Oracle® Fusion Middleware

Administering Oracle WebLogic Server with Fusion Middleware Control

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Preface

This preface describes the document accessibility features and conventions used in this guide
—*Administering Oracle WebLogic Server with Fusion Middleware Control*.

- Documentation Accessibility
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- Conventions

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility
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Access to Oracle Support

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or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a
diverse workforce that increases thought leadership and innovation. As part of our initiative to
build a more inclusive culture that positively impacts our employees, customers, and partners,
we are working to remove insensitive terms from our products and documentation. We are also
mindful of the necessity to maintain compatibility with our customers' existing technologies and
the need to ensure continuity of service as Oracle's offerings and industry standards evolve.
Because of these technical constraints, our effort to remove insensitive terms is ongoing and
will take time and external cooperation.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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Administration

This chapter describes how to use the Change Center in Oracle Enterprise Manager Fusion Middleware Control (FMWC), as well as how to record WebLogic Scripting Tool (WLST) scripts, customize table views, and additional information about using Fusion Middleware Control.

This chapter includes the following sections:

- Using Fusion Middleware Control help
- Use the Change Center
- Record WLST scripts
- Set Auto-Refresh interval
- Customize table views
- Filter tables using Query by Example

Using Fusion Middleware Control help

From the user profile menu at the top of the page, select **Help** to access more information about a particular console page or attribute. Select **Help for This Page** for detailed information about the attributes on the current page. Select **How Do I?** for task-based help for the current page.

Use the Change Center

The Change Center provides a way to lock a domain configuration so you can make changes to the configuration. Note that other edit sessions may exist in the domain that impact your edit session. See View and resolve conflicts.

When locking is enabled, you start the edit process by obtaining a lock. When you finish making changes, you save the changes. The changes do not take effect, however, until you activate them, distributing them to all server instances in the domain.

To make any changes to Oracle WebLogic Server using Fusion Middleware Control:

1. Locate the **Change Center**.

2. From the **Changes** menu, select **Lock & Edit** to lock the editable configuration hierarchy for the domain.

   This enables you to make changes using Fusion Middleware Control.

3. Make the changes you desire on the relevant pages within Fusion Middleware Control and click **Save** on each page where you make a change.

4. When you have finished making all desired changes, return to the Change Center and select **Changes**, then select **Activate Changes**.

See Configuration Options.

After you finish

Some changes you make in Fusion Middleware Control take place immediately when you activate them. Other changes require you to restart the server affected by the change. See View pending changes.

- View edit sessions
- Manage edit sessions
- View pending changes
- View and resolve conflicts
- Enable and disable the domain configuration lock
- Release the configuration lock
- Set Change Center preferences

View edit sessions

Edit sessions help manage and coordinate configuration changes. To view edit sessions that have been started in the domain:

1. Locate the **Change Center**.
2. From the **Changes** menu, select **Edit Sessions**.

   The Edit Sessions page displays the following information:

   - Name: The name of the edit session.The name of the edit session.
   - Unactivated Changes: Returns `true` if there are changes saved in the pending directory or there are changes in memory. To apply these changes, activate the session.
   - Merge Needed: Returns `true` if another edit session activates its changes after the last activation of this edit session or after its creation but before this edit session was ever activated. It indicates that this edit session configuration is probably not the actual runtime configuration. Use the resolve method to merge changes to this configuration. If this edit session configuration was also modified, then there can be conflicts between this session and the runtime configuration. Use the resolve method to remove possible inconsistencies. See View and resolve conflicts.
   - Owned By: The current editor of the edit session. The editor owns the lock.
   - Created By: The original creator of the edit session.
   - Description: The description of the edit session configuration.

Manage edit sessions

Use the Edit Sessions page to create, delete, and switch edit sessions:

1. Locate the **Change Center**.
2. From the **Changes** menu, select **Edit Sessions**.
3. To create a new edit session, click **Create**.

   On the **Create a New Edit Session** page, enter a **Name**, an optional **Description**, and click **Create**.
4. To delete an edit session, select the edit session you want to delete and click **Delete**. You cannot delete the "default" edit session.

5. To switch edit sessions, select the edit session you want to change to and click **Switch Edit Sessions**.

View pending changes

To view changes that you have saved, but which have not yet taken effect:

1. Locate the **Change Center**.

2. From the **Changes** menu, select either **View Change List** or **View Restart Checklist**.

   The Change List or Restart Checklist page is displayed.

3. From the Change List page, you can view all changes that have been saved, but not yet activated.

4. From the Restart Checklist page, you can view all server instances that must be restarted for configuration changes to take effect.

   To restart a server:

   In the Restart Checklist table, select the row of the server you want to restart.

   Click **Restarts**.

5. Click **Done**.

View and resolve conflicts

As you make configuration changes, other edit sessions may exist in the domain that impact your edit session. If the existing changes are incompatible with yours, then you will need to resolve the conflicts before you can activate your changes or you may decide to release the configuration lock and rollback your changes.

When incompatible configuration changes exist, the **Changes > View & Resolve Conflicts** menu option becomes available.

To resolve conflicting configuration changes:

1. Locate the **Change Center**.

2. From the **Changes** menu, select **View & Resolve Conflicts**.

   On the View & Resolve Conflicts page, you receive a warning that conflicting changes have been made in another edit session and see a description of those changes. Also, you are given a description of the changes to the domain that will occur if you initiate a resolve operation. For more information, select **Changes > View Change List**.

3. To accept the changes, click **Resolve Conflicts**, then select **Changes > Activate Changes** to save all changes to the domain.

4. To release the configuration lock and rollback your changes, click **Cancel**, then select **Changes > Undo All Changes**.

Enable and disable the domain configuration lock

The Change Center provides a way to lock a domain configuration so you can make changes to the configuration while preventing other accounts from making changes during your edit session.

To enable or disable the domain configuration locking feature in a development domain:

1. Locate the **Change Center**.

2. From the **Changes** menu, select **Preferences**.

   The Change Center Preferences page is displayed.

3. From the Change Center Preference page, select or clear the **Auto-Commit Mode (Automatically Acquire Lock and Activate Changes)** field to enable or disable this feature.

4. Click **OK**.

To verify that domain configuration locking is enabled:

1. Locate the **Change Center**.

2. On the **Changes** menu, locate **Auto-Commit Mode**.

3. If a blue checkmark appears next to **Auto-Commit Mode**, then the domain configuration lock is enabled.

4. If there is no checkmark, then select **Auto-Commit Mode** to enable the domain configuration lock.

   A confirmation message is displayed on the page.

After you finish

When you enable domain configuration locking, you must use the Change Center to unlock and edit the domain configuration. See Use the Change Center.

Release the configuration lock

When you select **Lock & Edit** in the Change Center, you obtain a lock on the editable configuration hierarchy which prevents other people from making changes until you release the configuration lock.

To release the configuration lock:

1. Locate the **Change Center**.

2. From the **Changes** menu, select one of the following options:

   • To release the lock explicitly before you make any changes, select **Release Configuration**.

   • To release the lock implicitly after you save any changes, select **Activate Changes** or **Undo All Changes**.

     A confirmation message is displayed on the page indicating the configuration lock has been released.

Set Change Center preferences

You can specify individual Change Center preferences.

To specify preferences for the Change Center:

1. Locate the **Change Center**.

2. From the **Changes** menu, select **Preferences**.

   The Change Center Preferences page is displayed.

3. From the Change Center Preference page, you can specify the following options:

   • Activation Timeout

- Warn User Before Taking Lock

- Auto-Commit Mode (Automatically Acquire Lock and Activate Changes)

- Management Operation Timeout

4. Click **OK**.

   A confirmation message is displayed on the page.

Record WLST scripts

To help automate the task of configuring a domain, you can record your configuration actions in Fusion Middleware Control as a series of WebLogic Scripting Tool (WLST) commands and then use WLST to replay the commands.

WLST is a command-line scripting environment that you can use to create, manage, and monitor WebLogic Server domains.

You cannot record WLST commands for the following:

- Changes to the security data that is maintained by a security provider. For example, you cannot record the commands to add or remove users, roles, and policies.

- Changes to deployment plans.

- Deployment operations: deploy, redeploy, undeploy, start, stop.

- Runtime operations found on Control or Monitoring pages, such as starting and stopping applications or server instances.

See Configuration Options.

This section includes the following tasks:

- Start WLST recording

- Stop WLST recording

- View recorded commands

- Set WLST recording preferences

Start WLST recording

You can only record actions that modify a domain's configuration document. See Record WLST scripts.

To start recording your Fusion Middleware Control actions as WLST commands:

1. Locate the **Change Center**.

2. From the **Recording** menu, select **Start Recording**.

   A confirmation message is displayed on the page.

After you finish

Fusion Middleware Control starts recording all actions that change the domain's configuration. As it records each command, it writes the command to the script file that you specified in your recording preferences. See Set WLST recording preferences.

Stop WLST recording

To stop recording your Fusion Middleware Control actions as WLST commands:

1. Locate the **Change Center**.

2. From the **Recording** menu, select **Stop Recording**.

    A confirmation message is displayed on the page indicating that Fusion Middleware Control has stopped recording your actions.

View recorded commands

To view the commands that have been recorded in your script file:

1. Locate the **Change Center**.

2. From the **Recording** menu, select **View Recording**.

    The View Recording page shows the commands that have been recorded into the script file in the current and previous recording sessions.

    You cannot edit the commands that are displayed on this page. Instead, you can use a text editor to edit the commands in the script file.

3. Click **OK**.

Set WLST recording preferences

You can specify individual preferences for WLST recording.

To set preferences for recording WLST scripts:

1. Locate the **Change Center**.

2. From the **Recording** menu, select **Preferences**.

    The Set Preferences for WLST Recording page is displayed.

3. From the Set Preferences for WLST Recording page, you can specify the following options:

    *   Base Script Directory

    *   Script File Name

    *   Append to File

    *   Prompt Before Start Recording

    *   Generate Prescript and Postscript

    *   Prescript Text

    *   Postscript Text

4. Click **OK**.

Set Auto-Refresh interval

You can specify the following automatic page refreshing intervals using the **Auto-Refresh** list in the upper right corner of the console:

- Off—default

- 15 seconds

- 30 seconds

- 1 minute

- 5 minutes

Alternatively, you can manually refresh any console page by clicking the **Refresh** icon.

Customize table views

You can customize tables in Fusion Middleware Control by sorting and filtering the data displayed and managing columns.

To customize a table view:

1. To add or remove table columns:

   a. Above the table, select **View**, then select **Manage Columns**.

   b. Add columns to display by moving them from the list of **Hidden Columns** (on the left) to **Visible Columns** (on the right).

   c. Remove columns displayed by moving them from the list of **Visible Columns** to the list of **Hidden Columns**.

   d. Click **OK**.

2. To reorder table columns:

   a. Above the table, select **View**, then select **Reorder Columns**.

   b. Select a column and use the arrows on the right to reorder the columns.

   c. Click **OK**.

3. To filter the data that appears in a table:

   a. Select the column for which you want to filter data.

   b. Above the column, specify filtering criteria in the text box.

   > ✏️ **Note:**
   >
   > Some columns provide a menu with filtering criteria instead of a text box.

   The table displays only the filtered data. Click the eraser icon to remove all filters.

4. To sort the data that appears in a table:

   a. Above the table, select **View**, then select **Sort**.

   b. Select **Advanced**.

   c. From the Advanced Sort page, you can sort individual columns by ascending or descending order.

      d. Click **OK**.

Filter tables using Query by Example

You can perform a query on tables in Fusion Middleware Control to filter information.

To use the Query by Example capability for tables:

1. Above the table you want to filter, select **View**, then select **Query by Example**.

   If Query by Example is enabled, then a row of text boxes and menus is displayed above the header row of the table.

2. Select any row in the table to add information to the query row.

3. To filter table information using text, add a text string to the text box above the column you want to query, and press **Enter**.

   To filter other table information, select a one of the available options from one of the provided menus above the column you want to query.

4. To clear queries, click the pencil eraser icon in the upper left hand corner of the table.

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WebLogic Server Domains

This chapter describes the tasks you can perform to monitor, control, and configure a domain. An Oracle WebLogic Server administration domain is a logically related group of Oracle WebLogic Server resources.
Domains include a special Oracle WebLogic Server instance called the Administration Server, which is the central point from which you configure and manage all resources in the domain. Usually, you configure a domain to include additional Oracle WebLogic Server instances called Managed Servers. You deploy Web applications, EJBs, Web services, and other resources onto the Managed Servers and use the Administration Server for configuration and management purposes only.

For more information on WebLogic Server domains, see *Understanding Domain Configuration for Oracle WebLogic Server*.

This chapter includes the following sections:

- Monitor domains
- Control domains
- Configure domains
- View the JNDI tree

Monitor domains

This section describes how to monitor your domain. This section includes the following tasks:

- Monitor domain health
- Monitor domain server instances
- Monitor domain clusters
- Monitor domain migration
- Monitor domain deployments
- Monitor domain JDBC data sources
- Monitor domain messaging
- Monitor domain asynchronous tasks
- Monitor domain port usage

Monitor domain health

To monitor the health of a domain:

- From the **WebLogic Domain** menu, select **Monitoring**, then select **Health**.

  The Health summary page allows you to monitor health information for the domain and its subsystems. The Subsystem Health table displays information about the health of the server instances and subsystems configured in the current domain. Click on any sector in the pie charts to control the data described in the table, such as:

- Server Name

- Server Status

- Server State

- Server Health

- Subsystem Name

- Subsystem Health

- Subsystem Type

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Monitor domain server instances

A server is an instance of WebLogic Server that runs its own Java Virtual Machine (JVM) and has its own configuration.

To monitor the runtime status of all server instances configured in a domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Servers**.

   The Servers table displays information about the Administration Server and any Managed Servers that have been configured in the current domain, such as:

   - Name
   - Status
   - Cluster
   - Machine
   - State
   - Health

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. In the table, select the name of the server instance to view configuration information, such as the server's default network communications.

Monitor domain clusters

To monitor the runtime status of all clusters configured in a domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain, such as:

   - Cluster Name
   - Status
   - Servers
   - Cluster Address
   - Cluster Messaging Mode
   - Migration Basis

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. In the table, select the name of the cluster to view configuration information, such as the cluster's default network communications.

Monitor domain migration

To monitor the status of all migration requests in a domain:

- From the **WebLogic Domain** menu, select **Monitoring**, then select **Migration**.

  The Migration table displays information the status of all migration requests, such as:

  - Start Time
  - End Time
  - Status
  - Server
  - Machines Attempted
  - Machine Migrated From
  - Machine Migrated To
  - Cluster
  - Cluster Master

  For more information about these fields, see Configuration Options.

  Optionally, select **View** to access the following table options:

  - Columns: add or remove the columns displayed in the table
  - Detach: detach the table (viewing option)

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- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Monitor domain deployments

To monitor the status of all deployments in a domain:

• From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

The Deployments (Monitoring) Summary page is displayed.

The Deployments table displays information about the applications deployed in this domain, such as:

- Name
- Status
- State
- Health
- Type
- Deployment Order
- Scope
- Tags

See Configuration Options.

To monitor specific deployments that are deployed in the domain, select the appropriate pages:

- **Web Applications**: monitor Web applications; includes information such as the machine and server instance on which the Web application is deployed and statistics about the number of servlets and sessions associated with the Web application

  See Configuration Options.

- **Resource Adapters**: monitor the status of the current state of message listener endpoints and outbound connection pools for resource adapters

  See Configuration Options.

- **EJBs**: monitor statistics about stateless, stateful, singleton, entity, and message-driven EJBs

  See Configuration Options.

- **Web Services**: monitor all the Web services that are deployed to this domain

  See Configuration Options.

- **Web Service Clients:** monitor all Web service clients in this domain

  See Configuration Options.

- **JAX-RS Applications**: monitor the JAX-RS applications running in this domain

  See Configuration Options.

- **Workload**: view statistics for the Work Managers, constraints, and policies that are configured for application deployments in this domain

  See Configuration Options.

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Optionally, select **View** on any page to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Monitor domain JDBC data sources

To monitor the status of all JDBC data sources created in a domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **JDBC Data Sources**.

   The JDBC Data Sources (Monitoring) table lists the JDBC data sources that have been created in the domain and displays related status information, such as:

   - Name

   - Type

   - Resource

   - Scope

   - Server Name

   - State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

2. - Columns: add or remove the columns displayed in the table

   - Detach: detach the table (viewing option)

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

   To test a data source:

   a. In the JDBC Data Sources table, select the row of the JDBC data source instance you want to test. The Test Data Source option is displayed above the table.

   b. Click **Test Data Source**.

Monitor domain messaging

To monitor the status of JMS servers created in a domain:

- From the **WebLogic Domain** menu, select **Monitoring**, then select **Messaging**.

  The JMS Servers table displays information about the status of all JMS servers in a domain, such as:

  - Name

  - Scope

  - Health

- Health Reason

- Target

- Current Target

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

To monitor the following domain messaging resources or modules, select the appropriate pages:

- **Store-and-Forward Agents**: monitor SAF agent statistics and perform message management operations, such as pausing incoming requests to the agent

  See Configuration Options.

- **JMS Resources**: monitor all JMS resources that have been created for all the JMS system modules, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and Store-and-Forward parameters

  See Configuration Options.

- **JMS Modules**: monitor the JMS modules created for this domain

  See Configuration Options.

- **Messaging Bridges**: monitor the status of all messaging bridges configured on active server instances in this domain

  See Configuration Options.

Monitor domain asynchronous tasks

To monitor the completion status of all tasks in a domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Asynchronous Tasks**.

   The Asynchronous Tasks table displays information about the completion status of all tasks in a domain, such as:

   - Description

   - Type

   - Status

   - Begin Time

   - End Time

   - Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

2. In the table, select the description of the task for which you want to view additional status information.

    See the following topics:

- Monitor an asynchronous task

- Monitor a deployment asynchronous task

- Monitor a server life cycle asynchronous task

- Monitor a service migration asynchronous task

Monitor an asynchronous task

To view status information of a specific activation or other task:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Asynchronous Tasks**.

2. In the Asynchronous Tasks table, select the description of the activation or other task for which you want to view additional status information.

    The Task Results page displays status information related to the task, such as:

- Description

- Status

- Begin Time

- End Time

    For more information about these fields, see Configuration Options.

Monitor a deployment asynchronous task

To view status information of a specific deployment task:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Asynchronous Tasks**.

2. In the Asynchronous Tasks table, select the description of the deployment task for which you want to view additional status information.

    The Summary page displays status information related to the task, such as:

- Name

- Application

- Description

- Status

- Begin Time

- End Time

- Exception

For more information about these fields, see Configuration Options.

3. Select **Targets** to view additional status information, such as:

- Target Name
- Target Type
- Status
- Exceptions

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

For more information about these fields, see Configuration Options.

Monitor a server life cycle asynchronous task

To view status information of a specific server life cycle task:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Asynchronous Tasks**.

2. In the Asynchronous Tasks table, select the description of the server life cycle task for which you want to view additional status information.

   The Summary page displays status information related to the task, such as:

   - Name
   - Description
   - Status
   - Begin Time
   - End Time
   - Exception

   For more information about these fields, see Configuration Options.

3. Select **Log Output** to view additional status information, such as:

   - Date
   - Subsystem
   - Severity
   - Machine
   - Server
   - Thread

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

For more information about these fields, see Configuration Options.

Monitor a service migration asynchronous task

To view status information of a specific service migration task:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Asynchronous Tasks**.

2. In the Asynchronous Tasks table, select the description of the service migration task for which you want to view additional status information.

   The Task Results page displays status information related to the task, such as:

   - Description
   - Status
   - Begin Time
   - End Time

   For more information about these fields, see Configuration Options.

Monitor domain port usage

To monitor port usage in a domain:

- From the **WebLogic Domain** menu, select **Monitoring**, then select **Port Usage**.

  The Port Usage table displays the following information:

  - Port in Use
  - IP Address
  - Component
  - Channel
  - Protocol

  To only monitor port usage information about one specific server instance in the domain, select that server instance from the **Show** menu.

Control domains

Before you begin:

Control operations on Managed Servers require starting the Node Manager. Starting Managed Servers in STANDBY mode requires the domain-wide administration port.

