- Control each instance of Runtime Server over an entire network.
- Monitor the process and status of instances.

Start Runtime Service Management Console

To start the Runtime Service and automatically launch the MMC console, complete the following step.

- Click **Start > All Programs > Oracle > Oracle WebCenter Forms Recognition > Runtime Service > Start Runtime Service**.

Stop Runtime Service

To stop the Runtime Service, complete the following step.

- Click **Start > All Programs > Oracle > Oracle WebCenter Forms Recognition > Runtime Service > Stop Runtime Service**.

Stop an Unresponsive Runtime Server

If the Runtime Server does not respond to the MMC any more, complete the following steps.

1. Stop the **Oracle WebCenter Forms Recognition Runtime Service Manager** service.

2. In Windows registry, complete one of the following substeps.
 1. For a 32-bit machine, navigate to
HKEY_LOCAL_MACHINE\SOFTWARE\Oracle\Services\[RTSInstance name].
 2. For a 64-bit machine, navigate to
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Oracle\Services\[RTSInstance name].
3. In the right pane, right-click the **AutoStart** key and then click **Modify**.
4. In the **Edit String** dialog box, in the **Value** data field, type a zero character: 0 and then click **OK**.

Groups

Add a Group

A group contains one or more machines. To add a group, complete the following steps.

1. In the **Runtime Server Administration** window, in the left pane, right click **Runtime Server Administration** and then click **New RTS Group**.
2. In the **New Group** dialog box, type a name for the group and then click **OK**.

Delete a Group

To delete a group, complete the following step.

- In the Runtime Server Administration window in the left pane, right-click the group and then click **Delete**.

Machines

Add a Machine to a Group

After you set up a group, you need to add one or more machines to that group. Machines contain Runtime Server instances. You cannot add a machine that is included in another group. To add a machine to a group, complete the following steps.

Prerequisite: Runtime Service Manager service should be running on the machine you want to add.

1. In the **Runtime Server Administration** window, in the left pane, right-click the required group and then click **New Machine**.
2. In the **Group Management** dialog box, complete the following substeps.
 1. From the **Domains** list, select the required domain and then click **Search**.
 2. Under **Select Machines**, type or select the machine name, click **>>** and then click **OK**.

Note: If you are configuring a stand-alone system, enter `localhost` as the machine name.

Delete a Machine

To delete a machine, complete the following step.

- In the Runtime Server Administration window, in the left pane, right-click the machine and then click **Delete**.

Instances

What is an Instance?

An instance is an occurrence of Runtime Server that runs on an individual machine or a network of machines. An instance defines the workflow steps for batch processing.

System administrators can remotely administer machines that run instances of Runtime Server. This Remote Service Administration feature, based on Microsoft Management Console (MMC) technology, provides a host environment for administering remote services.

Settings required to configure Runtime Service Manager service to stop and start automatically are found in Windows Computer Management > Services and Applications.

Add an Instance to a Machine

You use instances to define the workflow steps. Each instance provides monitoring views. The number of instances that you can run at one time depends on CPU utilization. A machine contains one or more instances that execute the defined workflow steps. To add an instance to a machine, complete the following steps.

1. In the **Runtime Server Administration** window, in the left pane, right-click the required machine and then click **New > RTS Instance**.
2. In the **New RTS Instance** dialog box, type a name for the instance and then click **OK**.

Note: The maximum character length for an instance name is 32. If you want to clone the instance, the maximum character length for an instance name is 22.

Delete an Instance

To delete an instance from a machine, complete the following step.

- In the Runtime Server Administration window, in the left pane, right-click the instance and then click **Delete**.

Define Cloned Instances

The OCR, classification and extraction workflow steps are highly CPU-intensive. You can clone instances that execute these steps to enhance performance. The cloned instances inherit the settings of the original instance. To clone an instance, complete the following steps.

1. In **Windows** registry, complete one of the following substeps.
 - On a 32-bit system, navigate to `HKEY_LOCAL_MACHINE\Software\Oracle\Services\[Instance name]`.
 - On a 64-bit system, navigate to `HKEY_LOCAL_MACHINE\Software\Wow6432Node\Oracle\Services\[Instance name]`.
2. Click **New > DWORD (32-bit) Value**.
3. In the **Name** field, type `InstanceCount`.
4. Right-click **InstanceCount** and click **Modify**.
5. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, type the number of instances.
6. Restart the **Oracle WebCenter Forms Recognition Runtime Server** service.

Note: Do not clone instances that execute the import and cleanup steps. This does not enhance performance.

Runtime Server Instance Configuration

Configure a Runtime Server Instance

Configuring Runtime Server instances enables you to generate new batches and to define the workflow steps for existing batches. To configure a Runtime Server instance, complete the following steps.

1. In the **Runtime Server Administration** window, in the left pane, right-click the instance and then click **Properties**.
2. In the **Oracle WebCenter Forms Recognition Runtime Server Properties** dialog box, modify the required settings and then click **OK**.

Configure General Settings

You configure general settings for Runtime Server instances in the Runtime Server Administration interface. To use the list of options in the General tab, use the links shown below.

These options are found in the General tab, in the Runtime Server Properties dialog box.

- [Define project file](#)
- [Define directories](#)
- [Define batch scanning](#)
- [Create a job](#)
- [Define client name](#)
- [Define logging levels](#)
- [Delete log files](#)
- [Start an instance](#)
- [Terminate an instance](#)
- [Restart an instance automatically](#)
- [Define automated system updates](#)
- [Configure processing limits](#)
- [Configure automatic start](#)
- [Enable batch integrity verification](#)

About Project Reloading

In general, an RTS instance loads the project into memory the first time processing performs, that is, when either a document for import or a batch in an input state is found.

If there are no batches in an active input state and no documents to import, the system unloads the project from memory and the instance enters a "Batch scanning delay". The next time the instance begins processing, the system reloads the project.

The *Minimize project reloading* option is available to optimize this processing. If you select this option, the project file is kept in memory when entering a "Batch scanning delay". Routine checks on the project file are performed and if the project file differs from the currently loaded project, the project file is reloaded or loaded for the first time. The system checks the project file at the following times.

- When processing starts after a "Batch scanning delay" or on initial start.
- After processing completes, prior to entering a "Batch scanning delay".
- After between 5 and 30 minutes of "Batch scanning delays", and every 30 minutes thereafter.

Define Project File

To define project file settings, complete any of the following steps.

- In the General tab, select one of the following options.
 - To specify the project file that processes the documents, click Use project file and type the path and file name of the Oracle WebCenter Forms Recognition project.
 - To specify a project referenced in the batch control file, click Use batch specific project file.
- Optional. Clear the Minimize project reloading check box. This option, which generally improves performance when instances perform intermittent processing, is selected by default. However, if an instance performs processing rarely, memory usage may improve by clearing this check box.

Note: For more information, see [About project reloading](#)

Define Directories

To define directory details, complete the following steps.