This section includes the following tasks:

- Control domain server instances
- Control domain clusters

Control domain server instances

You can start, resume, suspend, or shut down the server instances configured in a domain. For information on how the server instances transition from `STANDBY` or `ADMIN` to the `RUNNING` state, see Understanding Server Life Cycle in *Managing Server Startup and Shutdown for Oracle WebLogic Server*.

To change the state of server instances in a domain:

1. From the **WebLogic Domain** menu, select **Control**, then select **Servers**.

   The Servers table displays information about the server instances that have been configured in the current domain.

2. In the table, select the row containing the name of the server instance you want to control. The control options are displayed above the table.

3. From the **Control** menu, select one of the server control options:

   - **Start**: moves server instances from the `SHUTDOWN` state to `RUNNING`.

   - **Resume**: moves server instances from the `STANDBY` or the `ADMIN` state to `RUNNING`.

   - **Suspend**: select an option to transition a server instance from the `RUNNING` state to the `ADMIN` state:

     – **When work completes**: moves server instances from the `RUNNING` state to the `ADMIN` state, allowing work in process to be handled gracefully. While in the `SUSPENDING` state, Work Managers complete in-flight processing for pending work in application threads.

     – **Force shutdown now**: immediately moves server instances from the `RUNNING` state to the `ADMIN` state, without handling work in process gracefully.

   - **Shutdown**: select an option to shutdown a server instance:

     – **When work completes**: gracefully stops server instances in the domain. New requests are rejected but in-flight requests are completed before the server stops.

     – **Force suspend now**: immediately stops server instances in the domain. In-flight requests are dropped, no new requests are accepted, and the server immediately stops.

   - **Restart SSL**: restarts the SSL listen sockets so that keystore changes take effect.

   See Configuration Options.

Control domain clusters

To change the state of clusters in a domain:

1. From the **WebLogic Domain** menu, select **Control**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain.

2. In the table, select the row containing the name of the cluster you want to control.

   The control options are displayed above the table.

3. From the **Control** menu, select one of the cluster control options:

   - **Start**: moves server instances in the cluster from the `SHUTDOWN` state to `RUNNING`.

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- **Stop**: select an option to shutdown server instances in a cluster

  – **When work completes**: gracefully stops server instances in the cluster. New requests are rejected but in-flight requests are completed before the cluster stops.

  – **Force suspend now**: immediately stops server instances in the cluster. In-flight requests are dropped, no new requests are accepted, and the cluster immediately stops.

- **Restart**: restarts the server instances in the cluster.

- **Suspend**: select an option to transition server instances in the cluster from the `RUNNING` state to the `ADMIN` state:

  – **When work completes**: moves server instances in the cluster from the `RUNNING` state to the `ADMIN` state, allowing work in process to be handled gracefully. While in the `SUSPENDING` state, Work Managers complete in-flight processing for pending work in application threads.

  – **Force shutdown now**: immediately moves server instances in the cluster from the `RUNNING` state to the `ADMIN` state, without handling work in process gracefully.

- **Resume**: moves server instances in the cluster from the `STANDBY` or the `ADMIN` state to `RUNNING`.

See Configuration Options.

Configure domains

This section describes how to configure your domain. This section includes the following tasks:

- Configure domain general settings
- Configure domain JTA settings
- Configure the default JPA persistence provider
- Configure domain EJBs
- Configure domain Web applications
- Create domain notes

Configure domain general settings

To configure general settings for a domain:

1. From the **WebLogic Domain** menu, select **Administration**, then select **General Settings**.

   From the General Settings page you can configure administrative options that apply to all server instances in the current domain, such as:

   - Follow Configuration Changes
   - Enable Administration Port (see Configure the domain-wide administration port)
   - Administration Port
   - Production Mode
   - Enable Exalogic Optimizations
   - Enable Cluster Constraints
   - On-demand Employment of Internal Applications

- Enable Oracle Guardian Agent

  For more information about these fields, see Configuration Options.

  Optionally, expand **Advanced** to define advanced settings for this domain.

2. Click **Save**.

- Configure the domain-wide administration port
- Archive domain configuration files
- Change to production mode

Configure the domain-wide administration port

Before you begin:

The administration port accepts only secure, SSL traffic, and all connections via the port require authentication by a server administrator. Because of these features, enabling the administration port imposes the following restrictions on your domain:

- The Administration Server and all Managed Servers in your domain must be configured with support for the SSL protocol.

- All server instances in the domain, including the Administration Server, enable or disable the administration port at the same time.

> ✏️ **Note:**
>
> The administration port cannot be dynamically enabled on a Managed Server. You must shut down each Managed Server, enable the administration port, then restart.

WebLogic Server provides the option to enable an SSL administration port for use with all server instances in the domain. Using the administration port is strongly recommended. It provides three capabilities:

- Since communication uses SSL, administration traffic (which includes such things as administrator passwords) is more secure.

- It enables you to start a server instance in the `STANDBY` state.

- It enables you to separate administration traffic from application traffic in your domain.

To enable the administration port for a domain:

1. From the **WebLogic Domain** menu, select **Administration**, then select **General Settings**.

2. Select the **Enable Administration Port** check box to enable the SSL administration for this domain.

3. In the **Administration Port** field, enter the SSL port number that server instances in the domain use as the administration port. You can override an individual server instance's administration port assignment on the **Advanced** options portion of the General Settings page.

4. Click **Save**.

After you finish:

Start all Managed Server instances in the domain. You do not need to restart the Administration Server.

Archive domain configuration files

To configure how many archive files are retained:

1. From the **WebLogic Domain** menu, select **Administration**, then select **General Settings**.

2. Expand **Advanced**, then select the **Configuration Archive Enabled** check box.

3. In the **Archive Configuration Count** field, enter the number of archive files to retain.

4. Click **Save**.

Change to production mode

All server instances in a domain run either in development mode or production mode. In general, production mode requires you to configure additional security features.

To configure all server instances in a domain to run in production mode:

1. From the **WebLogic Domain** menu, select **Administration**, then select **General Settings**.

2. Select the **Production Mode** check box.

3. Click **Save**.

4. Shut down any server instances that are currently running.

5. Invoke the domain's `startWebLogic` script. The Administration Server starts in the new mode.

6. If the domain contains Managed Servers, then start the Managed Servers.

Configure domain JTA settings

To configure the Java Transaction API (JTA) of a domain:

1. From the **WebLogic Domain** menu, select **Administration**, then select **Java Transaction API (JTA)**.

    From the JTA page you can define the JTA configuration settings for your domain, such as:

    • Timeout Seconds

    • Abandon Timeout Seconds

    • Before Completion Iteration Limit

    • Max Transactions

    • Max Unique Name Statistics

    • Checkpoint Interval Seconds

    • Forget Heuristics

    • Unregister Resource Grace Period

    • Execute XA Calls in Parallel

    • Enable Two Phase Commit

    • Enable Tightly Coupled Transactions

    • Enable Cluster-Wide Recovery

    For more information about these fields, see Configuration Options.

Optionally, expand **Advanced** to define advanced settings for this domain.

2. Click **Save**.

Configure the default JPA persistence provider

You can specify which Java Persistence API (JPA) persistence provider to use for each persistence entity in the `persistence.xml` file. However, if no persistence provider is specified, the domain-wide default provider is used.

Changing the default provider does not affect applications that are already deployed. The setting takes effect when the server instance is restarted or the application is manually redeployed.

To specify the default JPA provider in a domain:

1. From the **WebLogic Domain** menu, select **Administration**, then select **Java Persistence API (JPA)**.

   From the JPA page you can define the JPA configuration for your domain by selecting a JPA provider from the **Default JPA Provider** menu.

   See Configuration Options.

2. Click **Save**.

Configure domain EJBs

To configure the EJBs in a domain:

1. From the **WebLogic Domain** menu, select **Administration**, then select **EJBs**.

   From the EJB page you can define domain-wide EJB configuration settings, such as:

   • Java Compiler

   • Prepend Java Compiler Options

   • Append Java Compiler Options

   • Extra RMIC Options

   • Keep Generated EJBC Source Files

   • Force Generation

   • Temporary Directory

   • Extra EJBC Options

   For more information about these fields, see Configuration Options.

2. Click **Save**.

Configure domain Web applications

To configure Web applications in a domain:

1. From the **WebLogic Domain** menu, select **Administration**, then select **Web Applications**.

   From the Web Applications page you can define the domain-wide Web application configuration settings, such as:

   • Relogin Enabled

- Allow All Roles

- Filter Dispatched Requests

- Overload Protection Enabled

- X-Powered-By Header

- Mime Mapping File

- Optimistic Serialization

- Error on Name Request Time Value

- Client Cert Proxy Enabled

- HTTP Trace Support Enabled

- WebLogic Plug-in Enabled

- Auth Cookie Enabled

- Change Session ID on Authentication

- WAP Enabled

- Post Timeout

- Maximum Post Timeout

- Maximum Post Size

- Work Context Propagation Enabled

- P3P Header Value

- JSP Compiler Backwards Compatible

- Archived Real Path Enabled

For more information about these fields, see Configuration Options.

2. Click **Save**.

Create domain notes

To create notes for domain configuration:

1. From the **WebLogic Domain** menu, select **Administration**, then select **Notes**.

2. On the Notes page, enter any notes about the configuration of your domain.

3. Click **Save**.

See Configuration Options.

View the JNDI tree

The JNDI browser is a central location where you can find the JNDI names of all the WebLogic Server resources. Typically, while writing WLS client programs, you would search the JNDI browser for JNDI names. The JNDI browser displays a tree of resources in the domain or a server. Selecting a node or an object in the tree, displays JNDI information including Binding Name, Object Class, Object Hash Code, and Object to String Results entries.

To view objects in the domain JNDI tree:

1. From the **WebLogic Domain** menu, select **JNDI Browser**.

2. Use the left pane to navigate the JNDI tree.

   For a selected node or object, the details appear in the right pane.

For more information about JNDI, see Understanding WebLogic JNDI in *Developing JNDI Applications for Oracle WebLogic Server*.

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WebLogic Servers

This chapter describes the tasks you can perform to monitor, control and configure server instances. A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.
When you create a domain, you also create an Administration Server, which distributes configuration changes to other servers in the domain. In a typical production environment, you create one or more Managed Servers in the domain to host business applications and use the Administration Server only to configure and monitor the Managed Servers.

This chapter includes the following sections:

- Create servers
- Monitor servers
- Control servers
- Configure servers
- View the JNDI tree

Create servers

To create a new server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the Administration Server and any Managed Servers that have been configured in the current domain.

   > **✏ Note:**
   >
   > You can also access this detailed monitoring page directly from the Target Navigation pane:
   >
   > - From the Target Navigation pane, expand the farm, then expand **WebLogic Domain**.
   >
   > - Expand the domain, then select the name of the server instance for which you want to view detailed monitoring information.

2. Click **Create**.

3. Define the configuration options for your server on each page of the following sections.

4. Then, click **Create**.

- Server Properties
- Machine Binding
- Review

Server Properties

On the **Server Properties** page, you can define general configuration settings for your new server instance:

- **Name**: enter the desired name for your new server instance.

- **Server Listen Address**: if you want to limit the valid addresses for a server instance, enter an IP address or DNS name. Otherwise, URLs to the server can specify any of the host computer's IP address, any DNS name that maps to one of the IP addresses, or the `localhost` string.

- **Server Listen Port**: enter the port number from which you want to access the server instance.

- **Cluster Membership**: specify whether or not this server will be a stand alone server or will belong to a cluster. If this server is not part of a cluster, then select **No, this is a stand-alone server**.

  If this server is part of a cluster, then select **Yes, make this server a member of an existing cluster**. Select the desired cluster from the **Select a cluster** menu or click **Create a new cluster**. For more information on creating a new cluster, see Create clusters.

For more information about these fields, see Configuration Options.

Machine Binding

On the **Machine Binding** page, you can optionally select a machine to associate your new server with. Use the **Select a machine** menu or click **Create a machine**. For more information on creating machines, see Create machines.

For more information about this field, see Configuration Options.

Review

On the **Review** page, review the configuration for this server instance.

For more information about these fields, see Configuration Options.

Monitor servers

This section describes how to monitor server instances. This section includes the following tasks:

- Monitor status of all server instances

- Monitor server environment

- Monitor server health

- Monitor server transactions

- Monitor server JDBC data sources

- Monitor server messaging

- Monitor server deployments

- Monitor server performance summary

- Monitor server resource performance

- Monitor server JVM performance
- Monitor server asynchronous tasks

Monitor status of all server instances

To monitor the runtime status of all server instances in a domain:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the Administration Server and any Managed Servers that have been configured in the current domain, such as:

   - Server Name
   - Type
   - Status
   - Cluster
   - Machine
   - State
   - Administration Port

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. Select the name of the server instance for which you want to view configuration information, such as the server's default network communications.

   > **Note:**
   >
   > You can also access this detailed monitoring page directly from the Target Navigation pane:
   >
   > - From the Target Navigation pane, expand the farm, then expand **WebLogic Domain**.
   > - Expand the domain, then select the name of the server instance for which you want to view detailed monitoring information.

Monitor server environment

To monitor the status of a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Environment Monitoring**.

4. To monitor specific aspects associated with this server instance, select the appropriate pages:

- **General**: general runtime information about the server

    See Configuration Options.

- **Channels**: monitor channel information for this server

    See Configuration Options.

- **Performance**: monitor performance information about this server; can also force garbage collection or a thread dump from this page

    See Configuration Options.

- **Threads**: monitor the status of the thread pool and individual threads for this server

    See Configuration Options.

- **Timers**: monitor the timers being used by this server

    See Configuration Options.

- **Jobs**: monitor information about jobs scheduled with the job scheduler on a specific clustered server

    See Configuration Options.

- **Security**: monitor user lockout management statistics for this server

    See Configuration Options.

- **Default Store**: monitor runtime statistics for the default store and all of the active default store connections for this server

    For more information on default store connections, see Configuration Options.

- **JMS**: monitor statistics on all the active JMS connections for this server

    See Configuration Options.

- **Workload**: monitor Work Managers, constraints, and request classes associated with this server

    See Configuration Options.

- Monitor channel information

Monitor channel information

To monitor channel connection information for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

    An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Environment Monitoring**.

4. Select the **Channels** page.

    The Channels table allows you to monitor information about all the channel connections for this server, such as:

- Name

- Connections

- Messages Received

- Messages Sent

- Bytes Received

- Bytes Sent

- Accept Count

For more information about these fields, see Configuration Options.

5. In the Channels table, select the name of a channel to monitor more detailed information.

Monitor server health

To monitor the health of a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Health**.

   The Health summary page allows you to monitor health information for the server instance and its subsystems.

   See Configuration Options.

Monitor server transactions

To monitor the JTA transactions of a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Java Transaction API (JTA)**.

4. To monitor the following server information, select the appropriate pages:

   - **Summary**: summary of all transaction information for all resource types on this server

     See Configuration Options.

   - **Transaction Log Store Statistics**: monitor runtime statistics for the transaction log store used by this server

     See Configuration Options.

   - **Transaction Log Store Connections**: summary of all transaction information for all resource types on the server

     See Configuration Options.

   - **Transactions by Name**: monitor runtime statistics for all of the active transaction log store connections for this server

     See Configuration Options.

- **XA Resources**: monitor transactions coordinated by this server

  See Configuration Options.

- **Non-XA Resources**: monitor transactions coordinated by this server

  See Configuration Options.

- **Transactions**: monitor information about current transactions coordinated by this server or in which this server's resources participate; you can force a local commit, global commit, local rollback, or global rollback from this page

  See Configuration Options.

- **Recovery Services**: monitor information about transactions that were processed by the server as part of recovery on server startup or after a crash

  See Configuration Options.

Monitor server JDBC data sources

To monitor the JDBC data sources associated with a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

    An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **JDBC Data Sources**.

    The JDBC Data Sources table displays information about the status of all JDBC data sources, such as:

    - Name
    - Type
    - Resource
    - Scope
    - Server

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    - Columns: add or remove the columns displayed in the table
    - Detach: detach the table (viewing option)
    - Sort: sort the columns in ascending or descending order
    - Reorder: change the order of the columns displayed
    - Query by Example

Monitor server messaging

To monitor the status of JMS servers associated with a server instance:

1. From the **WebLogic Domain** menu, select **Environment,** then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

    An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Messaging**.

The JMS Servers table displays information about the status of all JMS servers in a domain, such as:

- JMS Server Name

- Health

- Health Reason

- Target

- Current Target

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

To monitor the following server messaging resources or modules, select the appropriate pages:

- **Store-and-Forward Agents**: monitor SAF agent statistics and perform message management operations, such as pausing incoming requests to the agent

   See Configuration Options.

- **JMS Resources**: monitor all JMS resources that have been created for all the JMS system modules, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters

   See Configuration Options.

- **JMS Modules**: monitor the JMS modules created for this domain

   See Configuration Options.

- **Messaging Bridges**: monitor the status of all messaging bridges configured on active servers in this domain

   See Configuration Options.

Monitor server deployments

To monitor all deployments on a server instance:

1. From the **WebLogic Domain** menu, select **Environment,** then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Deployments**.

   Under the Summary page, the Deployments table displays information about all active applications and modules deployed to the server, such as:

   - Name

   - State

- Health

- Type

- Deployment Order

- Scope

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

To monitor server deployments, select the appropriate pages:

- **Web Applications**: monitor Web applications deployed to your server; includes information about the application such as the machine and server on which the application is deployed and statistics about the servlets and sessions associated with the Web application

  See Configuration Options.

- **Resource Adapters**: monitor the status of inbound listeners and outbound connection pools

  See Configuration Options.

- **EJBs**: monitor statistics and information about stateless, stateful, singleton, entity, and message-driven EJBs

  See Configuration Options.

- **Web Services**: monitor all the Web services that are deployed to this domain

  See Configuration Options.

- **Web Service Clients:** monitor all Web service clients in this server

  See Configuration Options.

- **JAX-RS Applications**: monitor all the JAX-RS applications that are running on this server

  See Configuration Options.

- **Workload**: monitor statistics for the Work Managers, constraints, and policies that are configured for application deployments in this server

  See Configuration Options.

Monitor server performance summary

To monitor the performance summary of a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Performance Summary**.

   The Performance Summary page displays general performance information, as well as performance information about the servlets, JSPs, and data sources associated with this server instance.

   - Click **Show Metric Palette** to select the metrics you want to view.

   - Select **View** to access table options.

   - Select **Overlay** to access additional table options.

Monitor server resource performance

To monitor the resource performance of a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Resource Performance**.

   The Resource Performance page displays general performance information, as well as performance information about the data sources and JMS servers associated with the server instance.

   - Click **Show Metric Palette** to select the metrics you want to view.

   - Select **View** to access table options.

   - Select **Overlay** to access additional table options.

Monitor server JVM performance

To monitor the JVM performance of a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **JVM Performance**.

   The JVM Performance page displays performance information about memory, heap usage, garbage collectors, and threads associated with a server instance.

   - Click **Show Metric Palette** to select the metrics you want to view.

   - Select **View** to access table options.

   - Select **Overlay** to access additional table options.

Monitor server asynchronous tasks

Because some administrative tasks (such as deployments, service migrations, and attempts to start or stop Managed Servers) are completed immediately and others take varying amounts of time to complete, the Asynchronous Tasks summary page allows you to monitor the completion status of all tasks.

To monitor the status of asynchronous tasks in a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to monitor.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Monitoring**, then select **Asynchronous Tasks**.

   The Asynchronous Tasks summary page allows you to monitor the completion status of all tasks by displaying information such as:

   - Description
   - Type
   - Status
   - Begin Time
   - End Time
   - Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Control servers

This section describes how to control server instances. You can start, resume, suspend, or shutdown the server instances in a domain. For information on how the server transitions from `STANDBY` or `ADMIN` to the `RUNNING` state, see Understanding Server Life Cycle in *Managing Server Startup and Shutdown for Oracle WebLogic Server*.

Before you begin

Control operations on Managed Servers require starting the Node Manager. Starting Managed Servers in Standby mode requires the domain-wide administration port.

This section includes the following tasks:

- Control server state
- Control server JTA transactions
- Control clustered server migration
- Control clustered server job scheduling

Control server state

To change the state of a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the server instances that have been configured in the current domain.

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Control servers

2. In the table, select the name of the server instance you want to control.

3. From the **WebLogic Server** menu, select **Control**, then select **Control Operations**.

   The Servers Control table is displayed.

4. In the table, highlight the row containing the name of the server instance you want to control. The control options are displayed above the table.

5. Select one of the server control operations:

   • **Start**: moves server instances from the `SHUTDOWN` state to `RUNNING`.

   • **Resume**: moves server instances from the `STANDBY` or the `ADMIN` state to `RUNNING`.

   • **Suspend**: select an option to transition a server instance from the `RUNNING` state to the `ADMIN` state:

     – **When work completes**: moves server instances from the `RUNNING` state to the `ADMIN` state, allowing work in process to be handled gracefully. While in the `SUSPENDING` state, Work Managers complete in-flight processing for pending work in application threads.

     – **Force shutdown now**: immediately moves server instances from the `RUNNING` state to the `ADMIN` state, without handling work in process gracefully.

   • **Shutdown**: select an option to shutdown a server instance:

     – **When work completes**: gracefully stops server instances in the domain. New requests are rejected but in-flight requests are completed before the server stops.

     – **Force suspend now**: immediately stops server instances in the domain. In-flight requests are dropped, no new requests are accepted, and the server immediately stops.

   • **Restart SSL**: restarts the SSL listen sockets so that keystore changes take effect.

   See Configuration Options.

Control server JTA transactions

To control transactions coordinated by a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the server instances that have been configured in the current domain.

2. In the table, select the name of the server instance you want to control.

3. From the **WebLogic Server** menu, select **Control**, then select **Java Transaction API (JTA)**.

   The JTA table displays information about the transactions coordinated by the server or in which server resources participate.

4. In the table, highlight the row containing the name of the transaction you want to control. The control options are displayed above the table.

5. Click one of the server control operations:

   • **Force Local Commit**: Forces the transaction represented by XID to be committed at the local SubCoordinator only.

   • **Force Global Commit**: Forces the transaction represented by XID to be committed at all participating SubCoordinators.

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- **Force Local Rollback**: Forces the transaction represented by XID to be rolled-back at the local SubCoordinator only.

- **Force Global Rollback**: Forces the transaction represented by XID to be rolled-back at all participating SubCoordinators.

See Configuration Options.

Control clustered server migration

To migrate a clustered server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the server instances that have been configured in the current domain.

2. In the table, select the name of the server instance you want to control.

3. From the **WebLogic Server** menu, select **Control**, then select **Migration**.

   From the Migration page, you can manually restart (migrate) the server instance and its services to another machine. Alternatively, you can migrate the JMS-related services and the JTA Transaction Recovery Service on this server instance to another server instance in the cluster.

4. From the **Migrate to Machine** menu, select the machine you want to migrate this server instance and its services to.

5. Click the **Migrate** button.

   See Configuration Options.

Control clustered server job scheduling

To control job scheduling for a clustered server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the server instances that have been configured in the current domain.

2. In the table, select the name of the server instance you want to control.

3. From the **WebLogic Server** menu, select **Control**, then select **Jobs**.

   The Jobs table displays information about jobs scheduled on this server and allows you to remove these jobs from future execution.

   See Configuration Options.

4. In the table, highlight the row containing the name of the job you want to remove. The Cancel button is displayed above the table.

5. Click **Cancel**.

Configure servers

This section describes how to configure servers. This section includes the following tasks:

- Define general server configuration
- Configure cluster settings

- Configure server services
- Configure server keystores
- Configure server SSL settings
- Configure server SAML Federation Services
- Configure server deployment staging
- Configure server migration
- Configure server tuning
- Configure server overload
- Configure server health monitoring
- Configure server startup
- Configure server startup and shutdown settings
- Configure server Web Services
- Configure server Coherence cluster settings
- Configure server protocol settings
- Create server notes
- Configure the server template for a dynamic server

Define general server configuration

To configure general settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **General Settings**.

4. From the General Settings page, you can define the configuration settings for this server instance, such as:

   - Template
   - Machine
   - Cluster
   - Listen Address
   - Listen Port Enabled
   - Listen Port
   - SSL Listen Port Enabled
   - SSL Listen Port
   - Client Cert Proxy Enabled
   - Java Compiler
   - Diagnostic Volume
   - Default Data Source

   For more information about these fields, see Configuration Options.

5. Optionally, expand **Advanced** to define advanced configuration settings for this server instance.

6. Click **Save**.

- Change server template
- Specify a startup mode
- Configure listen addresses
- Configure listen ports
- Change server compiler options

Change server template

To change the server template associated with a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **General Settings**.

4. Click **Change** and select the server template from the Server Templates menu.

5. Click **Save**.

Specify a startup mode

The startup mode specifies the state in which a server instance should be started. The default is to start in the RUNNING state.

To specify the startup mode for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **General Settings**.

4. On the General page, expand **Advanced** at the bottom of the page to display the advanced configuration options.

5. In the **Startup Mode** field, select:

   - **Running**: In the RUNNING state, a server offers its services to clients and can operate as a full member of a cluster.

   - **Administration**: In the ADMIN state, the server is up and running, but available only for administration operations, allowing you to perform server and application-level administration tasks without risk to running applications.

   - **Standby**: In the STANDBY mode, the server listens for administrative requests only on the domain-wide administration port and only accepts life cycle commands that transition the server instance to either the RUNNING or SHUTDOWN state. Other administration requests are not accepted. If you specify STANDBY, then you must also enable the domain-wide administration port.

   See Configuration Options.

6. Click **Save**.

Configure listen addresses

To configure the listen address of a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **General Settings**.

4. On the General Settings page, enter a value in **Listen Address**.

   See Configuration Options.

5. Click **Save**.

Configure listen ports

To configure the listen ports of a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **General Settings**.

4. If you want to disable the non-SSL listen port so that the server listens only on the SSL listen port, then deselect **Listen Port Enabled**. If you want to disable the SSL listen port so that the server listens only on the non-SSL listen port, then deselect **SSL Listen Port Enabled**.

   > **Note:**
   >
   > You cannot disable both the non-SSL listen port and the SSL listen port. At least one port must be active.

5. If you are using the non-SSL listen port and you want to modify the default port number, then change the value in **Listen Port**.

6. If you want to modify the default SSL listen port number, then change the value in **SSL Listen Port**.

   See Configuration Options.

7. Click **Save**.

Change server compiler options

To change the standard Java compiler values for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **General Settings**.

4. On the General Settings page, update the **Java Compiler** field with the full path of the compiler to use for all applications hosted on this server that need to compile Java code.

5. Expand **Advanced** to display advanced configuration options.

6. Update the following compile options as necessary:

   - **Prepend to Classpath**: Options to prepend to the Java compiler classpath when compiling Java code.

   - **Append to Classpath**: Options to append to the Java compiler classpath when compiling Java code.

   - **Extra RMI Compiler Options**: Options passed to the RMIC compiler during server-side generation.

   - **Extra EJB Compiler Options**: Options passed to the EJB compiler during server-side generation.

   For more information about these fields, see Configuration Options.

7. Click **Save**.

Configure cluster settings

A WebLogic Server cluster is a group of servers that work together to provide a scalable and reliable application platform.

To configure cluster settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Clusters**.

4. From the Cluster page, you can define the cluster configuration settings for this server instance, such as:

   - Replication Group

   - Preferred Secondary Group

   - Cluster Weight

   - Interface Address

   - Replication Ports

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server services

To configure WebLogic service settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Services**.

4. From the Services page, you can define the service configuration settings for this server instance, such as:

- JMS Configuration
- Default Store
- Transaction Log Store
- Messaging Bridge Configuration
- XML Services Configuration

For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server keystores

Keystores ensure the secure storage and management of private keys and trusted certificate authorities (CAs). You can view and define various keystore configurations which help you manage the security of message transmissions.

To configure keystore settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Keystores**.

4. To change your keystore configuration:

   a. Click **Change**.

   b. From the Keystores menu, select the keystore configuration you want to use.

   c. Click **Save**.

5. From the Keystore page, you can define other keystore configuration settings for this server instance, such as:

- Keystores
- Demo Identity Keystore
- Demo Identity Keystore Type
- Demo Identity Keystore Passphrase
- Demo Trust Keystore
- Demo Trust Keystore Type
- Demo Trust Keystore Passphrase
- Java Standard Trust Keystore
- Java Standard Trust Keystore Type
- Java Standard Trust Keystore Passphrase

For more information about these fields, see Configuration Options.

6. Click **Save**.

Configure server SSL settings

You can view and define various Secure Sockets Layer (SSL) settings for a server instance, which help you manage the security of message transmissions.

To configure SSL settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **SSL**.

4. From the SSL page, you can define the SSL configuration settings for this server instance, such as:

   • Identity and Trust Locations

   • Private Key Location

   • Private Key Alias

   • Private Key Passphrase

   • Certificate Location

   • Trusted Certificate Authorities

   For more information about these fields, see Configuration Options.

5. Optionally, expand **Advanced** to define advanced configuration settings for this server instance.

6. Click **Save**.

Configure server SAML Federation Services

You can configure a WebLogic Server instance to function as a producer or as a consumer of SAML assertions that can be used for the following:

• Web single sign-on between online business partners

• Exchange of identity information in Web services security

The general process of configuring Federation Services depends upon the version of SAML you are using. WebLogic Server supports both SAML 1.1 and SAML 2.0.

To configure WebLogic Server to serve as a SAML 1.1 federated partner, see the respective following sections.

To configure WebLogic Server to serve as a SAML 2.0 federated partner, see the respective following sections.

• Configure SAML 1.1 source services

• Configure SAML 1.1 destination services

• Configure SAML 2.0 general services

• Configure SAML 2.0 Identity Provider services

• Configure SAML 2.0 Service Provider services

Configure SAML 1.1 source services

Before you begin

You must first configure a SAML Credential Mapper V2 security provider in the server's security realm.

You can configure a WebLogic Server instance to function as a SAML source site. A SAML source site is a site that provides an Intersite Transfer Service (ITS). A source site generates assertions that are conveyed to a destination site using one of the single sign-on profiles.

To configure a server as a SAML source site:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

    An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Federation Services**.

4. Select the **SAML 1.1 Source Site** page.

5. Select the **Source Site Enabled** attribute to cause this server to act as a source for SAML assertions.

6. From the SAML 1.1 Source Site page, you can also define other desired configuration settings for this server instance, such as:

    *   Source Site URL

    *   Signing Key Alias

    *   Intersite Transfer URIs

    *   ITS Requires SSL

    *   Assertion Retrieval URIs

    *   ARS Requires SSL

    *   ARS Requires Two-Way SSL Authentication

    *   Assertion Store Class Name

    *   Assertion Store Properties

    For more information about these fields, see Configuration Options.

7. Click **Save**.

Configure SAML 1.1 destination services

Before you begin

You must first configure a SAML Identity Asserter V2 security provider in the server's security realm.

You can configure a WebLogic Server instance to function as a SAML destination site. A destination site can receive SAML assertions and use them to authenticate local subjects.

To configure a server as a SAML destination site:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

ORACLE

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Federation Services**.

4. Select the **SAML 1.1 Destination Site** page.

5. Select the **Destination Site Enabled** attribute to enable the Assertion Consumer Service.

6. From the SAML 1.1 Destination Site page, you can also define other desired configuration settings for this server instance, such as:

   • Assertion Consumer URIs

   • ACS Requires SSL

   • SSL Client Identity Alias

   • POST Recipient Check Enabled

   • POST One-Use Check Enabled

   • Used Assertion Cache Class Name

   • Used Assertion Cache Properties

   For more information about these fields, see Configuration Options.

7. Click **Save**.

Configure SAML 2.0 general services

You can configure general SAML 2.0 services for a server. If you are configuring SAML 2.0 Web single sign-on services with your federated partners, then the site information you configure is published in a metadata file that you send to your federated partners.

To configure the general SAML 2.0 properties of this server:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Federation Services**.

4. Select the **SAML 2.0 General** page.

5. Select the **Replicated Cache Enabled** attribute to use the persistent cache for storing SAML 2.0 artifacts.

   This option is required if you are configuring SAML 2.0 services in two or more WebLogic Server instances in your domain. For example, if you are configuring SAML 2.0 services in a cluster, you must enable this option in each Managed Server instance individually.

   > **Note:**
   >
   > If you are configuring SAML 2.0 services in two or more WebLogic Server instances in your domain, then you must configure the RDBMS security store. The embedded LDAP server is not supported in these configurations.

6. In the **Site Info** section, enter the following information about your SAML 2.0 site:

- Contact person details

- Your organization's name and URL

- The Published Site URL, which is the top-level URL for your site's SAML 2.0 service endpoints. This URL must be appended with the string `/saml2`, which will be automatically combined with constant suffixes to create full endpoint URLs.

7. In the **Bindings** section, enter the common binding information to be used by this SAML 2.0 server instance.

   If you do not specify a Transport Layer Security key alias and passphrase, then the server's configured SSL private key alias and passphrase from the server's SSL configuration is used for the TLS alias by default.

8. If the Artifact binding is enabled for any SAML 2.0 security provider hosted on this server instance, then define the Artifact Resolution Service settings in the **Artifact Resolution Service** section.

9. In the **Single Sign-on** section, enter the keystore alias and passphrase for the key to be used for signing documents sent to federated partners.

   If you do not specify a single sign-on signing key alias and passphrase, then the server's configured SSL private key alias and passphrase from the server's SSL configuration is used by default.

   See Configuration Options.

10. Click **Save**.

After you finish

After you have configured this server's general SAML 2.0 services, select the **SAML 2.0 Identity Provider** page or the **SAML 2.0 Service Provider** page to configure this server as an Identity Provider or Service Provider, respectively.

See Configure SAML 2.0 Identity Provider services and Configure SAML 2.0 Service Provider services.

Configure SAML 2.0 Identity Provider services

You can configure a server instance in the role of SAML 2.0 Identity Provider. A SAML 2.0 Identity Provider creates, maintains, and manages identity information for principals, and provides principal authentication to other Service Provider partners within a federation by generating SAML 2.0 assertions for those partners.

To configure a server as a SAML 2.0 Identity Provider:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Federation Services**.

4. Select the **SAML 2.0 Identity Provider** page.

5. Select the **Enabled** attribute to activate this server's SAML 2.0 services in the role of Identity Provider.

6. Select **Only Accept Signed Authentication Requests** if you want to ensure that any incoming authentication requests must be signed.

7. If you are using a custom login Web application to which unauthenticated requests are directed:

  • Select **Login Customized**.

  • Enter the URL of the custom login Web application.

  • Enter the login return query parameter

    The query parameter is a unique string that the SAML 2.0 services uses to hold the login return URL for the local single sign-on service servlet. (Note that, as an alternative, the login return URL can also be specified in the login Web application.)

8. Set the SAML bindings for which this server instance is enabled, and select the preferred binding type.

  See Configuration Options.

9. Click **Save**.

After you finish

Coordinate with your federated partners to ensure that the SAML bindings you have enabled for this SAML authority, as well as your requirements for signed documents, are compatible with your partners.

Configure SAML 2.0 Service Provider services

You can configure a WebLogic Server instances as a SAML 2.0 Service Provider. A Service Provider is a SAML authority that can receive SAML assertions and extract identity information from those assertions. The identity information can then be mapped to local Subjects, and optionally groups as well, that can be authenticated.

To configure a server as a SAML 2.0 Service Provider:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

  An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Federation Services**.

4. Select the **SAML 2.0 Service Provider** page.

5. Select the **Enabled** attribute to activate SAML 2.0 services in this server instance in the role of Identity Provider.

6. Set the configuration options for the local SAML 2.0 Service Provider services as appropriate. Note the following:

  • Choose options for **Always Sign Authentication Requests** and **Only Accept Signed Assertions** as desired and in a manner that is coordinated with your federated partners so that authentication requests and assertions are accepted.

  • Communicate the SAML bindings settings for this server instance with your federated partners to ensure compatibility.

  See Configuration Options.

7. Click **Save**.

After you finish

Coordinate with your federated partners to ensure that the SAML bindings you have enabled for this SAML authority, as well as your requirements for signed documents, are compatible with your partners.

Configure server deployment staging

To configure the default deployment staging on a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Deployment**.

4. From the Deployment page, you can define the default deployment staging configuration for this server instance, such as:

   • Staging Mode

   • Staging Directory Mode

   • Upload Directory Name

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server migration

To configure migration settings for clustered servers:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Migration**.

4. From the Migration page, you can define the configuration settings for this server instance, such as:

   • Automatic Server Migration Enabled

   • Candidate Machines

   • JMS Service Candidate Servers

   • JTA Migration Policy

   • JTA Candidate Servers

   • Pre-Migration Script Path

   • Post-Migration Script Path

   • Post-Migration Script Fail Cancels Automatic Migration

   • Allow Post-Migration Script to Run on a Different Machine

   • Enable Strict Ownership Check

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server tuning

You can tune the performance and functionality of a server instance by configuring the tuning settings.

To configure tuning settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Tuning**.

4. From the Tuning page, you can define the tuning configuration settings for this server instance, such as:

- Enable Native IO

- JavaSocketMuxer Socket Readers

- Enable Gathered Writes

- Enable Scattered Reads

- Maximum Open Sockets

- Stuck Thread Max Time

- Stuck Thread Timer Interval

- Accept Backlog

- Login Timeout

- SSL Login Timeout

- Reverse DNS Allowed

For more information about these fields, see Configuration Options.

5. Optionally, expand **Advanced** to define advanced configuration settings for this server instance.

6. Click **Save**.

- Enable native IO

- Enable NIOSocketMuxer

- Tune connection backlog buffering

- Tune stuck thread detection behavior

- Replicate domain configuration files for Managed Server independence

Enable native IO

To enable native IO for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Tuning**.

4. On the Tuning page, if the **Enable Native IO** check box is not selected, select the check box.

   See Configuration Options.

5. Click **Save**.

Enable NIOSocketMuxer

To enable non-blocking IO for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Tuning**.

4. Expand **Advanced** to access advanced tuning parameters.

5. Enter `weblogic.socket.NIOSocketMuxer` in the **Muxer Class** field.

   See Configuration Options.

6. Click **Save**.

Tune connection backlog buffering

You can tune the number of connection requests that a WebLogic Server instance will accept before refusing additional requests.

To tune connection backlog buffering for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Tuning**.

4. Modify the **Accept Backlog** value as necessary to tune the number of TCP connections the server instance can buffer in the wait queue.

   • If many connections are dropped or refused at the client, and no other error messages are on the server, then the **Accept Backlog** value might be set too low.

   • If you receive "connection refused" messages when you try to access WebLogic Server, then raise the **Accept Backlog** value from the default by 25 percent. Continue increasing the value by 25 percent until the messages cease to appear.

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Tune stuck thread detection behavior

WebLogic Server diagnoses a thread as stuck if it is continually working (not idle) for a set period of time. You can tune a server's thread detection behavior by changing the length of time before a thread is diagnosed as stuck, and by changing the frequency with which the server checks for stuck threads.

To configure stuck thread detection behavior for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Tuning**.

4. From the Tuning page, update the following options as necessary:

   • **Stuck Thread Max Time**: amount of time, in seconds, that a thread must be continually working before a server instance diagnoses a thread as being stuck.

   • **Stuck Thread Timer Interval**: amount of time, in seconds, after which a server instance periodically scans threads to see if they have been continually working for the configured **Stuck Thread Max Time**.

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Replicate domain configuration files for Managed Server independence

The server instance for which you configure Managed Server Independence (MSI) replication does not need to be running.

To configure a Managed Server to replicate a domain's configuration files:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Tuning**.

4. On the Tuning page, click **Advanced** at the bottom of the page to display advanced configuration settings.

5. Ensure that the **Managed Server Independence Enabled** check box is selected.

   See Configuration Options.

6. Click **Save**.

   After you finish

   If the Managed Server is running, then restart it.

Configure server overload

You can configure how WebLogic Server should react in the case of an overload or failure condition.

To configure overload settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Overload**.