1. In the **General** tab, in the **Directories** section, click **Use database** to store batches in the Oracle WebCenter Forms Recognition database.
Note: This option is enabled by default if a new instance is in use.
2. In the **Select Job** box, select the desired job from the list or to create a new job select **Create Job**.
Note: A job contains batches pending verification.
3. The **Batch Root** option is no longer in use.
4. The **Image Root** option is no longer in use.
5. In the **Export** box, type the directory where the instance exports the results of the process.

Define Batch Scanning

To define batch scanning, complete one of the following options.

- In the General tab, in the Batch Scanning Delay and Mode section, in the Wait field, specify the interval in seconds between two polling cycles. To let the instances poll only once for batches to process, set the value to 0.
- Select the Activate High Priority Mode based on the following reasons.
 - To process batches first according to their priority, where 0 is the highest priority, and the according to their input state.
 - If the instance performs a Clean Up step combined with other workflow steps, except Import.
- Clear this option based on the following reasons.
 - If you want to process batches first according to their input state and then according to their priority.
 - If the instance only performs a Clean Up and/or Import step.

Create a Job

To create a new job, complete the following steps.

1. In the **General** tab, in the **Directories** section, select **Use Database**.
2. Click **Create Job**.
3. In the **Runtime Server** dialog box, type a name or a number and then click **OK**.

Note: A job contains batches pending verification.

Define Client Name

In Designer, you can set global variables with client-specific values in scripts that may affect document processing. To use the values of a specific client, complete the following step. For more information, see "About client keys" in the *Oracle WebCenter Forms Recognition Designer User's Guide*.

- In the General tab, in the Client section, type the client name.

Define Logging Levels

To define logging levels, complete the following step.

- In the General tab, in the Logging Level section, set the scope of logging by selecting one of the available options.
 - No Logging
 - Warning
 - Info
 - Error

Oracle WebCenter Forms Recognition creates a new log file daily in the log directory. For more information, see "About logging" in the *Oracle WebCenter Forms Recognition Installation Guide*.

You can use scripting methods to add user-defined errors, warnings, and information messages to log files. For more information, see "LogScriptMessageEx" in the *Oracle WebCenter Forms Recognition Scripting User's Guide*.

Delete Log Files

To delete a log file, complete the following step.

- In the General tab, in the Logging Level section, in the Delete log files after field, type the number of days after which log files delete automatically.

Note: This setting applies to the RTS machine, not to a single RTS instance.

Start an Instance

To start a Runtime Server instance at a set time, complete the following step.

- In the General tab, in the Automatic start / stop section, click the Start at box, and then enter the time when the instance starts automatically.

Terminate an Instance

To terminate a Runtime Server instance at a set time, complete the following step.

- In the General tab, in the Automatic start / stop section, click the Terminate at box, and then enter the time when the instance terminates automatically.

Note: If the instance terminates during the first three quarters of an hour, you cannot restart the instance within the same hour. If the instance terminates during the last quarter of an hour, you

cannot restart the instance within the same and the following hour.

Restart an Instance Automatically

A Runtime Server instance can restart when an application does not respond. To restart a Runtime Server instance automatically with specific timing factors, complete the following step. For more information, see "PerformScriptCommandRTS" in the *Oracle WebCenter Forms Recognition Scripting User's Guide*.

- In the General tab, in the Automatic restart section, select from these options.
 - After timeout of [x] sec
 - After [x] hours
 - After [x] documents
 - After [x] + pages document

Note: Runtime Server changes the state of the current document to the failed output state of the current workflow step and restarts automatically after the timeout you specify.

Define Automated System Updates

To update the system settings automatically, complete the following step. For more information, see "Update System Security" in the *Oracle WebCenter Forms Recognition Scripting User's Guide*.

- In the General tab, in the Automated System Updates section, select from these options.
 - Update system security
 - Automatic pool update

Configure Processing Limits

To configure processing limits in relation to disc space and available RAM, complete the following steps.

- In the General tab, in the Extended Settings section, select one of the following options.
 - To stop the processing when the available disc space is lower than the specific value, click Min. free storage on disc and type in a MB value.
 - To stop the processing when the available RAM is lower than the specified value, click Min. free RAM and type in a MB value.

Configure an RTS Instance to Start Automatically

To configure an RTS instance to start automatically after a system reboot, complete the following steps.

1. Verify that the **Oracle WebCenter Forms Recognition Service Manager** is configured for **Automatic Start**.
2. In the **Runtime Server Administration** window, stop the RTS instance you want to configure for automatic start.
3. Right-click the required RTS instance and then click **Properties**.
4. In the **Oracle WebCenter Forms Recognition Runtime Service Properties** dialog box, on the **General** tab, under **Extended Settings**, select **Automatic Start** and then click **OK**.
5. Restart the RTS instance.

Enable Batch Integrity Verification

To keep integrity of the file system batches, complete the following step.

- In the **General** tab, in the **Extended Settings** section, select **Enable batch integrity verification**.
Note: Do not select this option for more than one instance. The option is not available if you select the **Use database** option on the **General** tab.

Configure Workflow Settings

You configure workflow settings for Runtime Server instances in the Runtime Server Administration interface. To use the list of options in the **Workflow** tab, use the links shown below.

These options are found in the **Workflow** tab, in the **Runtime Server Properties** dialog box.

- [Activate and deactivate process steps](#)
- [Process steps](#)
- [About Input and Output state](#)
- [Corrupt failure state](#)
- [Perform folder based classification and extraction](#)
- [Perform folder based serial processing](#)
- [Perform import failure processing](#)

About Workflow Steps

Each workflow step has an input and in most cases a success output and a failure output state.

The first workflow step, the import, does not have an input state.

The input state of each workflow step must match the successful output state from the previous step.

The user can manually correct batches that fail during classification or extraction in **Verifier**.

Activate and Deactivate Process Steps

A process step is active when the corresponding button appears pressed and is deactivate if the corresponding button does not appear to be pressed. Instances of Runtime Server only uses enabled steps. To specify the process steps you want an instance to perform, complete the following step.

- In the **Workflow** tab, select one of the following options.
 - To activate a step, click the corresponding button.
 - To deactivate a step, click the button again.

Note: For a list of process steps and usage, see [Process steps](#).

Process Steps

Import

Activate this step to import files from the file system.

OCR

Activate this step to OCR the imported files.

Notes

- OCR is a processor-intensive task. To maximize performance, we recommend only one active Runtime Server OCR instance per CPU.

- The OCR step may send documents with file names longer than 140 characters to **State 0**.

Document Separation

Activate this step to run the document separation engine.

Classification

Activate this step to assign the documents to classes.

Extraction

Activate this step to extract text from the documents and assign the extracted text to the fields defined in the project.

Export

Activate this step to export the documents according to the settings in the Export section on the OCR+Export+Cleanup tab.

Custom Processing

Activate this step to configure an additional step that launches between other workflow steps.

For example, you can configure the instance to import, OCR, classify, and then prior to extraction, to have a custom processing step to review all classification results.