4. From the Overload page, you can define the overload configuration settings for this server, such as:

   • Shared Capacity for Work Managers

- Failure Action

- Panic Action

- Free Memory Percent High Threshold

- Free Memory Percent Low Threshold

- Max Stuck Thread Time

- Stuck Thread Count

For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server health monitoring

WebLogic Server provides a self-health monitoring capability to improve the reliability and availability of servers in a WebLogic Server domain. Selected subsystems within each server monitor their health status based on criteria specific to the subsystem.

You can configure the frequency of a server's automated health checks and the frequency with which the Node Manager application (optional) checks the server's health state. You can also use this page to specify whether Node Manager automatically stops and restarts the server if the server reaches the "failed" health state.

To configure health monitoring settings for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Health Monitoring**.

4. From the Health Monitoring page, you can define the health monitoring configuration settings for this server instance, such as:

   - Health Check Interval

   - Auto Kill If Failed

   - Auto Restart

   - Restart Interval

   - Max Restarts Within Interval

   - Restart Delay Seconds

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server startup

Node Manager is a WebLogic Server utility that you can use to start, suspend, shut down, and restart servers in normal or unexpected conditions. You can configure the startup settings that Node Manager will use to start this server on a remote machine.

To configure the startup options that Node Manager uses to start a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Server Start**.

4. From the Server Start page, you can define the startup configuration settings for this server instance, such as:

   • Java Home

   • Java Vendor

   • BEA Home

   • Root Directory

   • Class Path

   • Arguments

   • Security Policy File

   • User Name

   • Password

   • Confirm Password

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server startup and shutdown settings

To configure the startup and shutdown settings for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Start/Stop**.

4. From the Start/Stop page, you can define the startup and shutdown configuration settings for this server instance, such as:

   • Ignore Sessions During Shutdown

   • Graceful Shutdown Timeout

   • Startup Timeout

   • Server LifeCycle Timeout

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server Web Services

You must install a Web service before you can view and modify its configuration. This section includes the following tasks:

• Configure message buffering for Web services

• Configure Web service reliable messaging

• View logical stores

- Configure message buffering for Web services
- Configure Web service reliable messaging
- View logical stores

Configure message buffering for Web services

To configure message buffering for Web services:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.
2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.
3. From the **WebLogic Server** menu, select **Administration**, then select **Web Services**.
4. Select the **Buffering** page.
5. From the Buffering page, you can define the message buffering configuration properties for this server instance, such as:
   - Retry Count
   - Retry Delay
   - Request Queue Enabled
   - Request Queue Connection Factory JNDI Name
   - Request Queue Transaction Enabled
   - Response Queue Enabled
   - Response Queue Connection Factory JNDI Name
   - Response Queue Transaction Enabled

   For more information about these fields, see Configuration Options.
6. Click **Save**.

Configure Web service reliable messaging

Web service reliable messaging is a framework that enables an application running on one application server to reliably invoke a Web service running on another application server, assuming that both servers implement the WS-Reliable Messaging specification. Reliable is defined as the ability to guarantee message delivery between the two Web services. Use this page to customize reliable messaging configuration on the Web service endpoint.

To configure reliable messaging for Web services:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.
2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.
3. From the **WebLogic Server** menu, select **Administration**, then select **Web Services**.
4. Select the **Reliable Message** page.
5. From the Reliable Messaging page, you can define the reliable messaging configuration properties for this server instance, such as:
   - Base Retransmission Interval
   - Enable Retransmission Exponential Backoff

- Non-buffered Source

- Non-buffered Destination

- Acknowledgement Interval

- Inactivity Timeout

- Sequence Expiration

For more information about these fields, see Configuration Options.

6. Click **Save**.

View logical stores

A logical store is a named unit of storage that provides the business configuration requirements and connects the Web service to the physical store and buffering queue.

To view the logical stores configured for this server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Web Services**.

4. Select the **Logical Stores** page.

5. From the Logical Stores page, you can view configuration information for each logical store configured for this server instance, such as:

- Name

- Persistence Strategy

- Request Buffering Queue JNDI Name

- Response Buffering Queue JNDI Name

- Default

For more information about these fields, see Configuration Options.

Configure server Coherence cluster settings

To configure Coherence for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Coherence**.

4. From the Coherence page, you can specify the Coherence cluster you want to use for this server instance and also define configuration settings such as:

- Unicast Listen Address

- Unicast Listen Port

- Unicast Port Auto Adjust

- Local Storage Enabled

- Coherence Web Logical Storage Enabled
- Is Coherence Management Node
- Site Name
- Rack Name
- Role Name

5. Click **Save**.

   See Configuration Options.

Configure server protocol settings

This section describes how to configure server protocols.

This section includes the following tasks:

- Configure server protocol general settings
- Configure server HTTP settings
- Configure server IIOP settings
- Monitor server network channel settings
- Monitor a specific network channel
- Configure server network channel settings

Configure server protocol general settings

To configure general protocol settings for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Protocols**.

4. Select the **General Settings** page.

5. From the General Settings page, you can define connections settings for various communication protocols that this server instance uses, such as:

   - Complete Message Timeout
   - Idle Connection Timeout
   - Enable Tunneling
   - Tunneling Client Ping
   - Tunneling Client Timeout
   - Maximum Message Size

   For more information about these fields, see Configuration Options.

6. Click **Save**.

Configure server HTTP settings

To configure HTTP protocol settings for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Protocols**.

4. Select the **HTTP** page.

5. From the HTTP page, you can define the HTTP settings for this server instance, such as:

   • Default WebApp Context Root

   • Post Timeout

   • Max Post Size

   • Enable Keepalives

   • Duration

   • HTTPS Duration

   • Frontend Host

   • Frontend HTTP Port

   • Frontend HTTPS Port

   • WAP Enabled

   • Remote Address Override

   • Send Server Header

   • Accept Context Path in Get Real Path

   • HTTP Max Message Size

   • Enable Tunneling

   • Tunneling Client Ping

   • Tunneling Client Timeout

   For more information about these fields, see Configuration Options.

6. Click **Save**.

Configure server IIOP settings

To configure Internet Inter-ORB Protocol (IIOP) settings for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Protocols**.

4. Select the **IIOP** page.

5. From the IIOP page, you can enable IIOP for this server instance.

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced configuration settings for this server instance.

6. Click **Save**.

Monitor server network channel settings

To monitor network channel protocol settings for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

    An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Protocols**.

4. Select the **Channels** page.

5. The Channels table displays information about each network channel that has been configured for this server instance, such as:

    • Name

    • Protocol

    • Enabled

    • Listen Address

    • Listen Port

    • Public Address

    • Public Port

    For more information about these fields, see Configuration Options.

6. Click **Save**.

Monitor a specific network channel

To monitor a specific network channel:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

    An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Protocols**.

4. Select the **Channels** page.

5. In the Channels table, select the name of the channel you want to monitor.

6. Select **Monitoring**.

7. From the **Overview** page, you can monitor current statistics for this network channel, such as:

    • Name

    • Connections

    • Messages Received

    • Messages Sent

    • Bytes Received

    • Bytes Sent

    • Accept Count

For more information about these fields, see Configuration Options.

8. From the **Connections** page, you can monitor current connection statistics for this network channel, such as:

   • Connect Time

   • Messages Received

   • Messages Sent

   • Bytes Received

   • Bytes Sent

   • Local Address

   • Local Port

   • Remote Address

   • Remote Port

   For more information about these fields, see Configuration Options.

Configure server network channel settings

To configure network channel protocol settings for a server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance you want to configure.

   An overview page displays information related to the server instance.

3. From the **WebLogic Server** menu, select **Administration**, then select **Protocols**.

4. Select the **Channels** page.

5. In the Channels table, select the name of the channel you want to configure.

6. Select **Configuration**.

7. From the **General** page, you can define general configuration settings for the network channel, such as:

   • Name

   • Protocol

   • Listen Port

   • Listen Address

   • External Listen Address

   • External Listen Port

   • Enabled

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced configuration settings for this network channel.

8. Click **Save**.

9. From the **Security** page, you can define security configuration options for the network channel, such as:

   • Two Way SSL Enabled

- Client Certificate Enforced

For more information about these fields, see Configuration Options.

Optionally, expand **Advanced** to define advanced configuration settings for this network channel.

10. Click **Save**.

> **Note:**
>
> For information about configuring server template network channel settings, see Configure server template network channel settings.

Create server notes

To create notes for server configuration:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, click the name of the server you want to configure.

   An overview page displays information related to the server.

3. From the **WebLogic Server** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes.

5. Click **Save**.

See Configuration Options.

Configure the server template for a dynamic server

To view or change the server template configuration for a dynamic server:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, click the name of the dynamic server you want to configure.

   An overview page displays information related to the server.

3. From the **WebLogic Server** menu, select **Administration**, then select **Server Template**.

4. To view or change the configuration for the server template associated with this dynamic server, click the **Server Template** link.

See Configuration Options.

View the JNDI tree

The JNDI browser is a central location where you can find the JNDI names of all the WebLogic Server resources. Typically, while writing WLS client programs, you would search the JNDI browser for JNDI names. The JNDI browser displays a tree of resources in the domain or a server. Selecting a node or an object in the tree, displays JNDI information including Binding Name, Object Class, Object Hash Code, and Object to String Results entries.

To view objects in a server's JNDI tree:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

2. In the Servers table, select the name of the server instance for which you want to view JNDI objects.

3. From the upper left **WebLogic Server** menu, select **JNDI Browser**.

4. Use the left pane to navigate the JNDI tree.

   For a selected node or object, the details appear in the right pane.

For more information about JNDI, see Understanding WebLogic JNDI in *Developing JNDI Applications for Oracle WebLogic Server*.

4

WebLogic Server Clusters

This chapter describes how to monitor, control, and configure clusters. A WebLogic Server cluster consists of multiple WebLogic Server server instances running simultaneously and working together to provide increased scalability and reliability.
A cluster appears to clients to be a single WebLogic Server instance. The server instances that constitute a cluster can run on the same machine, or be located on different machines. You can increase a cluster's capacity by adding additional server instances to the cluster on an existing machine, or you can add machines to the cluster to host the incremental server instances. Each server instance in a cluster must run the same version of WebLogic Server.

For more information on clusters, see *Administering Clusters for Oracle WebLogic Server*.

This chapter includes the following sections:

- Create clusters
- Monitor clusters
- Control clusters
- Configure clusters
- Configure elasticity for dynamic clusters

Create clusters

This section describes how to create new clusters. This section includes the following tasks:

- Create a new configured cluster
- Create a new dynamic cluster

Create a new configured cluster

A configured cluster is a cluster in which you manually configure and add each server instance.

To create a new configured cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain, such as:

2. Click **Create**, then select **Cluster**.

3. Define the configuration options for your new configured cluster on each page of the following sections.

4. Then, click **Create**.

- Cluster Properties
- Add Servers
- Review

Cluster Properties

On the **Cluster Properties** page, define the general cluster properties for your new configured cluster:

- **Name**: enter a unique name for your configured cluster.

- **Messaging Mode**: select the messaging mode you want to use for this cluster.

- **Unicast Broadcast Channel**: if you are using the unicast messaging mode, enter the unicast broadcast channel. This channel is used to transmit messages with the cluster. If you do not specify a channel, then the default channel is used.

- **Multicast Address**: if you are using the multicast messaging mode, enter the multicast address of the new configured cluster. A multicast address is an IP address in the range from 224.0.0.0 to 239.255.255.255. The valid range is from 224.0.0.0 to 239.255.255.255. The default value used by WebLogic Server is 239.192.0.0. You should avoid using multicast addresses in the range x.0.0.1. This address must be unique to this cluster and should not be shared by other applications.

- **Multicast Port**: if you are using the multicast messaging mode, enter the multicast port of the new configured cluster.The multicast port is used by cluster members to communicate with each other. Valid values are between 1 and 65535.

For more information about these fields, see Configuration Options.

Add Servers

On the **Add Servers** page, you can optionally add one or more servers to the new configured cluster by moving the servers from the **Available** column into the **Chosen** column.

For more information about these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for your new configured cluster.

For more information about these fields, see Configuration Options.

Create a new dynamic cluster

A dynamic cluster is a cluster that contains one or more generated (dynamic) server instances that are based on a single shared server template.

To create a new dynamic cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain, such as:

2. Click **Create**, then select **Dynamic Cluster.**

3. Define the configuration options for your new dynamic cluster on each page of the following sections.

4. Then, click **Create**.

- Cluster Properties
- Dynamic Server Properties

- [Machine Bindings](#)

- [Listen Port Bindings](#)

- [Review](#)

Cluster Properties

On the **Cluster Properties** page, define the general cluster properties for your new dynamic cluster:

- **Name**: enter a unique name for your dynamic cluster.

- **Messaging Mode**: select the messaging mode you want to use for this cluster.

- **Unicast Broadcast Channel**: if you are using the unicast messaging mode, enter the unicast broadcast channel. This channel is used to transmit messages with the cluster. If you do not specify a channel, then the default channel is used.

- **Multicast Address**: if you are using the multicast messaging mode, enter the multicast address of the new dynamic cluster. A multicast address is an IP address in the range from 224.0.0.0 to 239.255.255.255. The valid range is from 224.0.0.0 to 239.255.255.255. The default value used by WebLogic Server is 239.192.0.0. You should avoid using multicast addresses in the range x.0.0.1. This address must be unique to this cluster and should not be shared by other applications.

- **Multicast Port**: if you are using the multicast messaging mode, enter the multicast port of the new configured cluster.The multicast port is used by cluster members to communicate with each other. Valid values are between 1 and 65535.

For more information about these fields, see [Configuration Options](#).

Dynamic Server Properties

On the **Dynamic Server Properties** page, define the dynamic server properties for your new dynamic cluster:

- **Dynamic Cluster Size**: Enter the initial number of dynamic server instances provisioned for your new dynamic cluster.

> **✎ Note:**
>
> If you expand the cluster, the Dynamic Cluster Size must not exceed the limit set in Maximum Dynamic Cluster Size.

- **Max Dynamic Cluster Size**: Enter the maximum number of running dynamic server instances allowed for scale up operations in this dynamic cluster. This number is the sum of the **Dynamic Cluster Size** and the additional number of dynamic server instances allowed for scale up operations.

- **Server Name Prefix**: Specify the naming convention you want to use for the dynamic servers in your dynamic cluster.

- Select either **Create a New Server Template Using Domain Defaults** or **Clone an Existing Server Template For This Cluster**. If you choose to clone an existing template, then select the template in **Server Template to Clone**. Server templates are used to configure the characteristics that are common to all the server instances in your dynamic cluster. If you do not have any server templates configured, then one is automatically generated for you.

For more information about these fields, see Configuration Options.

Machine Bindings

On the **Machine Bindings** page, s elect the method you want to use to distribute the dynamic servers in your dynamic cluster across machines. Select **Use any machine configured in this domain**, **Use a single machine for all dynamic servers**, or **Use a subset of machines in this domain**. If you choose **Use a single machine for all dynamic servers**, then select the machine you want to use from the **Selected Machine** menu. If you choose **Use a subset of machines in this domain**, then enter the machine name match expression in **Machine Name Match Expression**.

For more information about these fields, see Configuration Options.

Listen Port Bindings

On the **Listen Port Bindings** page, select how the dynamic servers should be bound to listen ports. Listen ports for dynamic servers can be specified in a server template or can be dynamically generated to be unique.

- Select **Assign each dynamic server unique listen ports** to create unique listen ports for each dynamic server. Enter the desired listen port and SSL listen port for the first dynamic server instance in **Listen Port for First Server** and **SSL Listen Port for First Server**.

  Enter the desired base administration port number in **Base Administration Port**.

- Select **Assign each dynamic server fixed listen ports** to assign the same listen port and SSL listen port for all dynamic servers. Enter the desired listen port and SSL listen port in **Listen Port** and **SSL Listen Port**.

  Enter the desired administration port number in **Administration Port**.

For more information about these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for your new dynamic cluster.

For more information about these fields, see Configuration Options.

Monitor clusters

This section describes how to monitor clusters. This section includes the following tasks:

- Monitor status of all clusters
- Monitor the status of server instances in a cluster
- Monitor cluster health
- Monitor server instances in a cluster
- Monitor cluster deployments
- Monitor cluster JDBC data sources
- Monitor cluster messaging
- Monitor cluster failover
- Monitor cluster performance summary

- Monitor cluster asynchronous tasks

Monitor status of all clusters

To monitor the runtime status of all clusters configured in a domain:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain, such as:

   - Cluster Name
   - Status
   - Cluster Type
   - Servers
   - Cluster Address
   - Cluster Messaging Mode
   - Migration Basis

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. Select the name of the cluster for which you want to view configuration information, such as the cluster's default network communications.

Monitor the status of server instances in a cluster

To monitor the status of servers in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Summary**.

   The Summary table displays information about the status of all servers in a cluster, such as:

   - Name
   - State
   - Machine
   - Listen Address
   - Listen Port

   For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Monitor cluster health

To monitor the health of a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.
2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.
3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Health**.

   The Health summary page allows you to monitor health information for the cluster and its subsystems.

   See Configuration Options.

Monitor server instances in a cluster

To monitor the server instances in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.
2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.
3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Servers**.

   The Servers table displays information about the servers in a cluster, such as:
   - Server
   - Type
   - Status
   - Cluster
   - Machine
   - State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:
   - Columns: add or remove the columns displayed in the table
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Monitor cluster deployments

To monitor all deployments in a cluster:

1. From the **WebLogic Domain** menu, select **Environment,** then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Deployments**.

   The Deployments table on the summary page displays information about all applications and modules deployed to the cluster, such as:

   • Name

   • State

   • Health

   • Type

   • Deployment Order

   • Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   To monitor cluster deployment information, select the appropriate pages:

   • **Web Applications**: monitor Web applications deployed to your cluster; includes information about the application such as the machine and server instance on which the application is deployed and statistics about the servlets and sessions associated with the Web application

     See Configuration Options.

   • **Resource Adapters**: monitor the status of inbound listeners and outbound connection pools

     See Configuration Options.

   • **EJBs**: monitor statistics and information about stateless, stateful, entity, singleton, and message-driven EJBs

     See Configuration Options.

   • **Web Services**: monitor all the Web services that are deployed to this cluster

     See Configuration Options.

   • **Web Service Clients:** monitor all Web service clients in this cluster

     See Configuration Options.

   • **JAX-RS Applications**: monitor all the JAX-RS applications that are running in this cluster

     See Configuration Options.

   • **Workload**: monitor statistics for the Work Managers, constraints, and policies that are configured for application deployments in this cluster

     See Configuration Options.

Monitor cluster JDBC data sources

To monitor the JDBC data sources associated with a specific cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **JDBC Data Sources**.

   The JDBC data sources table displays information the status of all JDBC data sources, such as:

   • Name

   • Type

   • Resource

   • Scope

   • Server

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

Monitor cluster messaging

To monitor the status of JMS servers associated with a cluster:

1. From the **WebLogic Domain** menu, select **Environment,** then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Messaging**.

   To monitor messaging information for this cluster, select the appropriate pages:

   • **JMS Servers**: monitor the JMS servers that have been created in the current WebLogic Server cluster

     See Configuration Options.

   • **Store-and-Forward Agents**: monitor SAF agent statistics and perform message management operations, such as pausing incoming requests to the agent

     See Configuration Options.

   • **JMS Resources**: monitor all JMS resources that have been created for all the JMS system modules, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters

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See Configuration Options.

- **JMS Modules**: monitor the JMS modules created in this cluster

  See Configuration Options.

- **Messaging Bridges**: monitor the status of all messaging bridges configured on active servers in this cluster

  See Configuration Options.

Optionally, select **View** to access the following table options on any of the pages:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Monitor cluster failover

To monitor failover information for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Failover**.

   The Failover summary page displays the following information:

   - Total primary sessions

   - Total session replicas

   - Total number of session updates to the backup cluster

   The Failover table displays further failover and status information for the cluster, such as:

   - Server

   - Type

   - Machine

   - State

   - Backup Server

   For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Monitor cluster performance summary

To monitor the performance summary of a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Performance Summary**.

   The Performance Summary page displays general performance information, as well as performance information about the servlets, JSPs, and data sources associated with this cluster.

   • Click **Show Metric Palette** to select the metrics you want to view.

   • Select **View** to access table options.

   • Select **Overlay** to access additional table options.