For more information, see "ProcessBatch" in the *Oracle WebCenter Forms Recognition Designer User's Guide*.

Database Export

Activate this step to migrate file system batches into the database. The button is disabled if you select the Use database option on the General tab.

For more information, see "Migrate batches from the file system to the database" in the *Oracle WebCenter Forms Recognition Migration Guide*.

Clean Up

Activate this step to perform cleanup according to the settings in the Clean Up section on the OCR+Export+Cleanup tab.

About Input and Output State

Each running instance constantly polls for batches that have an input state matching one of its activated steps. The instance processes these batches and assigns the output state specified for success or failure.

Use input and output states to control the workflow of batches through the system. You can define output states that match input states for the next step. This lets you ensure further processing.

Runtime Server forwards failed batches to Verifier for manual correction. Processing resumes after a user corrects the batch. On the batch level, steps succeed only if they were successful for all documents in the batch.

Corrupt Failure State

This special output state indicates that processing failed because of an unexpected error, such as a corrupt

document. To set this output state, complete the following step.

- In the **Workflow** tab, in the Corrupted document failure state box, select one of the available integers.

Import Failure Processing

This portion describes the default processing and the advanced processing if **Perform advanced import failure processing** is active.

Use the advanced import failure processing feature to lock a batch in case one or more documents from the file system or a WebCenter Forms Recognition API external batch fail to import.

Default import failure processing of documents imported from the file system

- Any successfully imported documents are placed in an RTS batch set to succeeded.
- Documents that fail to import are moved to the **[ImportDirectory]_BadImages** directory.

Advanced import failure processing of documents imported from the file system

- Any successfully imported documents are placed in an RTS batch set to failed.
- Documents that fail to import remain in the subdirectory.
- The list of failed documents is saved in **[ImportSubDirectory]ImportFailed.rts**.
- The user can delete the failed documents or add other documents to the subdirectory.
- Upon each rescan, RTS attempts to import any document from the subdirectory to the same RTS batch.
- When there are no documents left in the subdirectory, the batch is set to succeeded and the failed document list and subdirectory are removed.

Default import failure processing of documents uploaded by WebCenter Forms Recognition API

- Any successfully imported documents are placed in an RTS batch set to succeeded.
- Documents that fail to import remain in the external batch.
- The external batch status is set to 15.
- The user can add or delete documents from the external batch.
- If the external batch is then marked ready for import, RTS imports any documents to a new RTS batch.

Advanced import failure processing of documents uploaded by WebCenter Forms Recognition API

- Any successfully imported documents are placed in an RTS batch set to failed.
- Documents that fail to import remain in the external batch.
- The external batch status is set to 15.
- The user can add or delete documents from the external batch.
- If the external batch is then marked ready for import, RTS imports any documents to the same RTS batch.
- Document order in the batch, as determined by document index values, is maintained.
- When the external batch contains no external documents, the RTS batch is set to succeeded.

See also

[Activate advanced import failure processing](#)

[Processing of batches imported using WebCenter](#)

[Forms Recognition API](#)

Activate Advanced Import Failure Processing

To active the advanced import failure processing, complete the following steps.

1. On the **Import** tab, in the **Extended Settings** section, select **Move files**.
2. In the **Document Grouping** section, select one of the following options.
 - **1 batch per subdirectory, 1 folder per batch**
 - **1 batch per subdirectory, 1 folder per document**
3. On the **Workflow** tab, activate the **Import** workflow step.
4. Optional. Modify the failed state for the **Import** workflow step.
5. Select **Perform advanced import failure processing** and then click **OK**.

Processing of Batches Imported Using Oracle WebCenter Forms Recognition API

This portion describes the processing of batches imported using WebCenter Forms Recognition API.

- If all documents in the external batch are successfully imported, the RTS batch state changes to succeeded.
- If documents failed to import, the user can perform the following actions using WebCenter Forms Recognition API to update the batch.
 - Add replacement documents
 - Remove failed documents
 - Set the external batch to **Ready for Import** (status 20)
- When adding external documents, the user can optionally assign a zero-based index value. This index value defines the position of the document in the RTS batch and enables the user to insert newly added documents between previously imported documents.
- When the external batch is set to Ready for Import, RTS imports any documents in the external batch to the same RTS batch.

See also

[Import failure processing](#)

Perform Folder Based Serial Processing

To perform batch classification and extraction separately, complete the following step.

- In the Workflow tab, select one of the following options.
 - To enable the option to perform batch classification and extraction separately, select Perform folder based serial processing.

Example If the option is enabled documents process as follows.

1. Classify document 1 in folder 1
 2. Classify document 2 in folder 1
 3. Extract document 1 in folder 1
 4. Extract document 2 in folder 1
 5. Classify document 1 in folder 2
 6. Extract document 1 in folder 2
- To disable the option to run classification and extraction separately, clear Perform folder based serial processing.

Perform Folder Based Classification and Extraction

This option is mandatory for any kind of document separation. A folder is a structure within a batch that you can use for documents related to each other. For example, several TIFF images may be stored as multiple files, but actually belong to the same document. To perform batch classification and extraction using folders instead of batches, complete the following step.

- In the Workflow tab, select one of the following options.
 - To enable the option to perform batch classification and extraction using folders instead of batches, select Perform folder based classification and extraction processing. For more information, see "Multipage detection" in the *Oracle WebCenter Forms Recognition Designer User's Guide*.

Example If the option is enabled, documents process as follows.

1. Classify document 1 in folder 1
2. Extract document 1 in folder 1
3. Classify document 2 in folder 1
4. Extract document 2 in folder 1
5. Classify document 1 in folder 2
6. Extract document 1 in folder 2

All documents within a folder load prior to the folder processing. Classification and extraction then run on all documents in a folder before processing the next folder. You can use the `pWorkdoc.Folder` and the `pBatch.FolderCount` script properties to access neighbor documents that belong to the same folder of the batch.

- To disable the option to run classification first on all documents in all folders before extraction starts, clear Perform folder based classification and extraction processing.

Example If the option is disabled, documents process as follows.

1. Classify document 1 in folder 1
2. Classify document 2 in folder 1
3. Classify document 3 in folder 2
4. Extract document 1 in folder 1

5. Extract document 2 in folder 1
6. Extract document 3 in folder 2

Configure Import Settings

You configure import settings for Runtime Server instances in the Runtime Server Administration interface. To use the list of options in the Import tab, use the links shown below.

These options are found in the Import tab, in the Runtime Server Properties dialog box.

- [Define import directory](#)
- [Define document type](#)
- [Define document groupings](#)
- [Define import conditions](#)
- [Set import priority](#)
- [Define batch prefix](#)
- [Define folder prefix](#)
- [Define file transfer mode](#)
- [Limit batch size](#)
- [Import MSG files](#)
- [Separate part of MSG files into a workdoc](#)
- [Import additional files](#)

Define Import Source

To define the import source, complete one of the following steps.