Monitor cluster asynchronous tasks

Because some administrative tasks (such as deployments, service migrations, and attempts to start or stop Managed Servers) are completed immediately and others take varying amounts of time to complete, the Asynchronous Tasks summary page allows you to monitor the completion status of all tasks.

To monitor the status of asynchronous tasks in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Monitoring**, then select **Asynchronous Tasks**.

   The Asynchronous Tasks summary page allows you to monitor the completion status of all tasks by displaying information such as:

   • Description

   • Type

   • Status

   • Begin Time

   • End Time

   • Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

- Query by Example

Control clusters

This section describes how to control clusters. This section includes the following topics:

- Control clusters in a domain
- Control on-demand scaling in a dynamic cluster
- Control server instances in a cluster

Control clusters in a domain

You can start, resume, suspend, or shutdown the server instances assigned to a cluster. For information on how the servers in a cluster transition from `STANDBY` or `ADMIN` to the `RUNNING` state, see Understanding Server Life Cycle in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

Before you begin:

Control operations on Managed Servers require starting the Node Manager. Starting Managed Servers in Standby mode requires the domain-wide administration port.

To control the server instances in the clusters configured in a domain:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain, such as:

   - Name
   - Status
   - Cluster Type
   - Servers
   - Cluster Address
   - Cluster Messaging Mode
   - Migration Basis
   - Default Load Algorithm
   - Replication Type
   - Cluster Broadcast Channel

   For more information about these fields, see Configuration Options.

2. In the table, select the row for the cluster you want to manage, and then select one of the following control operations:

   - **Start**: moves server instances in the cluster from the `SHUTDOWN` state to `RUNNING`.

   - **Resume**: moves server instances in the cluster from the `STANDBY` or the `ADMIN` state to `RUNNING`.

   - **Suspend**: select an option to transition the server instances in the cluster from the `RUNNING` state to the `ADMIN` state:

     – **When work completes**: moves server instances in the cluster from the `RUNNING` state to the `ADMIN` state, allowing work in process to be handled gracefully. While in

the `SUSPENDING` state, Work Managers complete in-flight processing for pending work in application threads.

– **Force shutdown now**: immediately moves server instances in the cluster from the `RUNNING` state to the `ADMIN` state, without handling work in process gracefully.

• **Shutdown**: select an option to shutdown the server instances in a cluster:

– **When work completes**: gracefully stops server instances in the cluster. New requests are rejected but in-flight requests are completed before the server instance stops.

– **Force suspend now**: immediately stops server instances in the cluster. In-flight requests are dropped, no new requests are accepted, and the server instance immediately stops.

• **Restart SSL**: restarts the SSL listen sockets so that keystore changes take effect.

See Configuration Options.

Optionally, click **Create** to create a new cluster. For more information on creating clusters, see Create clusters.

Control on-demand scaling in a dynamic cluster

To control on-demand scaling in a dynamic cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the dynamic cluster you want to configure.

   An overview page displays information related to the dynamic cluster.

3. From the **WebLogic Cluster** menu, select **Control**, then select **Scale Up or Scale Down**.

   From the Scale Up or Scale Down page you can view the following values:

   • Current Number of Running Servers

   • Current Cluster Size

   • Maximum Cluster Size

   • Minimum Cluster Size

4. In the **Desired Server Count** field, enter the desired number of running dynamic server instances you want in this cluster. Alternatively, you can use the arrows to change the value in this field.

5. Click **Scale Up/Down**.

See Configuration Options.

Control server instances in a cluster

You can start, resume, suspend, or shutdown the server instances assigned to a cluster. For information on how the servers in a cluster transition from `STANDBY` or `ADMIN` to the `RUNNING` state, see Understanding Server Life Cycle in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

Before you begin:

Control operations on Managed Servers require starting the Node Manager. Starting Managed Servers in Standby mode requires the domain-wide administration port.

To control the server instances in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain.

2. In the Clusters table, select the name of the cluster you want to manage.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Control**, then select **Servers**.

4. In the Servers (Control) table, select the row for the server instance you want to manage, and then select one of the following control operations:

   - **Start**: moves the server instance from the SHUTDOWN state to RUNNING.

   - **Resume**: moves the server instance from the STANDBY or the ADMIN state to RUNNING.

   - **Suspend**: select an option to transition the server instance from the RUNNING state to the ADMIN state:

     – **When work completes**: moves the server instance from the RUNNING state to the ADMIN state, allowing work in process to be handled gracefully. While in the SUSPENDING state, Work Managers complete in-flight processing for pending work in application threads.

     – **Force shutdown now**: immediately moves the server instance from the RUNNING state to the ADMIN state, without handling work in process gracefully.

   - **Shutdown**: select an option to shutdown the server instance.

     – **When work completes**: gracefully stops the server instance. New requests are rejected but in-flight requests are completed before the server instance stops.

     – **Force suspend now**: immediately stops the server instance. In-flight requests are dropped, no new requests are accepted, and the server instance immediately stops.

   - **Restart SSL**: restarts the SSL listen sockets so that keystore changes take effect.

   See Configuration Options.

Configure clusters

This section describes how to configure clusters. This section includes the following tasks:

- Configure general cluster settings
- Configure cluster JTA settings
- Configure cluster messaging
- Configure server instances in cluster
- Configure cluster replication
- Configure cluster migration
- Configure cluster singleton services
- Configure cluster job scheduling
- Configure cluster overload settings
- Configure cluster health monitoring

- Configure cluster HTTP settings
- Configure cluster Coherence cluster settings
- Create cluster notes
- Configure on-demand scaling for a dynamic cluster

Configure general cluster settings

To configure general settings for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **General Settings**.

   From the General Settings page you can define the general settings for a cluster, such as:

   - Name
   - Default Load Algorithm
   - Cluster Address
   - Number of Servers in Cluster Address
   - Enable Transaction Affinity

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced settings for this cluster.

4. Click **Save**.

Configure cluster JTA settings

To configure JTA for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Java Transaction API (JTA)**.

   From the Java Transaction API (JTA) page you can define the JTA settings for a cluster, such as:

   - Timeout Seconds
   - Abandon Timeout Seconds
   - Before Completion Iteration Limit
   - Max Transactions
   - Max Unique Name Statistics
   - Checkpoint Interval Seconds
   - Forget Heuristics
   - Unregister Resource Grace Period

- Execute XA Calls in Parallel

- Enable Two Phase Commit

- Enable Tightly Coupled Transactions

- Enable Cluster-Wide Recovery

- Write Recovery Logs When Determiners Configured

- Determiners

For more information about these fields, see Configuration Options.

Optionally, expand **Advanced** to define advanced settings for this cluster.

4. Click **Save**.

Configure cluster messaging

Clusters use messaging for sharing session, load balancing and failover, JMS, and other information between cluster members. Clusters can use either unicast or multicast messaging. Multicast is a simple broadcast technology that enables multiple applications to subscribe to a given IP address and port number and listen for messages, but requires hardware configuration and support. Unicast does not have these requirements.

To configure messaging for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Messaging**.

   From the Messaging page, you can define the messaging settings for your cluster, such as:

   - Messaging Mode

   - Unicast Broadcast Channel

   - Multicast Address

   - Multicast Port

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced settings for this cluster.

4. Click **Save**.

Configure server instances in cluster

To configure server instances in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Servers**.

   From the Servers page, you can define settings for server instances in the cluster, such as:

   - Server Template

- Current Cluster Size

- Maximum Cluster Size

- Minimum Cluster Size

- Server Name Prefix

- Enable Calculated Listen Ports

- Enable Calculated Machine Associations

- Machine Name Match Expression

For more information about these fields, see Configuration Options.

4. From the Servers page, you can also view information for the servers configured in the cluster, such as:

- Name

- Type

- Machine

- Listen Port

- Administration Port

- Listen Address

To add a new server instance to this cluster, click **Add** and select the server instance you want to add. To remove a server instance from this cluster, select the row for the server instance and click **Remove**.

5. Click **Save**.

Configure cluster replication

To configure replication for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Replication**.

From the Replication page, you can configure how WebLogic Server will replicate HTTP session state across a cluster, including settings such as:

- Cross-cluster Replication Type

- Remote Cluster Address

- Replication Channel

- Data Source for Session Persistence

- Persist Sessions on Shutdown

- Secure Replication Enabled

For more information about these fields, see Configuration Options.

Optionally, expand **Advanced** to define advanced settings for this cluster.

4. Click **Save**.

Configure cluster migration

If a clustered server fails, then Node Manager can automatically restart the server instance and its services on another machine. You can specify the machines where Node Manager can restart migratable servers and also the data source used during server migration.

To configure server migration in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Migration**.

   From the Migration page, you can specify settings related to cluster migration, such:

   - Candidate Machines for Migratable Servers
   - Migration Basis
   - Data Source for Automatic Migration
   - Auto Migration Table Name
   - Member Death Detector Enabled
   - Member Discovery Timeout
   - Leader Heartbeat Period
   - Additional Migration Attempts
   - Pause Time Between Migration Attempts

   For more information about these fields, see Configuration Options.

4. Click **Save**.

Configure cluster singleton services

This section describes how to configure and control singleton services.

This section includes the following sections:

- Configure cluster singleton services general settings
- Configure cluster singleton services migration
- Create singleton service notes
- Migrate cluster singleton services

Configure cluster singleton services general settings

To configure general settings for a cluster singleton service:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Singleton Services**.

In the Singleton Services table, select the singleton service you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can define settings for the class associations of this singleton service, such as:

   • Name

   • Class Name

   • Additional Migration Attempts

   • Sleep Time Between Attempts

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure cluster singleton services migration

To configure migration for a cluster singleton service:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Singleton Services**.

   In the Singleton Services table, select the singleton service you want to configure.

4. Select **Configuration**, then select **Migration**.

   From the Migration page, you can define migration settings for this singleton service, such as:

   • Name

   • User Preferred Server

   • Constrained Candidate Servers

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Create singleton service notes

To create notes for a singleton service:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Singleton Services**.

   In the Singleton Services table, select the singleton service you want to configure.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   For more information about these fields, see Configuration Options.

6. Click **Save**.

Migrate cluster singleton services

To migrate a cluster singleton service:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Singleton Services**.

   The Singleton Services table displays information about the singleton services, such as:

   • Name

   • Class Name

   • Cluster Name

   • Preferred Server

   • Candidate Servers

   • Constrained Candidate Servers

   For more information about these fields, see Configuration Options.

4. In the table, select the singleton service you want to migrate.

5. Select the **Control** page. In the table, select the row of the singleton service you want to migrate.

   See Configuration Options.

6. Click **Migrate**.

7. On the **Migrate Singleton Services** page, select a hosting server from the New Hosting Server menu.

8. Click **OK**.

Configure cluster job scheduling

Job scheduling makes Java CommonJ timers cluster-aware and provides the ability to execute jobs periodically anywhere in a cluster without dependency on a particular server instance.

To configure job scheduling in a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, click the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Scheduling**.

   From the Scheduling page, you can define configuration settings that specify how information is shared across servers in a cluster.

4. In the **Data Source for Job Scheduler** field, select the data source to use.

5. In the **Job Scheduler Table Name** field, enter a table name to use for storing timers active with the job scheduler.

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6. Click **Save**.

    See Configuration Options.

Configure cluster overload settings

To configure overload for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, click the name of the cluster you want to configure.

    An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Overload**.

    From the Overload page, you can configure the cluster-wide defaults that control how WebLogic Server instances in this cluster should react in the case of an overload or failure condition. The settings you can define include:

    *   Shared Capacity for Work Managers

    *   Failure Action

    *   Panic Action

    *   Free Memory Percent High Threshold

    *   Free Memory Percent Low Threshold

    *   Max Stuck Thread Time

    *   Stuck Thread Count

    For more information about these fields, see Configuration Options.

4. Click **Save**.

Configure cluster health monitoring

WebLogic Server provides a self-health monitoring capability to improve the reliability and availability of servers in a WebLogic Server domain. Selected subsystems within each server instance monitor their health status based on criteria specific to the subsystem

To configure health monitoring characteristics for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, click the name of the cluster you want to configure.

    An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Health Monitoring**.

    From the Health Monitoring page, you can configure health monitoring characteristics for this cluster, such as:

    *   Inter-Cluster Comm Link Health Check Interval

    *   Health Check Interval

    *   Health Check Periods Until Fencing

    *   Fencing Grace Period

    For more information about these fields, see Configuration Options.

4. Click **Save**.

Configure cluster HTTP settings

To configure HTTP settings for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, click the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **HTTP**.

   From the HTTP page, you can define the HTTP settings for this cluster, such as:

   • Frontend Host

   • Frontend HTTP Port

   • Frontend HTTPS Port

   For more information about these fields, see Configuration Options.

4. Click **Save**.

Configure cluster Coherence cluster settings

To configure Coherence settings for a cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, click the name of the cluster you want to configure.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Coherence**.

   From the Coherence page, you can select the Coherence cluster you want to use for this cluster and define settings such as:

   • Local Storage Enabled

   • Coherence Web Local Storage Enabled

   For more information about these fields, see Configuration Options.

4. Click **Save**.

Create cluster notes

To create notes for cluster configuration:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, click the name of the cluster for which you want to create notes.

   An overview page displays information related to the server.

3. From the **WebLogic Cluster** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes.

5. Click **Save**.

See Configuration Options.

Configure on-demand scaling for a dynamic cluster

To configure on-demand scaling for a dynamic cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the row of the dynamic cluster you want to scale up or down.

3. Click **Scale Up/Down**.

4. On the Scale Up/Down page, use the arrows in the Desired Server Count field to select the number of running server instances you want in your dynamic cluster.

5. Click **Scale Up/Down.**

Configure elasticity for dynamic clusters

Elasticity enables the automatic scaling of dynamic clusters and re-provisioning of associated resources based on demand. Enable elasticity by constructing policies to monitor resource usage and set actions to enable specific scaling or other administrative actions according to those policies. You can configure elasticity to provide on-demand scaling, calendar based scaling, or policy based scaling.

This section includes the following tasks

- Monitor elastic policies in a dynamic cluster
- Monitor elastic actions in a dynamic cluster

Monitor elastic policies in a dynamic cluster

An elasticity policy monitors resource utilization in a dynamic cluster to determine scaling decisions, or other administrative actions, such as adding servers to a dynamic cluster or adjusting the size of a JDBC connection pool. When an elasticity policy evaluates to true, the one or more actions associated with that policy are executed.

To monitor the elastic policies configured in a dynamic cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the dynamic cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Elasticity**, then select **Policies**.

   The Policies table displays information on the elastic policies configured in this dynamic cluster, such as:

   - Name
   - Scale Type
   - Action Name
   - Diagnostic Module
   - Enabled
   - Alarm Type

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options on any of the pages:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

For more information on creating and configuring policies, see Create a new policy and Configure a policy.

Monitor elastic actions in a dynamic cluster

To monitor the elastic actions configured in a dynamic cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

2. In the Clusters table, select the name of the dynamic cluster you want to monitor.

   An overview page displays information related to the cluster.

3. From the **WebLogic Cluster** menu, select **Elasticity**, then select **Actions**.

   The Actions table displays information on the elastic actions configured in this dynamic cluster, such as:

   - Name

   - Type

   - Enabled

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options on any of the pages:

   - Columns: add or remove the columns displayed in the table

   - Detach: detach the table (viewing option)

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

   For more information on creating and configuring actions, see Create a new action and Configure an action.

5

WebLogic Server Machines

This chapter describes the tasks you can perform to monitor machines. A machine is the logical representation of the computer that hosts one or more WebLogic Server instances. Each Managed Server must be assigned to a machine. The Administration Server uses the machine definition in conjunction with Node Manager to start remote servers.
Node Manager is a WebLogic Server utility that enables you to start, shut down, and restart Administration Server and Managed Server instances from a remote location. Although Node Manager is optional, Oracle recommends using it if your WebLogic Server environment hosts applications with high availability requirements because Node Manager allows you to control the running state of distributed server instances from a centralized location.

The Java implementation of Node Manager is configured by default to control all server instances belonging to the same domain, a per domain Node Manager. The server instances need not reside on the same machine. For more information about Node Manager, see *Administering Node Manager for Oracle WebLogic Server*.

This chapter includes the following sections:

- Create machines
- Monitor machines
- Monitor Node Manager status
- Configure machines

Create machines

To create a new machine:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. Click **Create**.

3. Define the configuration options for your machine on each page of the following sections.

4. Then, click **Create**.

- Machine Identity
- Node Manager Properties
- Review

Machine Identity

From the **Machine Identity** page, you can set the properties that will be used to identify your new machine:

- **Name**: enter a name for your new machine.

- **Machine OS**: choose the operating system your machine will run on. If you are creating a machine that will run on a UNIX platform, then select **UNIX** from the menu; otherwise use **Other**.

For more information about these fields, see Configuration Options.

Node Manager Properties

From the **Node Manager Properties** page, you can define the Node Manager configuration for this machine:

- **Node Manager Type**: select the Node Manager type from the menu.
- **Listen Address**: enter the DNS name or IP address upon which Node Manager listens.
- **Listen Port**: enter the listen port. This is the port where Node Manager listens for incoming requests.
- **Node Manager Home**: if you are using script based Node Manager, enter the Node Manager home location.
- **Shell Command**: if you are using script based Node Manager, enter a value in this field.
- **Debug Enabled**: select this option to enable Node Manager debugging.

For more information about these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for this machine.

See Configuration Options.

Monitor machines

To monitor the machines configured in the current domain:

- From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

  The Machines table displays information about the machines that have been configured in the current WebLogic Server domain, such as:

  - Name
  - Type

  For more information about these fields, see Configuration Options.

Monitor Node Manager status

To monitor Node Manager status:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. In the Machines table, select the name of the machine for which you want to view the Node Manager status.

3. Select **Monitoring**, then select **Node Manager Status**.

If Node Manager is currently running on the machine, then the Node Manager Status page displays the following information about the Node Manager process:

- Status: current status of this Node Manager

- Version: version string returned from the Node Manager

For more information about these fields, see Configuration Options.

Configure machines

This section describes how to configure machines. This section includes the following tasks:

- Configure general machine settings
- Configure general Unix machine settings
- Configure Node Manager settings
- Configure machine server settings
- Add or remove server instances
- Create machine notes

Configure general machine settings

To monitor general configuration settings for a machine:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. In the Machines table, select the name of the machine for which you want to view general configuration settings.

3. Select **Configuration**, then select **General**.

   From the General page, you can monitor the following configuration information for a machine:

   - Name

   - Type

   For more information about these fields, see Configuration Options.

Configure general Unix machine settings

To monitor general configuration settings for a Unix machine:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. In the Machines table, select the name of the Unix machine for which you want to view general configuration settings.

3. Select **Configuration**, then select **General**.

   From the General page, you can configure the following attributes for a Unix machine:

   - Type

- Name

- Enable Post-Bind UID

- Post-Bind UID

- Enable Post-Bind GID

- Post-Bind GID

For more information about these fields, see Configuration Options.

Configure Node Manager settings

To configure Node Manager settings for a machine:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. In the Machines table, select the name of the machine for which you want to configure Node Manager settings.

3. Select **Configuration**, then select **Node Manager**.

   From the Node Manager page, you can configure Node Manager settings, such as:

   - Type

   - Listen Address

   - Listen Port

   - Node Manager Home

   - Shell Command

   - Debug Enabled

   For more information about these fields, see Configuration Options.

Configure machine server settings

To configure server settings for a machine:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. In the Machines table, select the name of the machine for which you want to view server configuration information.

3. Select **Configuration**, then select **Servers**.

   From the Servers page, you can add or remove servers from the machine. You can also view configuration information for the servers associated with the machine, such as:

   - Name

   - Type

   - Cluster

   - Machine

   - State

- Health
- Listen Port

For more information about these fields, see Configuration Options.

Add or remove server instances

To add or remove server instances from a machine:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

   The Machines table displays information about the machines that have been configured in the current WebLogic Server domain.

2. In the Machines table, select the name of the machine for which you want to add or remove server instances.

3. Select **Configuration**, then select **Servers**.

4. Click **Add/Remove**.

5. From the Add/Remove Server page, you can add or remove server instances from this machine by moving server instances between the **Available** and **Chosen** lists. Only server instances that are shutdown and statically configured may be added or removed from a machine using this page.