- To import documents from a directory, complete the following substeps.
 - On the Import tab, select Import Directory.
 - In the Import Directory field, type or browse to the import directory.
- To import documents from an external batch previously created using WebCenter Forms Recognition API, complete the following substeps.
 - On the Import tab, select Import Group.
 - In the Import Group field, type an import group or select an entry from the list.

Define Document Type

Electronically generated documents containing text, that means non-image documents, such as non-image PDFs, do not require a complete OCR to extract data. To define document types for import, complete one of the following steps.

- On the Import tab, in the Document Type section, select one of the following options.
 - Note:** PDFs with 1000 or more pages cannot be imported.
 - To process non-image PDFs, select the CI documents (Coded Information) box.
 - To process scanned images or faxes, clear the CI documents (Coded Information) box.
- Note:** Electronically generated documents containing text with no images, such as non-image PDFs, do not require a complete OCR to extract data.

- To import all types of documents, select the Automatic box.
Note: If the imported file is a multipage document, the system automatically splits the image pages into separate files. For more information, see "About automatic document conversion during import" in the *Oracle WebCenter Forms Recognition Designer User's Guide*.
- In the Skip box, type the file extension for files you want to exclude from the import. The system does not import ADD or RDY files.
- Optional. To specify the type of files to import, in the Type box, complete one of the following substeps.
 - To import all files with a recognized extension, type an asterisk (*) or leave the field empty.
 - To import only files with a specific extension, such as TIF, type tif.

Note:

- If you selected Import Directory as import source, any other files remain in the import directory without any error reported.
- If you selected Import Group as import source, any other files remain in the external batches at status 15 and an error is reported.

Define Document Grouping

To specify how the instance creates batches and folders from files and subdirectories in the import directory, complete one of the following steps.

- In the Import tab, in the Document Grouping section, select one of the following options.
 - If your import directory contains no subdirectories, select 1 folder per batch (no subdirectories). With this option, Oracle WebCenter Forms Recognition creates one batch with one folder that includes all documents from the import directory.
 - If your import directory contains no subdirectories, select 1 folder per document (no subdirectories). With this option, Oracle WebCenter Forms Recognition creates a batch with one folder for each document. You cannot use multipage detection if you select this option.
 - If your import directory contains subdirectories, select 1 batch per subdirectory, 1 folder per batch. With this option, Oracle WebCenter Forms Recognition creates a separate batch for each subdirectory. Each batch contains a single folder.
 - If your import directory contains subdirectories, select 1 batch per subdirectory, 1 folder per document. With this option, Oracle WebCenter Forms Recognition creates a separate batch for each subdirectory and a separate folder for each document. You cannot use multiple detection in combination with this option.

Define Import Conditions

To define the conditions that start the import and batch generation, complete one of the following steps.

- In the Import tab, in the Import Conditions section, select one of the following options.
 - Select Always import documents to have the system import all files in the import directory.
 - Select Import only if ready file available in directory if you want the system to import files created by external systems. With this option in the box, type the name of the file that will be present in the directory or subdirectory to start the import.

- Select Import only if minimal number to start the import when the import directory including subdirectories contains at least the specified number of files. With this option, in the box, type an integer to specify the minimum number.
- Select Import only if all files older than to start the import only if all files in the import directory including subdirectories are older than the specified timespan. With this option, in the box, type an integer to specify a number value and in the list box, select the timespan. Note: If there are one or more files that do not meet the specified criteria, the instance does not import any files.
- Select Import if min. no. docs available OR all files older than specified timespan to combine the options "Import only if minimal number" and "Import only if all file older than".
- Select Import only files which are older than specified timespan to import the files whose timestamps is older than the specified timespan.

Set Import Priority

If you have more than one import instance running, you can modify the import priority to bring in these documents with a higher priority. To specify the import priority and thus the processing order, complete the following step.

- In the Import tab, in the Extended Settings section, in the Import priority field, type an integer for the priority, where 0 is the highest and 9 is the lowest priority.

Define Batch Prefix

A batch name consists of the prefix and the batch ID. To specify a prefix for the batch name, complete the following step.

- In the Import tab, in the Extended Settings section, in the Batch prefix field, type a prefix batch name.

Define Folder Prefix

A folder name consists of the prefix and a serial number. To specify a prefix for the folder name, complete the following step.

- In the Import tab, in the Extended Settings section, in the Folder prefix field, type a prefix for the folder name.

Define File Transfer Mode

To specify whether the instance copies or moves files from the import directory to the batch root, complete the following step.

- In the Import tab, in the Extended Settings section, select one of the following File transfer mode options.
 - To move the files from the import directory to the batch root directory, select Move files.
 - For testing purposes, select Copy files. This option causes continuous batch generation unless the instance is stopped.

Limit Batch Size

Oracle WebCenter Forms Recognition creates a new batch if the number of documents in the current batch reaches a specified number. To specify the maximum number of documents a batch can contain, complete the following step.

Note: The Import *.wtx files option is no longer in use.

- In the Import tab, in the Extended Settings section, select the Limit batch size box, and in the Documents field, type a number of documents.

Note: This option can be important if you want to have large batches in scanning to minimize operation costs, but small batches in processing to optimize load balancing.

Import MSG Files

To import MSG files, complete the following step.

- In the Import tab, in the Document Type section, select Automatic and then in the Type list box, select MSG files.

Note: With this option only MSG files are imported, not their attachments.

Import Additional Files

You can check for additional files, such as faxes, or header files, associated with the imported document and import them per imported document. To define a relationship, complete the following step.

- In the Import tab, in the Additional File Import section, select the Import 1 additional file per imported document field, and type in alphanumeric characters and wildcards for the file name.

Example For documents and file attachments with the same file name, but different file types, such as Final.msg and Final.doc, use the wildcard *.doc.

Example For documents and file attachments that have different file names, such as a Word document with the naming convention *[first 8 characters of the email file name].att.doc*, use the wildcard *#####.att.doc*.

Configure OCR+Export+Cleanup Settings

You configure OCR, export, and clean up settings for Runtime Server instances in the Runtime Server Administration interface. To use the list of options in the OCR+Export+Cleanup tab, use the links shown below.

These options are found in the OCR+Export+Cleanup tab, in the Runtime Server Properties dialog box.

- [Set Page Restriction](#)
- [Set Processing Time](#)
- [Define Export Step](#)
- [Trigger Script Based Export](#)
- [Generate Protocol File](#)
- [Copy Documents to Export Directory](#)
- [Generate PDF Files on Export](#)
- [Export to XML](#)
- [Define Clean Up](#)

OCR

Set Page Restriction

The instance performs a full page OCR for all document pages during the first processing step. You can

restrict the initial OCR to specific pages. To set a range of page numbers or to specify all pages, complete the following step.

- On the OCR+Export+Cleanup tab, in the OCR section, select one of the following options.
 - To specify a range of page numbers for the first and last pages, type a number in the OCR on document first page field and the OCR on document last page field.
 - To OCR all pages, type 0 in both fields.
- Note:** If additional OCR results are required later, the instance performs the recognition on demand during the classification and extraction steps. The instance stores the OCR results in the workdoc.

Activate Lightweight OCR

Use the Lightweight OCR option to extract only the word text from a CI document without saving the position information to the workdoc.

Note: With this option selected, you cannot highlight the words or manually select or extract text from the document viewer in Verifier.

- On the OCR+Export+Cleanup tab, in the OCR section, select CI Docs only: Lightweight OCR (text recognition only, no geometrics).

Set Processing Time

To process documents that the instance cannot OCR within the time-out specified, complete the following step.

- On the OCR+Export+Cleanup tab, in the OCR section, select Verify OCR processing time-out for each page.

Note: This option applies per page instead of per document.

Export

Define Export Step

To perform the export step, complete the following action.

- On the OCR+Export+Cleanup tab, in the Export section, select one of the following options.
 - To perform the export step every time the instance processes a batch, select Batches.
 - To perform the export step every time the instance processes a folder, select Folders.

Trigger Script Based Export

In general, export settings are defined in Designer using script programming. Some export options can only be set from within Runtime Server. To switch export scripts on or off, complete the following step.

Note: For more information, see the "ExportDocument" event in the *Oracle WebCenter Forms Recognition Scripting User's Guide*.

- On the OCR+Export+Cleanup tab, in the Export section, select Trigger script based export.
If this option is active, the ExportDocument event is evaluated before any other RTS Export options, including Export to XML, are executed.

Generate Protocol File

To generate a separate log file for each exported batch, complete the following step.

- On the OCR+Export+Cleanup tab, in the Export section, select Generate protocol file for each exported batch.

About Document Export

When exporting files to the **Export** directory, Runtime Server overwrites existing files having the same filename in the following cases.

- A PDF is imported without conversion and the following settings are active.
 - **Copy documents to export directory** and **Generate PDF file on export**
- Two documents in different batches have the same filename and one of the following combination of settings is active.
 - **Copy documents to export directory** and **Generate PDF file on export**
 - **Copy documents to export directory** and **Export to XML with cxml extension**
- Two documents have the same filename but different extensions and any of the following settings are active.
 - **Generate PDF file on export**
 - **Export to XML with cxml extension**
- Two documents with the same filename but different extensions are imported with conversion to TIF, and one of the following combination of settings is active.
 - **Copy documents to export directory** and **Generate PDF file on export**
 - **Copy documents to export directory** and **Export to XML with cxml extension**

Copy Documents to Export Directory

To copy the processed documents to the export directory, complete the following step.

- On the OCR+Export+Cleanup tab, in the Export section, select Copy documents to export directory.

Generate PDF Files on Export

To create PDF documents from your documents and associated workdocs, complete the following step.

- On the OCR+Export+Cleanup tab, in the Export section, select Generate PDF file on export.

Note:

- The original layout remains and you can use the OCR results for full-text search within the PDF documents.
- By default, Runtime Server exports the files in PDF/A-2B format. For more information, see "ExportPdfVersion" in the *Oracle WebCenter Forms Recognition Scripting User's Guide*

Export to XML

To export the workdoc to the *Export* directory in XML format, complete the following steps.

For information on XML definition and details, see "ExportDocumentToXml" in the *Oracle WebCenter Forms*

Recognition Scripting User's Guide.

1. On the **OCR+Export+Cleanup** tab, in the **Export** section, select **Export to XML with cxml extension**.
2. Optional. In the extension box, modify the default extension type.
Note: The maximum length of the extension is 30 characters.
3. Optional. To validate the exported XML files, use the XML schema file *Workdoc.xsd* provided in the *Components\Tools* directory.

Cleanup

Define Clean Up

To define when the Clean Up step removes the batches from the batch root directory, complete the following steps.

- In the OCR+Export+Cleanup, in the Clean Up section, select one of the following options.
Note: The Clean Up executes for all batches that have the state defined as input state for the Clean Up workflow step.
 - To remove batch files as soon as the batch reaches its last output state, select Always clean up batches.
 - To start clean up as soon as the specified file is available in the batch directory, select Clean up batch only if ready file available. Note: This option is not available if you select the Use database option on the General tab.
 - To start clean up if all batches are older than a specified period of hours, select Clean up batch only if all files are older than and in the hours field, type an integer for the number for the hours.
 - To combine “Clean up batch only if ready file available” and “Clean up batch only if all files older than”, select Clean up if ready file available OR all files older than specified timespan. Note: This option is not available if you select the Use database option on the General tab.

Note: If you select any Clean Up option other than the first, do not execute Export and Clean Up in the same instance. The delayed Clean Up will prevent batch Export when the number of batches awaiting Clean Up exceeds the current `LimitBatchCountRequest` setting. The default value for this setting is 1000. For more information, see [Modify the number of processed batches](#).

Modify the Number of Processed Batches

The registry setting `LimitBatchCountRequest` defines the number of batches processed in the Export step. Note that a value of more than 1000 may decrease performance. To modify the setting, complete the following steps.

1. In **Windows** registry, complete one of the following substeps.
 - For a 32-bit machine, navigate to `HKEY_LOCAL_MACHINE\SOFTWARE\Oracle\Database`.
 - For a 64-bit machine, navigate to `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Oracle\Database`.

Note: You might be required to create the Databasekey, if not yet available.

2. In the right pane, right-click the **LimitBatchCountRequest** value and then click **Modify**.
3. In the **Edit DWORD (32-bit) Value** dialog box, complete the following substeps. .

1. Select **Decimal**.
2. In the **Value data** field, type a number and then click **OK**

Configure Extended Processing Settings

You can update a number of target files with the information from the sources files by configuring extended processing settings for Runtime Server instances in the Runtime Server Administration interface. To use the list of options in the Extended Processing tab, use the links shown below.

These options are found in the Extended Processing tab, in the Runtime Server Properties dialog box.

- [Specify file replacement parameters](#)
- [About project file references](#)
- [Define a project for document separation workflow step](#)
- [Set display format](#)

Specify File Replacement Parameters

To specify the file replacement parameters, complete the following steps.

1. In the **Extended Processing** tab, in the **File Replacement** section, select **Perform file replacement**.
2. In the **Source File** field, type or browse to the source file that contains up-to-date information.
3. In the **Target File** field, type or browse to the target file that you want to update with information from the source file.

Note: If the target file does not exist, file replacement creates the file.

4. Select **Copy File** to copy the source file to the target file or select **Move File** to move the source file to the target file.
5. To add the source and target file pair to the list, click **Add**.
6. Optional. To remove a file pair, select the file pair and click **Remove**.
7. Optional. To modify an existing file pair, select the file pair, modify the paths and, if applicable, the file operator type, and then click **Update**.

Note: File replacement only occurs if the target file's modification date is at least 60 seconds older than that of the source file.

About Project File References

In the Verifier project reference section, in the Extended processing tab, there are two areas where you can set file paths that can specify a Global project or a local project.