   See Configuration Options.

6. Click **Save**.

Create machine notes

To create notes for machines:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Machines**.

2. In the Machines table, select the name of the machine for which you want to create notes.

3. Select **Notes**.

4. On the Notes page, enter any notes about the configuration of this machine.

5. Click **Save**.

See Configuration Options.

6

WebLogic Server Virtual Hosts

This chapter describes how to monitor and configure virtual hosts. A virtual host is a set of host names to which WebLogic Server instances (servers) or clusters respond.
When you use virtual hosting, you use the domain name system (DNS) to specify one or more host names that map to the IP address of a server or cluster. You also specify which Web applications are served by each virtual host. For more information on virtual hosting, see Configuring Virtual Hosting in *Configuring Server Environments for Oracle WebLogic Server*.

This chapter includes the following section:

- Monitor virtual hosts
- Create virtual hosts
- Configure virtual hosts
- Target virtual hosts to servers
- Add notes
- Delete virtual hosts

Monitor virtual hosts

To monitor the status of a virtual host:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Virtual Hosts**.

    The Virtual Hosts table displays information about each virtual host that has been configured in the current domain, including:

    - Name
    - Virtual Host Names
    - Network Access Point
    - Frontend Host
    - Frontend HTTP Port
    - Frontend HTTPS Port

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    - Columns: add or remove the columns displayed in the table
    - Detach: detach the table (viewing option)
    - Sort: sort the columns in ascending or descending order
    - Reorder: change the order of the columns displayed
    - Query by Example

2. In the table, select the name of the virtual host for which you want to view configuration information.

Create virtual hosts

To create a virtual host:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Virtual Hosts**.

   The Virtual Hosts table displays information about each virtual host that has been configured in the current domain.

2. Click **Create**.

   The Create a Virtual Host dialog appears.

3. Enter a name for your new virtual host and click **Create**.

The virtual host you created appears in the Virtual Hosts table.

Configure virtual hosts

To configure a virtual host:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Virtual Hosts**.

   The Virtual Hosts table displays the virtual hosts that are created in the current domain. If the table is empty, refer to Create virtual hosts.

2. Select the virtual host you want to configure.

3. Click **Configuration**.

4. Define the configuration for your virtual host on each of the following pages:

   - General

   - Logging

   - HTTP

   For more information about these fields, see Configuration Options.

- General
- Logging
- HTTP

General

On the **General** page, define the general configuration settings for your new virtual host:

1. **Virtual Host Names** - Host names, separated by line breaks, for which this virtual host will serve requests.

2. **Network Access Point Name** - Dedicated server channel name (NetworkAccessPoint) for which this virtual host serves HTTP requests.

3. Click **Apply**.

Logging

On the **Logging** page, click the Log Configuration link to configure the log configuration settings for your new virtual host:

1. Select **HTTP access log file enabled** to activate HTTP logging (or deselect the check box to deactivate HTTP logging).

   HTTP requests for a virtual host are kept in a log file that is separate from the server's log files.

2. In **Log file name**, enter the name of the log file.

   To include a time or date stamp in the file name when the log file is rotated, in the Log file name field, add java.text.SimpleDateFormat variables to the file name. Surround each variable with percentage (%) characters.

   For example, if you enter the following value in the Log file name field: access_%yyyy%_%MM%_%dd%_%hh%_%mm%.log the virtual host's HTTP log file will be named: access_yyyy_MM_dd_hh_mm.log.

   When the server instance rotates the HTTP log file, the rotated file name contains the date stamp.

   For example, if the server instance rotates the log file on 2 April, 2003 at 10:05 AM, the log file that contains the old log messages will be named: access_2003_04_02_10_05.log.

   If you do not include a time and date stamp, the rotated log files are numbered in order of creation filenamennnn, where filename is the name configured for the log file.

   For example: access.log00007.

3. If you want the server to move old HTTP requests to another file when the current HTTP log file reaches a specific size, do the following:

   a. In **Rotation type**, choose **By Size**.

   b. In **Rotation file size**, specify the file size (1 - 65535 kilobytes) that triggers the server to move log messages to a separate file. After the log file reaches the specified size, the next time the server checks the file size, it will rename the current log file and create a new one to store subsequent messages.

4. If you want the server to move old HTTP requests to another file at specific time intervals, do the following:

   a. In **Rotation type**, choose **By Time**.

   b. In **Begin rotation time**, enter the start time.

      At the time that you specify, the server rotates the current log file. If the time that you specify has already past, then the server starts its file rotation immediately. Thereafter, the server rotates the log file at an interval that you specify in **Rotation interval**. Use the following java.text.SimpleDateFormat format to specify a date and time: MM-DD-yyyy-k:mm:ss.

5. If you want to limit the number of retained files, select the **Limit number of retained files** checkbox.

6. To indicate the maximum number of files to retain, enter the number in the **Files to retain** checkbox.

7. Determine the log file rotation directory by entering that directory in the **Log file rotation directory** field.

8. If you want to rotate the log file on startup, select the **Rotate log file on startup** check box.

9. To change the format of the HTTP log file, in the **Advanced** options, do the following:

   a. Determine the format of the HTTP log file by selecting **Common** or **Extended** from the **Format** list.

    b. Set up HTTP access logs in the **Extended Logging Format Fields**.

      For information on how to set up the logs, see Setting Up HTTP Access Logs by Using Extended Log Format

    c. Enter the **Log File Buffer**.

    d. To log time in Greenwich Mean Time, select the **Log time in GMT** check box.

10. Click **Apply**.

HTTP

On the **HTTP** page, define the HTTP configuration settings for your new virtual host:

1. **Post Timeout** - Amount of time the server instance waits between receiving HTTP POST data before timing out.

2. **Max Post Time** - Maximum time allowed for reading HTTP Post data in a servlet request.

3. **Max Post Size** - Maximum post size allowed when reading HTTP Post data in a servlet request.

4. **Enables Keepalives** - Indicates if there is a persistent connection to the server.

5. **Duration** - Amount of time the server waits before closing an inactive HTTP connection.

6. **HTTPS Duration** - Amount of time the server waits before closing an inactive HTTPS connection.

7. **Accept Context Path in Get Real Path** - Indicates if the server instance allows inclusion of the context path in the virtual path.

8. Click **Apply**.

Target virtual hosts to servers

You can choose the server, multiple servers, or a cluster in your domain on which to deploy a virtual host. You can also reconfigure the deployment targets later if you wish.

To target a virtual host:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Virtual Hosts**.

   The Virtual Hosts table displays information about each virtual host that has been configured in the current domain.

2. Select the virtual host that you want to target.

3. Click **Targets**.

   A table of servers and /or clusters to which you can target your virtual host appears.

4. You can select one or more servers and clusters where the virtual host will be deployed.

5. Click **Save**.

Add notes

Use this page to include any additional information that describes the configuration of this virtual host.

To create notes for this virtual host,

1. From the WebLogic Domain menu, select **Environment**, then select **Virtual Hosts**.

   The Virtual Hosts table displays information about each virtual host that has been configured in the current domain.

2. From the table, select the name of the virtual host to which you want to add the notes.

3. Click **Notes**.

4. On the Notes page, enter any notes about the configuration of this virtual host.

5. Click **Save**.

For more information about the fields on this page, see Configuration Options

Delete virtual hosts

To delete a virtual host:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Virtual Hosts**.

   The Virtual Hosts table displays information about each virtual host that has been configured in the current domain.

2. Select the virtual host that you want to delete.

3. Click **Delete**.

   A confirmation message is displayed on the page.

4. Click **Ok**.

   A confirmation message is displayed on the Virtual Hosts page indicating the selected virtual host is deleted.

7
Custom WebLogic Server Classes

This chapter describes how to monitor startup and shutdown classes. Startup and shutdown classes are Java programs that you create to provide custom, system-wide services for your applications. You add the classes to the WebLogic Server class path and then configure them to load and run when a server instance starts or shuts down.
This chapter includes the following section:

- Monitor startup and shutdown classes

Monitor startup and shutdown classes

To monitor startup and shutdown classes:

- From the **WebLogic Domain** menu, select **Environment**, then select **Startup & Shutdown Classes**.

  The Startup and Shutdown classes table displays information about the startup and shutdown classes that have been configured in the current domain, such as:

  - Name
  - Type
  - Class Name
  - Targets
  - Deployment Order
  - Arguments

  For more information about these fields, see Configuration Options.

  Optionally, select **View** to access the following table options:

  - Columns: add or remove the columns displayed in the table
  - Detach: detach the table (viewing option)
  - Sort: sort the columns in ascending or descending order
  - Reorder: change the order of the columns displayed
  - Query by Example

8

WebLogic Server Work Managers

This chapter describes the tasks you can perform to monitor Work Managers. WebLogic Server prioritizes work and allocates threads based on an execution model that takes into account administrator-defined parameters and actual run-time performance and throughput.

Administrators can configure a set of scheduling guidelines and associate them with one or more applications, or with particular application components. For example, you can associate one set of scheduling guidelines for one application, and another set of guidelines for other applications. At run time, WebLogic Server uses these guidelines to assign pending work and enqueued requests to execution threads.

To manage work in your applications, you define one or more of the following Work Manager components:

- Fair Share Request Class

- Response Time Request Class

- Min Threads Constraint

- Max Threads Constraint

- Capacity Constraint

- Context Request Class

You can use any of these Work Manager components to control the performance of your application by referencing the name of the component in the application deployment descriptor. In addition, you may define a Work Manager that encapsulates all of the above components and reference the name of the Work Manager in your application's deployment descriptor.

You can define multiple Work Managers—the appropriate number depends on how many distinct demand profiles exist across the applications you host on WebLogic Server. You can configure Work Managers at the domain level, application level, and module level in one of the following configuration files. See Using Work Managers to Optimize Scheduled Work in *Administering Server Environments for Oracle WebLogic Server*.

This chapter includes the following section:

- Monitor Work Managers

Monitor Work Managers

To monitor Work Manager status:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Work Managers**.

    The Work Managers table displays information about the Work Managers that have been configured in the current domain, such as:

    - Work Manager Name

    - Type

    - Targets

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

2. In the table, select the name of the Work Manager for which you want to view configuration information.

- Monitor server Work Managers
- Monitor cluster Work Managers

Monitor server Work Managers

To monitor the status of Work Managers in a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the Administration Server and any Managed Servers that have been configured in the current domain.

2. In the Servers table, select the name of the server instance you want to monitor.

3. From the **WebLogic Server** menu, select **Other Services**, then select **Work Manager.**

   The Work Managers table displays information about the Work Managers that have been configured in the current server, such as:

   - Work Manager Name
   - Type
   - Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

4. In the table, select the name of the Work Manager for which you want to view configuration information.

Monitor cluster Work Managers

To monitor the status of Work Managers in a specific cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain.

2. In the Clusters table, select the name of the cluster you want to monitor.

3. From the **WebLogic Cluster** menu, select **Other Services**, then select **Work Managers.**

   The Work Managers table displays information about the Work Managers that have been configured in the current cluster, such as:

   • Work Manager Name

   • Type

   • Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

4. In the table, select the name of the Work Manager for which you want to view configuration information.

9

WebLogic Server Migratable Targets

This chapter describes the tasks you can perform to monitor migratable targets. A migratable target is a special target that can migrate from one server instance in a cluster to another. As such, a migratable target provides a way to group migratable services that should move together.
When the migratable target is migrated, all services hosted by that target are migrated. For more information on migratable targets, see Service Migration in *Administering Clusters for Oracle WebLogic Server*.

This chapter includes the following sections:

* Monitor migratable targets
* Migrate migratable targets

Monitor migratable targets

To monitor migratable targets:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Migratable Targets**.

   The Migratable Targets table displays information about the migratable targets that have been configured in the current domain, such as:

   * Migratable Target Name
   * Migration Policy
   * Cluster
   * User Preferred Server
   * Current Hosting Server
   * Status of Last Migration

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   * Columns: add or remove the columns displayed in the table
   * Detach: detach the table (viewing option)
   * Sort: sort the columns in ascending or descending order
   * Reorder: change the order of the columns displayed
   * Query by Example

2. In the table, select the name of the migratable target for which you want to view configuration information.

Migrate migratable targets

To migrate a migratable target:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Migratable Targets**.

2. From the Migratable Targets table, select the row of the target you want to migrate.

3. Click **Migrate**.

   The Migrate Migratable Targets page is displayed.

4. From the **New Hosting Server** menu, select the new hosting server for your migratable target.

5. Click **OK**.

See Configuration Options.

10

Application Deployments

This chapter describes how to monitor, control, and configure various types of applications deployed to the current domain. Application deployment refers to the process of making an application or module available for processing client requests in a WebLogic Server domain. WebLogic Server implements the Java Platform, Enterprise Edition (Java EE) 8 specification. Java EE 8 includes a deployment specification, JSR-88, that describes a standard API used by deployment tools and application server providers to configure and deploy applications to an application server. For more information about application deployment, see *Deploying Applications to Oracle WebLogic Server*.

This chapter includes the following sections:

- Understanding application deployment scopes
- Monitor all application deployments
- Control application deployments
- Create application-scoped Work Managers
- Coherence archives
- EJBs
- Enterprise applications
- JDBC modules
- JMS modules
- Libraries
- Resource adapters
- Web applications
- Web services
- WebSocket applications

Understanding application deployment scopes

When deploying an application, you select the scope in which you want to deploy that application.

If an application is deployed to the domain, then you can target the application to the WebLogic Server instances and clusters within the domain.

The deployment menu options change depending on the scope and target of your application. The following deployment menus are available:

- Domain Application Deployment
- Application Deployment
- Clustered Application Deployment

Monitor all application deployments

To monitor all applications and modules deployed on this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

   The Summary table displays information about the applications deployed to the current domain, such as:

   - Name

   - Status

   - State

   - Health

   - Type

   - Deployment Order

   - Scope

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

2. To monitor the following application deployments, select the appropriate pages:

   - **Web Applications**: monitor Web applications, including the machine and server on which the Web application is deployed and statistics about the number of servlets and sessions associated with the Web application

     See Configuration Options.

   - **Resource Adapters**: monitor the status of the current state of message listener endpoints and outbound connection pools for a resource adapter

     See Configuration Options.

   - **EJBs**: monitor statistics about stateless, stateful, singleton, entity, and message-driven EJBs

     See Configuration Options.

   - **Web Services**: monitor all Web services deployed to this domain

     See Configuration Options.

   - **Web Service Clients**: monitor all Web services clients in this domain

     See Configuration Options.

   - **JAX-RS Applications**: monitor all JAX-RS applications running this domain

     See Configuration Options.

   - **Workload**: view statistics for the Work Managers, constraints, and policies that are configured applications deployed in this domain

     See Configuration Options.

3. In the table, select the name of the application for which you want to view additional configuration information.

Control application deployments

You can deploy applications and libraries to the domain, as well as redeploy or undeploy existing applications. You can also start and stop applications, override application configuration, and fetch deployment plans.

This section includes the following tasks:

- Deploy applications
- Redeploy applications
- Undeploy applications
- Start applications
- Stop applications
- Override application configuration
- Remove application configuration overrides
- Fetch deployment plans

Deploy applications

Deploying an application makes its physical file or directory known to WebLogic Server. After you have deployed the application, you can start it so that users can begin using it. See Start applications.

To deploy an application:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

   The Deployments page is displayed.

2. Click **Deployment** and select **Deploy** to open the Deploy Java EE Application Assistant.

3. On the Select Archive page, locate the application you want to deploy and choose whether to upload a deployment plan or create a new deployment plan.

4. In **Scope,** select whether you want to install the application globally.

5. Click **Next**.

6. If you chose to deploy this application globally, on the Select Target page, then select the server instances and clusters to which you want to deploy the application.

7. Click **Next**.

8. On the Application Attribute page, update the application attributes as desired. These attributes include:

   - Application Name
   - Distribution
   - Source Accessibility

9. Click **Next** to update the deployment settings or **Deploy** to complete deployment of this application.

10. Optionally, on the Deployment Settings page, you can complete common tasks before deploying the application and update deployment settings.

11. Click **Deploy** to complete deployment of this application.

Redeploy applications

Redeploying an application redeploys the archive file or exploded directory. Redeploy an application if you have made changes to it and want to make the changes available to WebLogic Server clients.

To redeploy an application or module:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row of the deployment you want to redeploy.

   The control options are displayed above the table.

3. Click **Deployment** and select **Redeploy** to open the Redeploy Java EE Application Assistant.

4. On the Select Application page, select the application you want to redeploy.

5. Click **Next**.

6. On the Select Archive page, locate the application you want to deploy and choose whether to upload a deployment plan or create a new deployment plan.

7. Click **Next**.

8. On the Application Attribute page, update the application attributes as desired. These attributes include:

   • Application Name

   • Distribution

   • Source Accessibility

9. Click **Next** to update the deployment settings or **Redeploy** to complete redeployment of this application.

10. Optionally, on the Deployment Settings page, you can complete common tasks before deploying the application and update deployment settings.

11. Click **Redeploy** to complete deployment of this application.

Undeploy applications

Undeploying an application removes it from every target of the domain to which the application is deployed. Once you undeploy an application from the domain, you must deploy it again if you want to make it available to WebLogic Server clients. To temporarily make applications unavailable to WebLogic Server clients, you can stop them instead of undeploying them.

To undeploy an application:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row of the application you want to undeploy.

   The control options are displayed above the table.

3. Click **Deployment** and select **Undeploy**.

4. On the Undeploy Java EE Application: Confirmation page, click **Undeploy** to confirm your decision and remove the application.

   If you later want to deploy the removed application, see Deploy applications.

Start applications

Starting an application makes it available to WebLogic Server clients. Before you can start an application, you must first deploy it. See Deploy applications.

To start an application:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row of the deployment you want to start.

   The control options are displayed above the table.

3. Click **Control** and select **Start**.

   For all requests to be serviced by the applications, select **Servicing all requests**. To start servicing only administration requests to the application, select **Servicing only administration requests**.

4. Click **Start** to confirm your decision.

Stop applications

Stopping a running application makes it unavailable to WebLogic Server clients.

To stop an application:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row of the deployment you want to stop.

   The control options are displayed above the table.

3. Click **Control** and select **Stop**.

   To stop the deployment when work completes, select **When work completes**. To force the deployment to stop immediately, select **Force stop now**. To stop servicing client requests but continue servicing administration requests, select **Stop, but continue servicing administration requests**.

4. Click **Stop** to confirm your decision.

Override application configuration

You can override the default application configuration for applications and modules by specifying a different deployment plan. The application or module is then redeployed using the new deployment plan for its application configuration.

To override the configuration for an application or module:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row containing the application or which you want to override configuration.

   The control options are displayed above the table.

3. Click **Override** and select **Add Override**.

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4. On the Application Override page, choose a new deployment plan to override the application configuration by selecting one of the following options:

- Deployment plan is on the machine where this Web browser is running.

  Click **Choose File** to select the deployment plan file.

- Deployment plan is on the server where Enterprise Manager is running.

  Click **Browse** to select the deployment plan file.

5. Click **Override**.

Remove application configuration overrides

To remove an existing application override:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row containing the application for which you want to remove the existing override.

   The control options are displayed above the table.

3. Click **Override** and select **Remove Override**.

4. Click **Remove Override**.

Fetch deployment plans

A deployment plan is a file that contains the deployment settings as well as post-deployment configuration changes of an application. You can fetch and save the deployment plan of an application, and then deploy or redeploy that application later using the saved deployment plan.

To fetch a deployment plan for an application:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the row of the application for which you want to fetch the deployment plan.

   The control options are displayed above the table.

3. Click **Deployment** and select **Fetch Deployment Plan**.

4. On the Fetch Deployment Plan page, select the machine on which you want to save the deployment plan: **Machine where this Web browser is running** or **Machine where Enterprise Manager is running**.

5. Click **Fetch**.

Create application-scoped Work Managers

Java EE enterprise applications, Web application modules, EJBs, and RMI applications can specify named Work Managers to use to manage their work requests.

To create an application-scoped Work Manager and associate them with your applications or with particular application components:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the application or standalone module for which you want to create a Work Manager.

An overview page displays information related to the application or module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Workload.**

4. Click **New**.

5. On the Work Manager Configuration page, in **Name**, enter a name for the new Work Manager.

   See Configuration Options.