There are two purposes for setting file paths.

- For Standard Verifiers referencing projects across mapped network drives, these options enable the system to substitute local mapping for the network mapping. Working with a local copy of the global project speeds up processing time by circumventing potential network bottlenecks.
- For Advanced Verifiers, these paths define the local and the global project for the Supervised Learning Workflow. These options enable Advanced Verifiers to use different global projects with a local project. Set these options when you need to use different project files with similar Verifier and RTS configurations.

Define a Project for Document Separation Workflow Step

To configure a different project to use for the document separation workflow step, complete the following action.

- In the Extended processing tab, in the Document separation section, select the following options.
 - To specify a different project to use for the document separation workflow step, select the Use special project for document separation workflow step.
 - To specify the path and file name of the project to use for the document separation workflow step, type the path and file name in the Use project field.

About Display Formats

Administrators can configure RTS to automatically convert images failed in classification or extraction to PNG files. RTS then stores the rendered images directly in the database.

This allows reduced loading time on the client side when a document opens for classification or extraction verification.

We recommend to select these settings if, for example, JPEG files cause problems with OCR due to their high compression.

The display format settings are only applicable to Web Verifier, and if they are not used when a document opens, the rendering happens at real time for the user.

Set Display Format

To set the display of images for documents that do not successfully process, complete the following steps.

- In the Extended processing tab, in the Display Format section, select one the following options.
 - For classification, to store images as PNG files in the database for documents that failed, select Convert image to display format after failed classification.
 - To convert the images for documents that failed in classification when the user opens the batch for verification in Web Verifier, clear this option.
 - For extraction, to store images as PNG files in the database for documents that failed, select Convert image to display format after failed extraction
 - To convert the images for documents that failed in extraction when the user opens the batch for verification in Web Verifier, clear this option.

Automatic Document Separation

About Running the ADS Instance

The first run of the automatic document separation (ADS) instance can take some time due to the following reasons.

- The instance generates the ADS Learnset once the first run before it starts document separation. The instance parses the documents in the prepared ADS Learnset directory and stores the result in the ADS Learnset directory.
- The processing is folder based. This means that the instance loads all documents of the batch to memory before it start processing.

After ADS, it might be required to validate the results manually in Verifier. When finished, Verifier assigns the output state specified for valid document separation to the batch. Ensure that the input state of following

workflow steps; classification, extraction, validation, and export match the output state of the document separation step.

Note: For information about ADS learn sets, see *Oracle WebCenter Forms Recognition Designer User's Guide*.

Configure an Import Instance for Document Separation

To configure an instance to create batches for document separation, complete the following steps. Document separation is successful when the document separation engine can perform a confident split and merge decision. For more information, see "Document Separation" in *Oracle WebCenter Forms Recognition Designer User's Guide*.

Prerequisite The documents to import must be single-sided documents and you must have scanned them in the correct order to the same folder.

1. Create a new instance.
2. Right-click the instance and then click **Properties**.
3. In the **Oracle WebCenter Forms Recognition Runtime Server Properties** dialog box, complete the following substeps.
 1. On the **General** tab, in the **Use project file** field, type or browse to your automatic document separation (ADS) project file.
 2. On the **Workflow** tab, activate the process steps **Import** and **OCR**.
 3. To avoid conflicts, specify input and output states different for those of other instances.
 4. Select **Perform folder based serial processing**.
 5. On the **Import** tab, select **1 folder per batch (no subdirectories)** or **1 batch per subdirectory, 1 folder per batch**.

Note: After the document separation step, downloaded MSG files do not contain attachments any more.

4. Click **OK**.

Configure a Document Separation Instance

To configure a document separation instance, complete the following steps.

1. Create a new instance.
2. Right-click the instance and then click **Properties**.
3. In the **Oracle WebCenter Forms Recognition Runtime Server Properties** dialog box, complete the following substeps.
 1. On the **General** tab, in the **Use project file** field, type or browse to your automatic document separation (ADS) project file.
 2. On the **Workflow** tab, activate the process steps **Document Separation**.
 3. To avoid conflicts, specify input and output states different from those of other instances.
 4. Select **Perform folder based classification+extraction step**.
4. Click **OK**.

Multipage Detection

Configure an Instance for Multipage Detection

To configure an instance for multipage detection, complete the following steps.

Prerequisite The documents to import must be single-sided documents.

1. Create a new instance.
2. Right-click the instance and then click **Properties**.
3. In the **Oracle WebCenter Forms Recognition Runtime Server Properties** dialog box, complete the following substeps.
 1. On the **Workflow** tab, activate the process steps **Classification** and **Extraction**.
 2. To avoid conflicts, specify input and output states different from those of other instances.
 3. Select **Perform folder based classification+extraction step**.
4. Click **OK**.

Batch Processing

About Batches

Oracle WebCenter Forms Recognition organizes documents into batches to simplify and control the processing of large numbers of documents. The batch folder structure in the file system contains the following information.

Batch state files

A text file that contains the state of a batch and the minimum state of any of its folders. The state of the folders in turn represents the minimum state of any of its documents.

Batch control files

A text file that contains all information about the batch, such as its state, folders, and documents as well as the project used for processing.

Fast info file

A text file that contains a copy of the main information from the database about the batch.

It provides a quick way to determine the state of a batch without opening the database file. If the fast info file is deleted, the instance automatically recreates it.

Lock file

Runtime Server, Designer and Verifier create a LOC file when processing a batch. No other instance or application can process a locked batch. If an application terminates abnormally, an instance unlocks the batch.

Subdirectories

The subdirectory name matches the batch ID and contains the workdoc (WDC) files, the documents and the document attachments.

Note: Oracle WebCenter Forms Recognition stores batch folders and their related project folders together in the file system. For more information about a project's folder structure and the type of files in use, see *Oracle WebCenter Forms Recognition Designer User's Guide*.

About Batch Creation

Oracle WebCenter Forms Recognition creates batches in the following ways.

- By importing documents through Runtime Server or Designer.
- By importing documents from the file system through scripts using the Cedar BatchControl Library.
- By user-created exception batches in Verifier applications.

For more information, see "About the exception handling settings" in the *Oracle WebCenter Forms Recognition Verifier User's Guide* and in the *Oracle WebCenter Forms Recognition Web Verifier User's Guide*.

Batch View Column Names

The Batch view displays the following information for all batches.

Batch ID

A batch identifier.

State

Represents the status of a batch.

Priority

Represents the priority of a batch.

Batch Name

Represents the name of a batch.

Folders

Total number of folders in the batch.

Documents

Total number of documents in the batch.

Client

Name of the client.

Last Name

Name of the user who previously processed the batch.

Last Module

Name of the application that previously processed the batch.

Locked

Yes indicates that an RTS instance or a WebCenter Forms Recognition application currently processes the batch.

Additional columns

- External group ID
- External batch name
- Transaction ID

- Transaction type

Display the Batch View

To display the batch view, complete the following step.

- In the **Runtime Server Administration** window, in the left pane, click the required instance.

Change the Priority of a Batch

To change the priority of a batch, complete the following steps.

1. In the batch view pane, select one or more batches.
2. Right-click the selected batches and then click **Change Priority**.
3. In the **Batch Properties** dialog box, on the **Priority** field, type the new state and then click **OK**.

Change Priority and State of a Batch

To change the priority and/or the state of a batch, complete the following steps.

1. In the batch view pane, select one or more batches.
2. Right-click the selected batches and then click **Change State**.
3. In the **Batch Properties** dialog box, on the **State** field, type the new state and then click **OK**.

Delete a Batch

To delete a batch, complete the following steps.

1. In the batch view pane, select one or more batches you want to delete.
2. Right-click and then click **Delete Selected Batches**.

Refresh the Batch View

To refresh the batch view, complete the following step.

- In the batch view pane, right-click and then click Refresh.

Start Batch Processing Manually

To start batch processing manually, complete one of the following steps.

- To start all instances of a machine, complete the following substeps.
 - In the Runtime Server Administration window, in the left pane, select the required machine.
 - On the Action menu, click Start All.
- To start a single instance, complete the following substeps.
 - In the Runtime Server Administration window, in the left pane, select the required instance.
 - On the Action menu, click Start.

Stop Batch Processing Manually

To stop batch processing manually, complete one of the following steps.

- To stop all instances of a machine, complete the following substeps.
 - In the Runtime Server Administration window, in the left pane, select the required machine.

- On the Action menu, click Stop All.
 - To stop a single instance, complete the following substeps.
 - In the Runtime Server Administration window, in the left pane, select the required instance.
 - On the Action menu, click Stop.
- Note:** The instance finishes currently processed documents for the active workflow step before it stops.

Filter the Batch View

The administrator can filter batches by performing a query that would retrieve a subset of records. It enables the administrator to easily manage and show a subset of batches. The subset can be further filtered by specifying that the MMC only return a specified number of TOP records and not the whole result list.

You can filter the batch list for each of the columns or for a combination of several columns in the Batch view.

Batch Filter Conditions Using Column Names

You can filter batches by performing a query that retrieves a subset of records in the database. Use the following column names and the associated filter conditions when constructing database query syntax.

Note: The maximum number of characters in the WHERE field is 550.

Batch

You can filter for a list of batches with a specific Batch identifier.

Data type

Number or Text

Filter condition

BatchId

Example

```
BatchId=5
```

Shows batches with a Batch ID equal to 5.

State

You filter for a list of batches that have a state equal to a value you specify in the query syntax. You can use equal, greater than, or less than operators.

Data type

Number

Filter condition

State

Example

```
State=550
```

Shows batches with State 550 in the batch list.

Priority

You can filter for the batch priority to return a list of batches that have a priority equal to a value you specify. You can combine the state column name and priority column name in the same query using the AND operator.

Data type

Number

Filter condition

Priority

Examples

```
Priority = 2
```

Shows a list of batches with Priority 2.

```
Priority <= 3
```

Shows a list of batches with Priority 0, 1, 2 and 3.

```
Priority = 2 AND State = 700
```

Shows a list of batches with Priority 2 and State 700.

Batch Name

You can filter for the batch name to return a list of batches with a name containing a specific string based on the like condition. The % symbol represents a wildcard for characters that precede and follow the defined string.

Data type

Text

Filter condition

Batch.Name

Example

```
batch.name like '%AP%'
```

Shows a list of batches with a name containing the specific string 'AP'.

Folders

You can filter for a specific folder count value. You can use the equal operator and the greater than and less than operators.

Data type

Number

Filter condition

FolderCount

Example

```
foldercount = 1
```

Shows a list of batches having folder count equal 1.

Document

You can filter for a specific document count value. You can use the equal operator and the greater than and less than operators.

Data type

Number

Filter condition

DocumentCount

Example

```
documentcount >= 3
```

Shows a list of the batches having document count 3 or more than 3.

Last User

You can filter for the Last User value to return a list of batches based on the LastUserId value of 1, 2, or 3 where 1 = Application Administrator (RTS), 2 = Application Administrator (WVC), and 3 = Application Administrator (Designer).

Additionally, you can use the LastUserId filter condition to return a list of batches with a specific user name in the User database table.

Data type

Number or Text

Filter condition

LastUserId

Example

```
LastUserId = 1
```

Shows the batches with Last User of "Application Runtime Server".

Last Module

You can filter for the Last Module value to return a list of batches with a specific name in the Module database table.

Data type

Number

Filter condition

LastModuleId

Example

```
LastModuleId in (select Id from Module where Name = 'SLW_Demo')
```

Shows the batches with 'SLW_Demo' in the Last Module column.

User Group

You can filter for the User Group value to return a list of batches that have an ExternalGroupID equal to the User Group ID assigned to the Windows Authentication User. The ID values are 111, 222, or 333 where 111 = ADM, 222 = VER, and 333 = VER/SET.

Data type

Number

Filter condition

ExternalGroupID

Batch Group

You can filter for the Batch Group value to return a list of batches in a specific Batch Group.

Data type

Number

Filter condition

ExternalBatchId

Example

```
ExternalBatchId = 2
```

Shows batches with Batch Group 2 in the batch list.

Transaction

You can filter for the Transaction ID to return a list of batches with a specific Transaction ID.

Data type

Number

Filter condition

TransactionID

Example

```
TransactionId = 2002
```

Shows batches with Transaction ID 2002 in the batch view.

Transaction Type

You can filter for the Transaction Type to return a list of batches with a specific Transaction Type.

Data type

Number

Filter condition

Transaction Type

Example

```
TransactionType = 3003
```

Shows batches with Transaction Type 3003 in the batch view.

Process Monitoring

About Process Monitoring

The Runtime Service Management Console enables you to monitor the current process of each local and remote machine running Runtime Server.

Each Runtime Server instance provides a Statistics View which displays project and batch information, and an Event Viewer that displays warnings and error messages.

The Statistics View

The Runtime Service Management Console provides a Statistics View which shows project and batch information for a Runtime Server instance. The Statistics View displays the following information.

Project

The path to the current project file.

Batch

Name and ID of the currently processed batch.

Document

Name of the currently processed workdoc.

Statistics

Number of batches and documents processed by the workflow steps since the start of the instance executable or the last reset of the statistics view.

Status

Displays the currently performed task. The list below the Status field displays information about the

tasks, such as warnings and errors.

Display the Statistics View

To display the Statistics view, complete the following step.

- In the Runtime Server Administration window, in the left pane, click the arrow to the left of the required instance, and select Statistics.

Reset the Statistics View

To reset the Statistics view, complete the following step.

- In the Runtime Server Administration window, in the left pane, right-click Statistics and then click Reset.

The Event Viewer

The Runtime Service Management Console contains an Event Viewer that displays information for a Runtime Server instance.