6. Click **Apply**.

Coherence archives

This section includes the following tasks:

- Monitor a Coherence archive
- Monitor a Coherence Grid Archive (GAR) module
- Configure a Coherence archive

Monitor a Coherence archive

To monitor a specific Coherence archive:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the Coherence archive you want to monitor.

   An overview page displays information related to the Coherence archive.

3. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.

4. On the **Health** page, the table displays health status information about this Coherence archive, such as:

   - Name
   - Health
   - Reason

   For more information about these fields, see Configuration Options.

5. To view additional monitoring information for this Coherence archive, select the appropriate pages:

   - **Query Caching**: monitor statistics for the query caches configured for this Coherence archive

     See Configuration Options.

   - **Workload**: monitor Work Managers, constraints, and policies configured for this Coherence archive

     See Configuration Options.

Monitor a Coherence Grid Archive (GAR) module

To monitor a specific Coherence Grid Archive (GAR) module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the Coherence Grid Archive module you want to monitor.

3. Select the name of the Coherence Grid Archive module you want to monitor.

   The General page displays information about the Coherence Grid Archive module, such as:

   • Application Name

   • Coherence Archive Module Name

   • Cache Configuration Reference

   • POF Configuration Reference

   • Cache Factory Class Name

   • Application Lifecycle Listener

   For more information about these fields, see Configuration Options.

Configure a Coherence archive

This section includes the following tasks:

• Configure Coherence archive general settings
• Configure tags for a Coherence archive
• Target a Coherence archive
• Create Coherence archive notes

Configure Coherence archive general settings

To configure general settings for a specific Coherence archive:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Coherence archive you want to configure.

   An overview page displays information related to the Coherence archive.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **General Settings**.

4. From the General Settings page, you can view and define configuration information for this Coherence archive, such as:

   • Application Name

   • Deployment Order

   • Deployment Principal Name

   • Cache Configuration Reference

   • POF Configuration Reference

   • Configurable Cache Factory

   • Application Lifecycle Listener

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure tags for a Coherence archive

To configure tags for a specific Coherence archive:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Coherence archive you want to configure.

   An overview page displays information related to the Coherence archive.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

4. On the Tags page, you can configure the tags associated with this Coherence archive:

   • In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this Coherence archive.

   • In **Add New Tag**, create a new tag by entering the tag name.

   See Configuration Options.

5. Click **Apply** to save your configuration changes.

Target a Coherence archive

To change the targets of a specific Coherence archive deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Coherence archive you want to configure.

   An overview page displays information related to the Coherence archive.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

4. From the Targets page, specify the WebLogic Server instances and clusters to which you want to deploy this Coherence archive.

   See Configuration Options.

5. Click **Save**.

Create Coherence archive notes

To create notes to describe the configuration of this Coherence archive:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Coherence archive you want to configure.

   An overview page displays information related to the Coherence archive.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes about the configuration of this Coherence archive.

   See Configuration Options.

5. Click **Save**.

EJBs

An EJB can be installed as a `JAR` archive, as an exploded `JAR` directory, or in a `WAR` archive.

This section includes the following tasks:

- Monitor domain EJBs
- Monitor an EJB application
- Configure an EJB application
- Monitor and configure EJB modules
- Monitor, control, and configure EJB components
- Configure persistence units

Monitor domain EJBs

To monitor EJBs deployed to the current domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.
2. Select **EJBs**.
3. To monitor EJBs by type, select the appropriate pages:
   - **Stateless**: monitor the performance of stateless session EJBs

     See Configuration Options.
   - **Stateful**: monitor the state and performance of stateful session EJBs

     See Configuration Options.
   - **Singleton**: monitor the state and performance of singleton session EJBs

     See Configuration Options.
   - **Entity**: monitor the performance of entity EJBs

     See Configuration Options.
   - **Message Driven**: monitor the performance of message-driven EJBs

     See Configuration Options.
4. In one of the EJB tables, select the name of the EJB for which you want to view additional configuration information.

Monitor an EJB application

To monitor a specific EJB application:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.
2. In the Summary table, select the name of the EJB application you want to monitor.

   An overview page displays information related to the EJB application.
3. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.
4. To view monitoring information for this EJB application, select the appropriate pages:

- **Stateless**: monitor performance of stateless session EJBs associated with this EJB application

  See Configuration Options.

- **Stateful**: monitor performance of stateful session EJBs associated with this EJB application

  See Configuration Options.

- **Singleton**: monitor performance of singleton session EJBs associated with this EJB application

  See Configuration Options.

- **Entity**: monitor performance of entity EJBs associated with this EJB application

  See Configuration Options.

- **Message Driven**: monitor performance of message-driven EJBs associated with this EJB application

  See Configuration Options.

- **Workload**: monitor the Work Managers, constraints and policies configured specifically for this EJB application

  See Configuration Options.

- **Web Service Clients**: monitor the Web service clients associated with this EJB application

  See Configuration Options.

Configure an EJB application

This section includes the following tasks:

- Configure EJB application general settings
- View persistence units for an EJB application
- Target an EJB application
- Configure tags for an EJB application
- Create EJB application notes

Configure EJB application general settings

To configure general settings for a specific EJB application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the EJB application you want to configure.

   An overview page displays information related to the EJB application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **General**.

4. From the General Settings page, you can view and define configuration information for this EJB application, such as:

   - Name
   - Deployment Order

- Deployment Principal Name

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

View persistence units for an EJB application

To view the persistence units defined for an EJB application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the EJB application you want to configure.

   An overview page displays information related to the EJB application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Persistence**.

4. From the Persistence page, you can view configuration information for the persistent units defined in this EJB application, such as:

   - Name

   - Provider

   - Description

   For more information about these fields, see Configuration Options.

5. Select the name of a persistence unit to view additional configuration information.

Target an EJB application

To target a specific EJB application deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the EJB application you want to configure.

   An overview page displays information related to the EJB application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

4. From the Targets page, specify the WebLogic Server instances and clusters to which you want to deploy this EJB application.

   See Configuration Options.

5. Click **Save**.

Configure tags for an EJB application

To configure tags for a specific EJB application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the EJB application you want to configure.

   An overview page displays information related to the EJB application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

4. On the Tags page, you can configure the tags associated with this EJB application:

- In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this EJB application.

- In **Add New Tag**, create a new tag by entering the tag name.

See Configuration Options.

5. Click **Apply** to save your configuration changes.

Create EJB application notes

To create notes to describe the configuration of this EJB application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the EJB application you want to configure.

   An overview page displays information related to the EJB application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes about the configuration of this EJB application.

   See Configuration Options.

5. Click **Save**.

Monitor and configure EJB modules

This section includes the following tasks:

- Monitor an EJB module
- Configure EJB module general settings
- View persistence units for an EJB module
- Configure the retry count for an EJB module
- Specify EJB module Work Managers

Monitor an EJB module

To monitor a specific EJB module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the EJB module you want to monitor.

3. Select the name of the EJB module you want to monitor.

4. Select **Monitoring**.

5. To view monitoring information for this EJB module, select the appropriate pages:

   - **Stateless:** monitor performance of the stateless session EJBs associated with this EJB module

     See Configuration Options.

   - **Stateful:** monitor performance of the stateful sessions EJBs associated with this EJB module

     See Configuration Options.

- **Singleton:** monitor performance of the singleton session EJBs associated with this EJB module

  See Configuration Options.

- **Entity:** monitor performance of the entity EJBs associated with this EJB module

  See Configuration Options.

- **Message Driven:** monitor performance of the message-driven EJBs associated with this EJB module

  See Configuration Options.

- **Web Service Clients:** monitor the Web service clients associated with this EJB module

  See Configuration Options.

Optionally, select **View** on any of the tables to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure EJB module general settings

To configure general settings for a specific EJB module:

1. From the **WebLogic Domain** menu, select **Deployments**.
2. In the Deployments table, expand the name of the application that contains the EJB module you want to configure.
3. Select the name of the EJB module you want to configure.
4. Select **Configuration**, then select **General**.

   From the General Settings page, you can view general settings for this EJB module, such as:

   - Application Name
   - EJB Module Name

   For more information about these fields, see Configuration Options.

View persistence units for an EJB module

To view the persistence units defined for an EJB module

1. From the **WebLogic Domain** menu, select **Deployments**.
2. In the Deployments table, expand the name of the application that contains the EJB module you want to configure.
3. Select the name of the EJB module you want to configure.
4. Select **Configuration**, then select **Persistence**.

   From the Persistence page, you can view configuration information for the persistent units defined in this EJB module, such as:

- • Name

- • Provider

- • Description

  For more information about these fields, see Configuration Options.

5. Select the name of a persistence unit to view additional configuration information.

Configure the retry count for an EJB module

WebLogic Server includes the ability to configure the EJB container so that it automatically retries container managed transactions that have rolled back. On a per method basis, the EJB container can be instructed to retry a failed method up to a specified number of times using a new transaction if that method was originator of the transaction that rolled back.

To configure the retry count for a specific EJB module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the EJB module you want to configure.

3. Select the name of the EJB module you want to configure.

4. Select **Configuration**, then select **Retries**.

   From the Retries page, you can configure retry counts by selecting a retry count in the table and entering a new value. You can also view retry count settings, such as:

   - • Methods

   - • Description

   - • Retry Count

     For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Specify EJB module Work Managers

To specify a Work Manager to manage work requests for a specific EJB module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the EJB module you want to configure.

3. Select the name of the EJB module you want to configure.

4. Select **Configuration**, then select **Workload**.

   From the Workload page, you can view information about the Work Managers specified for this EJB module, such as:

   - • Name

   - • Type

     For more information about these fields, see Configuration Options.

5. To create a new Work Manager for this EJB module, click **New**. See Create application-scoped Work Managers.

6. To delete an existing Work Manager from this EJB module, click **Delete**.

Monitor, control, and configure EJB components

This section includes the following topics:

- Monitor an EJB component
- Control an EJB component
- Configure an EJB component

Monitor an EJB component

To monitor a specific EJB component:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the EJB component you want to monitor.

3. Select the name of the EJB component you want to monitor.

4. Select **Monitoring**.

5. To view monitoring information for this EJB component, select the appropriate pages:

   - **Running:** monitor the state and performance of the EJB component, depending on its type (stateless, stateful, singleton, entity, or message-driven)

     See Configuration Options.

   - **Workload:** monitor Work Managers, constraints, and policies configured for this EJB component

     See Configuration Options.

Control an EJB component

To control a specific EJB component:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the EJB component you want to control.

3. Select the name of the EJB component you want to control.

4. Select **Control**.

5. In the table, select the row of the EJB component you want to control.

   The control options are displayed above the table.

6. Click the desired control option:

   - **Initialize**: initialize the idle bean cache

   - **Suspend MDB**: suspend the specific type of MDB by calling stop on the JMS Connection.

   - **Resume MDB**: resume the specific type of MDB by calling start on the JMS Connection.

   - **Activate Timers**: activate the timer objects

See Configuration Options.

Configure an EJB component

To configure a specific EJB component:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the EJB component you want to configure.

3. Select the name of the EJB component you want to configure.

4. Select **Configuration**.

   From the Configuration page, you can view and configure settings for this EJB component, such as:

   - Name

   - Type

   - EJB Module Name

   - Transaction Type

   - EJB Class Name

   - Polling Interval

   - Init Suspend

   - Max Suspend

   - Network Access Point

   - Run As Principal Name

   - Create As Principal Name

   - Remove As Principal Name

   - Passivate As Principal Name

   - JNDI Name

   - Local JNDI Name

   - Dispatch Policy

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure persistence units

This section includes the following tasks:

- Configure persistence unit general settings
- Configure data source settings for a persistence unit

Configure persistence unit general settings

To configure general settings for a persistence unit:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the application or module that contains the persistence unit you want to configure.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Persistence**.

4. In the table select the name of the persistence unit you want to configure.

   From the General page, you can view general settings for this persistence unit, such as:

   - Name

   - Provider

   - Description

   - Transaction Type

   - Vendor Properties

   For more information about these fields, see Configuration Options.

Configure data source settings for a persistence unit

To configure settings related to both the transactional and non-transactional data sources of a persistence unit:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the application or module that contains the persistence unit you want to configure.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Persistence**.

4. In the table select the name of the persistence unit you want to configure.

5. Select **Data Sources**.

   From the General page, you can view general settings for this persistence unit, such as:

   - Name

   - Provider

   - Description

   - Transaction Type

   - Vendor Properties

   For more information about these fields, see Configuration Options.

Enterprise applications

An enterprise application consists of one or more Web application modules, EJB modules, Web services, and resource adapters. It might also include a client application. An enterprise application is defined by an application.xml file, which is the standard Java EE deployment descriptor for enterprise applications. If the application includes WebLogic Server-specific extensions, then the application is further defined by a `weblogic-application.xml` file. Enterprise applications that include a client module will also have a client-application.xml deployment descriptor and a WebLogic runtime client application deployment descriptor.

For both production and development purposes, Oracle recommends that you package and deploy even standalone Web applications, EJBs, Web services, and resource adapters as part of an enterprise application.

This section includes the following tasks:

- Monitor an enterprise application
- Initialize caches
- Configure an enterprise application

Monitor an enterprise application

To monitor a specific enterprise application:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the enterprise application you want to monitor.

   An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.

4. The Health page displays health status information about this enterprise application, such as:

   - Name
   - Health
   - Reason

   For more information about these fields, see Configuration Options.

5. To view additional monitoring information for this enterprise application, select the appropriate pages:

   - **Query Caching**: monitor statistics for the query caches configured for this enterprise application

     See Configuration Options.

   - **Workload**: monitor Work Managers, constraints, and policies configured for this enterprise application

     See Configuration Options.

Initialize caches

For enterprise applications, Web applications, and Coherence archives, you can manually clear the caches and pools of idle beans in application-level caches.

To initialize caches in a specific application:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the name of the enterprise application, Web application, or Coherence archive for which you want to initialize caches.

   An overview page displays information related to the application.

3. From the **Domain Application Deployment** menu, select **Control**, then select **Initialize Caches**.

4. In the Initialize Caches table, select the row of the application cache you want to initialize.

   The Initialize control option is displayed above the table.

5. Click **Initialize**.

6. Click **Yes** to confirm the action.

See Configuration Options.

Configure an enterprise application

This section includes the following tasks:

- Configure enterprise application general settings
- View persistence units for an enterprise application
- Specify enterprise application Work Managers
- Configure enterprise application instrumentation
- Configure tags for an enterprise application
- Target an enterprise application
- Create enterprise application notes

Configure enterprise application general settings

To configure general settings for a specific enterprise application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the enterprise application you want to configure.

   An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **General Settings**.

4. From the General Settings page, you can define configuration information for this enterprise application, such as:

   - Deployment Order
   - Deployment Principal Name
   - Session Cookies Max Age
   - Session Invalidation Interval
   - Session Timeout
   - Debug Enabled
   - Maximum In-Memory Sessions
   - Monitoring Attribute Name

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

View persistence units for an enterprise application

To view the persistence units defined for an enterprise application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the enterprise application you want to configure.

An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Persistence**.

4. From the Persistence page, you can view configuration information for the persistent units defined in this enterprise application, such as:

- Name
- Provider
- Description

For more information about these fields, see Configuration Options.

5. Select the name of a persistence unit to view additional configuration information.

Specify enterprise application Work Managers

To specify a Work Manager to manage work requests for a specific enterprise application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the enterprise application you want to configure.

An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Workload**.

From the Workload page, you can view information about the Work Managers specified for this enterprise application, such as:

- Name
- Type

For more information about these fields, see Configuration Options.

4. To create a new Work Manager for this enterprise application, click **New**. See Create application-scoped Work Managers.

5. To delete an existing Work Manager from this enterprise application, click **Delete**.

Configure enterprise application instrumentation

To configure instrumentation for a specific enterprise application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the enterprise application you want to configure.

An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Instrumentation**.

Configure tags for an enterprise application

To configure tags for a specific enterprise application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the enterprise application you want to configure.

   An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

4. On the Tags page, you can configure the tags associated with this enterprise application:

   - In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this enterprise application.

   - In **Add New Tag**, create a new tag by entering the tag name.

   See Configuration Options.

5. Click **Apply** to save your configuration changes.

Target an enterprise application

To target a specific enterprise application deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the enterprise application you want to configure.

   An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

4. From the Targets page, you can specify the WebLogic Server instances and clusters to which you want to deploy this enterprise application.

   See Configuration Options.

5. Click **Save**.

Create enterprise application notes

To create notes to describe the configuration of this enterprise application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Summary table, select the name of the enterprise application you want to configure.

   An overview page displays information related to the enterprise application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes about the configuration of this enterprise application.

   See Configuration Options.

5. Click **Save**.

JDBC modules

This section includes the following tasks:

- Monitor a standalone JDBC module

- Control data source operations

- [Configure a standalone JDBC module](#)
- [Monitor and configure a JDBC module](#)
- [Monitor data sources](#)

Monitor a standalone JDBC module

To monitor a specific standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the standalone JDBC module you want to monitor.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.

   The Monitoring page displays statistics associated with this standalone JDBC module, such as:

   - Server
   - Enabled
   - State
   - JDBC Driver
   - Active Connections Average Count
   - Average Connections Current Count

   Optionally, select **View** on any of the tables to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Control data source operations

For standalone JDBC modules, you can manually control each instance of a JDBC data source.

To control JDBC data source instances:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module for which you want to control JDBC data source instances.

   An overview page displays information related to the application.

3. From the **Domain Application Deployment** menu, select **Control**, then select **Data Source Operations**.

4. In the Data Source Operations table, select the row of the JDBC data source instances you want to control.

   The control options are displayed above the table.

5. Click the desired control option:

- **Shrink**: manually shrink the pool of database connections in individual instances of a data source to the initial capacity or the current number of connections in use, whichever is greater

- **Reset**: closes and recreates all available database connections in the pool of connections in the data source

- **Clear Statement Cache**: clear the prepared and callable statements that are used in each connection in a data source instance

- **Suspend**: manually suspend or force suspend individual instances of a data source so that applications can no longer get a database connection from the data source

- **Resume**: manually resume individual data sources that are in a `Suspended` state

- **Stop**: manually stop or force stop individual instances of a data source

- **Start**: manually start individual instances of a data source that have a health state of `Shutdown`

6. Click **Yes** to confirm the action.

See Configuration Options.

Configure a standalone JDBC module

This section includes the following tasks:

- Configure general settings for a standalone JDBC module
- Configure connection pool properties for a standalone JDBC module
- Configure Oracle parameters for a standalone JDBC module
- Configure ONS client parameters for a standalone JDBC module
- Configure global transaction options for a standalone JDBC module
- Configure identity options for a standalone JDBC module
- Target a standalone JDBC module
- Configure tags for a standalone JDBC module
- Create standalone JDBC module notes

Configure general settings for a standalone JDBC module

To configure general settings for a specific standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **General**.

4. From the General Settings page, you can view and define configuration information for this standalone JDBC module, such as:

   - Data Source Name

- • JNDI Name

- • Row Prefetch Enabled

- • Row Prefetch Size

- • Stream Chunk Size

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure connection pool properties for a standalone JDBC module

The connection pool within a JDBC data source contains a group of JDBC connections that applications reserve, use, and then return to the pool. The connection pool and the connections within it are created when the connection pool is registered, usually when starting WebLogic Server or when deploying the data source to a new target.

To configure the connection pool properties for a specific standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Connection Pool**.

4. From the Connection Pool page, you can view and define connection properties for this standalone JDBC module, such as:

   - • Data Source Name

   - • Database URL

   - • Password

   - • Confirm Password

   - • Properties

   - • System Properties

   - • Initial Capacity

   - • Maximum Capacity

   - • Minimum Capacity

   - • Statement Cache Type

   - • Statement Cache Size

   For more information about these fields, see Configuration Options.

5. Optionally, expand **Advanced** to define advanced connection properties for this standalone JDBC module.

6. Click **Apply** to save your configuration changes.

Configure Oracle parameters for a standalone JDBC module

Before you begin

Additional configuration may be required to support Oracle parameters.

See Using GridLink Data Sources in *Administering JDBC Data Sources for Oracle WebLogic Server*.

To configure Oracle parameters for a standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Oracle**.