The Event Viewer shows errors, warnings, and informational messages from the log files the instance creates daily in the *C:\Program Files (x86)\Oracle\WebCenter Forms Recognition\bin\log* directory.

Display the Event Viewer

The Event Viewer displays the events from the log file. To display the Event Viewer, complete the following steps.

1. In the **Runtime Server Administration** window, in the left pane, click the arrow to the left of the required instance.
2. Select **Event Viewer**.
3. Optional. To browse through the pages and the daily log files, use the arrow buttons on the toolbar.
4. Optional. To display the event properties, double-click an event.

System Monitoring

About System Monitoring

The Runtime Server Manager service monitors information, warnings, and error messages in a distributed Runtime Server environment. You can view messages in the system monitoring view of the Runtime Server Manager.

You can configure the system monitoring service to send emails automatically to notify system administrators of events which have been identified to generate emails, generally Warnings and Errors. For more information, see "LogScriptMessageEx" in the *Oracle WebCenter Forms Recognition Scripting User's Guide*.

Note: The system monitoring view displays messages from the M*.log files in the *C:\Program Files (x86)\Oracle\WebCenter Forms Recognition\bin\log* directory.

Configure Email Notifications

To configure the system monitoring service to send emails automatically, complete the following steps.

1. Navigate to the `C:\Program Files (x86)\Oracle\WebCenter Forms Recognition\bin` directory.
2. Complete one of the following substeps.
 - For a 32-bit machine, open `Runtime Server Monitor Configuration.reg` in a text editor.
 - For a 64-bit machine, open `Runtime Server Monitor Configuration 64-bit.reg` in a text editor.
3. Modify the email parameters. For details, see [Email notification parameters](#).
4. Save and close the file.
5. To import the parameters into the registry, double-click the file.
6. Restart the **Oracle WebCenter Forms Recognition System Monitoring** service.
7. Optional. To use system monitoring without email notification, delete the registry keys `System Monitoring\Email_*`.

Note: The service collects the messages and sends them in a single email according to the parameter `Email_Everymin`.

Email Notification Parameters

You can define parameters that control email notifications sent by the system monitoring service. Modify the following email parameters when setting up system monitoring notifications.

Email_Everymin

Defines the time interval in minutes the service sends an email if messages are available.

Email_Recipient

Semi-colon separated list of the email recipients.

Email_SenderAddress

Valid email sender address.

Email_SendUsing

- Pickup: Sends the emails using the local SMTP service. Configure the Windows SMTP service settings accordingly.
- Port: Sends the emails using a direct connection to a remote SMTP server.

Note: The following parameters are only taken into account if you set "Email_SendUsing" to "Port".

Email_SMTPServer

SMTP server or smart host server.

Email_UserName

User name of the `Email_SenderAddress` account.

Email_UserPassword

Password of the Email_SenderAddress account.

Encrypt Email Username and Password

To activate encryption for the email username and password in the system monitoring service, complete the following steps.

1. Stop the **Oracle WebCenter Forms Recognition System Monitoring** service.
2. In **Windows** registry, complete one of the following substeps.
 - For a 32-bit machine, navigate to HKEY_LOCAL_MACHINE\SOFTWARE\Oracle\System Monitoring.
 - For a 64-bit machine, navigate to HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Oracle\System Monitoring.
3. In the right pane, right-click and select **New > DWORD (32-bit) Value**.
4. In the **Name** field, type Email_UserEncrypt.
5. Right-click **Email_UserEncrypt** and click **Modify**.
6. In the **Edit DWORD (32-bit) Value** dialog box, in the **Value data** field, type **0**.
7. Restart the **Oracle WebCenter Forms Recognition System Monitoring** service.

Start System Monitoring

The system monitoring service running on a specific workstation monitors only those Runtime Server machines you configured from that workstation using the Runtime Server administration console. To start the system monitoring without email notifications, complete the following step.

- In Windows Services, right-click Oracle WebCenter Forms Recognition System Monitoring and then click Start.
Note: Restart the system monitoring service when you reconfigure RTS machines in the Runtime Server Administration.

Display the System Monitoring View

To display the system monitoring view in the Runtime Server administration, complete the following steps.

1. In the **Runtime Server Administration** window, in the left pane, select **System Monitoring**.
2. Optional. To refresh the view, in the right pane, click the **Refresh** button.
3. Optional. To sort the messages, click a column header.
4. Optional. To filter the messages, in the right pane, select or clear any of the following check boxes.
 - Error
 - Warning
 - Info
5. Optional. To display only the latest messages, in the right pane, in the **Show logs for last X days only** field, type the number of days you want to display.

Script Debugging

About Script Debugging

If script debugging is enabled and a script fails while processing, you are given the option of debugging the script in Runtime Server. If you do not debug the script, the error message displays in the console.

Enable Script Debugging

To enable script debugging, complete the following steps.

1. Close the **Runtime Server Management Console**.
2. In Windows Services, stop the **Oracle WebCenter Forms Recognition Runtime Service Manager** service.
3. In the *C:\Program Files (x86)\Oracle\WebCenter Forms Recognition\bin* directory, double-click **DstMgr.exe**.
4. Start the **Oracle WebCenter Forms Recognition Runtime Service Manager** service.
5. Right-click the required instance and then click **Properties**.
6. In the **Runtime Server Properties** dialog box, in the **General** tab, in the **Extended Settings** section, select **Enable Script debugging** and then click **OK**.
7. Start the required instance.

Stop Script Debugging

To stop script debugging, complete the following steps.

1. Stop all running instances in the **Runtime Server Administration** window and close the console.
2. In **Windows Task Manager**, complete the following substeps.
 - Right-click **DstMgr.exe** and then click **End Task**.

Optimize Processing

Optimize Large Scale Document Processing

To optimize the performance for large scale document processing, that means more than 10,000 pages per day, complete the following steps.

1. Ensure that the instance responsible for **Import** does not have any other workflow steps enabled.
2. Ensure that the instance responsible for **Export** does not have any other workflow steps enabled.
3. Ensure that the instances responsible for **OCR** do not have any other workflow steps enabled.
Note: Define cloned instances to leverage the server load. For more information, see [Define cloned instances](#)
4. Ensure that the instances responsible for **Classification** and **Extraction** do not have any other workflow steps enabled.
Note: Define cloned instances to leverage the server load.
5. Create one instance that executes the **Cleanup** step and ensure that the instance does not have any other workflow steps enabled.
6. Activate the **Activate High Priority Mode** setting for all instances except the instance responsible for **Import**.
Note: For more information, see [Define batch scanning](#).
7. Disable the **Enable Batch integrity verification** setting for all instances that connect to the database.
Note: For more information, see [Enable batch integrity verification](#).
8. To improve the response time when viewing the batch list in the **Runtime Server Management Console**, lower the TOP value to 100.

Note: For more information, see [Filter the batch view](#).

9. Review the performance of the server under load and remove any bottlenecks, such as insufficient RAM or number of cores.