4. From the Oracle Parameters page, you can view and define Oracle parameters for this standalone JDBC module, such as:

   • Data Source Name

   • Oracle Optimize UTF8 Conversion

   • Connection Initialization Callback

   • Oracle Proxy Session

   • Use Database Credentials

   • Replay Initiation Timeout

   • Active GridLink Data Source

   • Affinity Policy

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure ONS client parameters for a standalone JDBC module

Before you begin

Additional configuration may be required to support ONS client parameters.

See Using GridLink Data Sources in *Administering JDBC Data Sources for Oracle WebLogic Server*.

To configure ONS client parameters for a standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **ONS**.

4. From the ONS Client Configuration page, you can view and define ONS configuration options, such as:

   • Data Source Name

   • Fan Enabled

   • ONS Nodes

   • ONS Wallet File Directory

- ONS Wallet Password

- Confirm ONS Wallet Password

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure global transaction options for a standalone JDBC module

The transaction protocol for a JDBC data source determines how connections from the data source are handled during transaction processing.

See JDBC Data Source Transaction Options in *Administering JDBC Data Sources for Oracle WebLogic Server*.

> **Note:**
>
> If the data source uses an XA JDBC driver to create database connections, then connections from the data source will support the two-phase commit transaction protocol only. No other transaction options are available for data sources that use an XA JDBC driver.

To configure transaction options for a standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Transactions**.

4. From the Transactions page, select the **Supports Global Transactions** checkbox to enable global transaction support in this data source. Clear this checkbox to disable (ignore) global transactions in this data source. In most cases, you should select this option.

   If you select Supports Global Transactions, then select an option for transaction processing.

   - **One-Phase Commit**: Select this option to enable the non-XA connection to participate in a global transaction as the only transaction participant.

   - **Emulate Two-Phase Commit**: Enables a non-XA JDBC connection to emulate participation in distributed transactions using JTA. Select this option only if your application can tolerate heuristic conditions.

   - **Logging Last Resource**: Select this option to enable a non-XA JDBC connection to participate in global transactions using the Logging Last Resource (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit.

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure identity options for a standalone JDBC module

To select the security identity option used for a standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Security**.

4. From the Security page, you can define the security identity options used when mapping WebLogic Server user credentials to database user credentials, such as:

   • Set Client ID On Connection

   • Enable Identity Based Connection Pooling

   • Oracle Proxy Session

   • Use Database Credentials

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Target a standalone JDBC module

To target a specific standalone JDBC module deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

4. From the Targets page, you can specify the WebLogic Server instances and clusters to which you want to deploy this standalone JDBC module.

   See Configuration Options.

5. Click **Save**.

Configure tags for a standalone JDBC module

To configure tags for a specific standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

   An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

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4. On the Tags page, you can configure the tags associated with this standalone JDBC module:

  - In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this standalone JDBC module.

  - In **Add New Tag**, create a new tag by entering the tag name.

  See Configuration Options.

5. Click **Apply**.

Create standalone JDBC module notes

To create notes to describe the configuration of this standalone JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JDBC module you want to configure.

  An overview page displays information related to the standalone JDBC module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes about the configuration of this standalone JDBC module.

  See Configuration Options.

5. Click **Save**.

Monitor and configure a JDBC module

This section includes the following tasks:

- Configure general settings for a JDBC module
- Configure connection pool properties for a JDBC module
- Configure global transaction options for a JDBC module
- Configure identity options for a JDBC module
- Monitor a JDBC module

Configure general settings for a JDBC module

To configure general settings for a specific JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the JDBC module you want to configure.

3. Select the name of the JDBC module.

4. Select **Configuration**, then select **General**.

  From the General page, you can view and define configuration information for this enterprise application, such as:

  - Data Source Name

  - JNDI Name

- Row Prefetch Enabled

- Row Prefetch Size

- Stream Chunk Size

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure connection pool properties for a JDBC module

The connection pool within a JDBC data source contains a group of JDBC connections that applications reserve, use, and then return to the pool. The connection pool and the connections within it are created when the connection pool is registered, usually when starting WebLogic Server or when deploying the data source to a new target.

To configure the connection pool properties for a specific JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the JDBC module you want to configure.

3. Select the name of the JDBC module.

4. Select **Configuration**, then select **Connection Pool**.

From the Connection Pool page, you can view and define connection properties for this JDBC module, such as:

- Data Source Name

- Database URL

- Password

- Confirm Password

- Properties

- System Properties

- Initial Capacity

- Maximum Capacity

- Minimum Capacity

- Statement Cache Type

- Statement Cache Size

For more information about these fields, see Configuration Options.

5. Optionally, expand **Advanced** to define advanced connection properties for this JDBC module.

6. Click **Apply** to save your configuration changes.

Configure global transaction options for a JDBC module

The transaction protocol for a JDBC data source determines how connections from the data source are handled during transaction processing.

See JDBC Data Source Transaction Options in *Administering JDBC Data Sources for Oracle WebLogic Server*.

> **✎ Note:**
>
> If the data source uses an XA JDBC driver to create database connections, then connections from the data source will support the two-phase commit transaction protocol only. No other transaction options are available for data sources that use an XA JDBC driver.

To configure transaction options for a JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the JDBC module you want to configure.

3. Select the name of the JDBC module.

4. Select **Configuration**, then select **Transactions**.

   From the Transactions page, select the **Supports Global Transactions** checkbox to enable global transaction support in this data source. Clear this checkbox to disable (ignore) global transactions in this data source. In most cases, you should select this option.

   If you select Supports Global Transactions, then select an option for transaction processing.

   - **One-Phase Commit**: Select this option to enable the non-XA connection to participate in a global transaction as the only transaction participant.

   - **Emulate Two-Phase Commit**: Enables a non-XA JDBC connection to emulate participation in distributed transactions using JTA. Select this option only if your application can tolerate heuristic conditions.

   - **Logging Last Resource**: Select this option to enable a non-XA JDBC connection to participate in global transactions using the Logging Last Resource (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit.

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure identity options for a JDBC module

To select the security identity option used for a JDBC module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the JDBC module you want to configure.

3. Select the name of the JDBC module.

4. Select **Configuration**, then select **Identity Options**.

   From the Identity Options page, you can define the security identity options used when mapping WebLogic Server user credentials to database user credentials, such as:

   - Data Source Name

   - Set Client ID On Connection

   - Enable Identity Based Connection Pooling

- Oracle Proxy Session

- Use Database Credentials

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Monitor a JDBC module

To target a specific JDBC module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the JDBC module you want to monitor.

3. Select the name of the JDBC module.

4. Select **Monitoring**.

From the Monitoring page, you can view statistics associated with this JDBC module, such as:

- Server

- Enabled

- State

- JDBC Driver

For more information about these fields, see Configuration Options.

Optionally, select **View** on any of the tables to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Monitor data sources

To monitor data sources within an application:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the data sources you want to monitor.

3. Select the name of the data source.

JMS modules

This section includes the following tasks:

- Monitor a standalone JMS module

- Monitor a JMS module

- Configure a standalone JMS module

Monitor a standalone JMS module

To monitor a specific standalone JMS module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the standalone JMS module you want to monitor.

   An overview page displays information related to the standalone JMS module.

3. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.

Monitor a JMS module

To monitor a specific JMS module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the JMS module you want to monitor.

3. Select the name of the JMS module you want to monitor.

4. The **Overview** page displays information about the JMS module, such as:

   • Name

   • Path

   Additionally, in the Resources table, you can view information about the JMS resources associated with this JMS module.

   For more information about these fields, see Configuration Options.

5. To target this JMS module, select **Targets**.

   From the Targets page, you can view and change the WebLogic Server instances and clusters to which you want to deploy this JMS module.

   See Configuration Options.

Configure a standalone JMS module

This section includes the following tasks:

• Configure general settings for a standalone JMS module

• Target a standalone JMS module

• Configure tags for a standalone JMS module

• Create standalone JMS module notes

Configure general settings for a standalone JMS module

To configure general settings for a specific standalone JMS module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JMS module you want to configure.

   An overview page displays information related to the standalone JMS module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **General Settings**.

4. From the General Settings page, you can view and define configuration information for this standalone JMS module, such as:

   • Name

   • Deployment Order

   • Deployment Principal Name

   Additionally, in **Resources**, you can view information about the JMS resources associated with this standalone JMS module.

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Target a standalone JMS module

To target a specific standalone JMS module deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JMS module you want to configure.

   An overview page displays information related to the standalone JMS module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

4. From the Targets page, you can view and change the WebLogic Server instances and clusters to which you want to deploy this standalone JMS module.

   See Configuration Options.

5. Click **Save**.

Configure tags for a standalone JMS module

To configure tags for a specific standalone JMS module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JMS module you want to configure.

   An overview page displays information related to the standalone JMS module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

4. On the Tags page, you can configure the tags associated with this standalone JMS module:

   • In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this standalone JMS module.

   • In **Add New Tag**, create a new tag by entering the tag name.

   See Configuration Options.

5. Click **Apply**.

Create standalone JMS module notes

To create notes to describe the configuration of this standalone JMS module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the standalone JMS module you want to configure.

   An overview page displays information related to the standalone JMS module.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes about the configuration of this standalone JMS module.

   See Configuration Options.

5. Click **Save**.

Libraries

Java EE libraries provide an easy way to share one or more types of Java EE modules among multiple enterprise applications.

A Java EE library is a standalone EJB or Web application module, multiple EJB or Web application modules packaged in an enterprise application (EAR), or a single plain JAR file that is registered with the Java EE application container upon deployment. After the library has been registered, you can deploy enterprise applications that reference the library. Each referencing application receives a reference to the required library module(s) on deployment, and can use those modules as if they were packaged as part of the referencing application itself. The shared library classes are added to the classpath of the referencing application, and the referencing application's deployment descriptors are merged (in memory) with those of the Java EE library modules.

This section includes the following tasks:

- Monitor libraries
- Configure a library

Monitor libraries

To monitor all libraries in the domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Above the Summary table, click **Show All** to view libraries.

3. The Summary table displays information about the applications and libraries deployed to the current domain, such as:

   - Name
   - Status
   - State
   - Health
   - Type

- Deployment Order
- Scope

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure a library

This section includes the following tasks:

- Configure library general settings
- Target a library
- Configure tags for a library
- Create library notes

Configure library general settings

To configure general settings for a specific library:

1. From the **WebLogic Domain** menu, select **Deployments**.
2. Above the Deployments table, click **Show All** to view libraries.
3. In the Deployments table, select the name of the library you want to configure.
4. Select **General Settings**.
5. From the General Settings page, you can view and define configuration information for this library, such as:

   - Name
   - Scope
   - Specification Version
   - Implementation Version
   - Path
   - Staging Mode
   - Deployment Order
   - Deployment Principal Name

   Additionally, you can view monitoring information for the applications that reference this library, such as:

   - Name
   - Type
   - Scope

   For more information about these fields, see Configuration Options.

6. Click **Apply** to save you configuration changes.

Target a library

To target a specific library deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view libraries.

3. In the Deployments table, select the name of the library you want to configure.

4. Select **Targets**.

5. From the Targets page, you can specify the WebLogic Server instances and clusters to which you want to deploy this library.

   See Configuration Options.

6. Click **Save**.

Configure tags for a library

To configure tags for a specific library:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view libraries.

3. In the Deployments table, select the name of the library you want to configure.

4. Select **Tags**.

5. On the Tags page, you can configure the tags associated with this library:

   • In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this library.

   • In **Add New Tag**, create a new tag by entering the tag name.

   See Configuration Options.

6. Click **Apply**.

Create library notes

To create notes to describe the configuration of this library:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view libraries.

3. In the Summary table, select the name of the library you want to configure.

4. Select **Notes**.

5. On the Notes page, enter your notes about the configuration of this library.

   See Configuration Options.

6. Click **Save**.

Resource adapters

A resource adapter is a system library specific to an Enterprise Information System (EIS) and provides connectivity to an EIS. A resource adapter is analogous to a JDBC driver, which

provides connectivity to a database management system. The interface between a resource adapter and the EIS is specific to the underlying EIS. The resource adapter plugs into an application server, such as WebLogic Server, and provides seamless connectivity between the EIS, application server, and enterprise application.

A resource adapter is packaged and deployed like any other application. Its initial configuration can be specified in its deployment descriptor files, `ra.xml` and `weblogic-ra.xml`.

This section includes the following tasks:

- Monitor resource adapters
- Control resource adapters
- Control outbound connection pools
- Configure a resource adapter
- Monitor, control, and configure resource adapter modules
- Configure a resource adapter outbound connection pool

Monitor resource adapters

This section includes the following tasks:

- Monitor a resource adapter
- Monitor message listener endpoints
- Monitor outbound connection pools

Monitor a resource adapter

To monitor a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Above the Summary table, click **Show All** to view resource adapters.

3. In the Summary table, select the name of the resource adapter you want to monitor.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.

5. To view monitoring information for this resource adapter, select the appropriate pages:

   - **Outbound Connection Pools:** monitor the outbound connection pools for this resource adapter

     See Configuration Options.

     Optionally, select one of the Current Connections listed in the table to display additional monitoring information for a specific outbound connection pool.

     – Select **Statistics** to display statistics about the pool's connections

     – Select **Outbound Connections** to display information about the status of the connections in the connection pool

   - **Inbound Listeners:** monitor the current state of message listener endpoints in this resource adapter

     See Configuration Options.

- **Workload:** monitor the Work Managers, constraints, and policies configured specifically for this resource adapter

  See Configuration Options.

Monitor message listener endpoints

To monitor the message listener endpoints for all active resource adapters deployed to this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Select **Resource Adapters**, then select **Inbound Listeners**.

   The Inbound Listeners table displays information about the current state of message listener endpoints for this resource adapter, such as:

   - Message Listener Type

   - Message Listener Endpoint

   - Server

   - State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

   - Detach: detach the table (viewing option)

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

3. In the table, select the name of the inbound message listener for which you want to view additional configuration information.

Monitor outbound connection pools

To monitor the outbound connection pools for all active resource adapters deployed to this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Select **Resource Adapters**, then select **Outbound Connection Pools**.

   The Outbound Connection Pools table displays information about the outbound connection pools for this resource adapter, such as:

   - Outbound Connection Pool

   - Server

   - State

   - Current Connections

   - Created Connections

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

3. Optionally, in the table, select one of the **Current Connections** to display additional monitoring information about a specific outbound connection pool.

- Select **Statistics** to display statistics about the pool's connections, such as:

  – Outbound Connection Pool

  – Server

  – State

  – Current Connections

  – Created Connections

  For more information about these fields, see Configuration Options.

- Select **Outbound Connections** to display information about the status of the connections in the connection pool, such as:

  – User Name

  – Last Usage

  – Active Handles (Current)

  – Active Handles (High)

  – Handles Created

  For more information about these fields, see Configuration Options.

Control resource adapters

For Web applications, resource adapters, and Coherence archives, you can start, stop, suspend, or resume a resource adapter connected with the application.

To control a resource adapter:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the Web application, resource adapter, or Coherence archive containing the resource adapter you want to control.

   An overview page displays information related to the application.

4. From the **Domain Application Deployment** menu, select **Control**, then select **Resource Adapter**.

5. In the Resource Adapter table, select the row of the resource adapter you want to control.

   The control options are displayed above the table.

6. Click the desired control option:

- **Start**: To start servicing all requests, select **Servicing all requests**. To start servicing only administration requests to the application, select **Servicing only administration requests**.

- **Stop**: To stop when work completes, select **When work completes**. To force the resource adapter to stop immediately, select **Force stop now**. To stop servicing client requests but continue servicing administration requests, select **Stop, but continue servicing administration requests**.

- **Suspend**: To suspend all services, select **All**. To suspend only inbound services, select **Inbound Only**. To suspend only outbound services, select **Outbound Only**. To suspend only work services, select **Work Only**.

- **Resume**: To resume all services, select **All**. To resume only inbound services, select **Inbound Only**. To resume only outbound services, select **Outbound Only**. To resume only work services, select **Work Only**.

7. Click **Yes** to confirm the action.

See Configuration Options.

Control outbound connection pools

For Web applications, resource adapters, and Coherence archives, you can reset or force reset outbound connection pools associated with the application.

To control outbound connection pools:

1. From the **WebLogic Domain** menu, select **Control**, then select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the Web application, resource adapter, or Coherence archive for which you want to control outbound connection pools.

   An overview page displays information related to the application.

4. From the **Domain Application Deployment** menu, select **Control**, then select **Outbound Connection Pools**.

5. In the Outbound Connection Pools table, select the row of the outbound connection pool you want to control.

   The control options are displayed above the table.

6. Click **Reset** or **Force Reset** to reset the outbound connection pool.

7. Click **Yes** to confirm the action.

For more information about these fields, see Configuration Options.

Configure a resource adapter

This section includes the following tasks:

- Configure resource adapter general settings
- Configure resource adapter properties
- Configure resource adapter outbound connection pools
- Configure resource adapter administered objects
- Specify resource adapter Work Managers
- Configure resource adapter instrumentation
- Configure tags for a resource adapter
- Target a resource adapter

- Create resource adapter notes

Configure resource adapter general settings

To configure general settings for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **General Settings**.

5. From the General Settings page, you can define configuration information for this resource adapter, such as:

   - Deployment Order

   - Deployment Principal Name

   - Native Lib Dir

   - JNDI Name

   - Access Outside App Enabled

   - Global Access to Classes Enabled

   - Deploy as a Whole

   For more information about these fields, see Configuration Options.

6. Click **Apply** to save your configuration changes.

Configure resource adapter properties

To configure properties for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Properties**.

5. From the Properties page, you can view properties and modify property values for this resource adapter such as:

   - Property Name

   - Property Type

   - Property Value

   - Supports Dynamic Updates

   For more information about these fields, see Configuration Options.

6. Click **Apply** to save your configuration changes.

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Configure resource adapter outbound connection pools

To configure outbound connection pools for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Outbound Connection Pools**.

5. From the Outbound Connection Pools page, you can view outbound connection pool groups and instances for this resource adapter.

   See Configuration Options.

6. In the table, select the outbound connection pool for which you want to view configuration information. See Configure a resource adapter outbound connection pool.

Configure resource adapter administered objects

To view administered object groups and instances for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Admin Objects**.

5. From the Admin Objects page, you can view the administered object groups and instances for this resource adapter.

   See Configuration Options.

Specify resource adapter Work Managers

To specify a Work Manager to manage work requests for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Workload**.

   From the Workload page, you can configure the maximum number of concurrent long running requests.

   You can also view information about the Work Managers specified for this resource adapter, such as:

   • Name

- Type

  For more information about these fields, see Configuration Options.

5. To create a new Work Manager for this resource adapter, click **New**. See Create application-scoped Work Managers.

6. To delete an existing Work Manager from this resource adapter, click **Delete**.

Configure resource adapter instrumentation

To configure instrumentation for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Instrumentation**.

Configure tags for a resource adapter

To configure tags for a specific resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

5. On the Tags page, you can configure the tags associated with this resource adapter:

   - In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this resource adapter.

   - In **Add New Tag**, create a new tag by entering the tag name

     See Configuration Options.

6. Click **Apply**.

Target a resource adapter

To target a specific resource adapter deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

5. From the Targets page, you can specify the WebLogic Server instances and clusters to which you want to deploy this resource adapter.

See Configuration Options.

6. Click **Save**.

Create resource adapter notes

To create notes to describe the configuration of this resource adapter:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. Above the Deployments table, click **Show All** to view resource adapters.

3. In the Deployments table, select the name of the resource adapter you want to configure.

   An overview page displays information related to the resource adapter.

4. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

5. On the Notes page, enter your notes about the configuration of this resource adapter.

   See Configuration Options.

6. Click **Save**.

Monitor, control, and configure resource adapter modules

This section includes the following tasks:

- Monitor a resource adapter module
- Control a resource adapter module
- Configure resource adapter module general settings
- Configure resource adapter module properties
- Configure resource adapter module outbound connection pools
- Configure resource adapter module administered objects
- Specify resource adapter module Work Managers

Monitor a resource adapter module

To monitor a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the resource adapter module you want to monitor.

3. Select the name of the resource adapter module you want to monitor.

4. To view monitoring information for this resource adapter module, select the appropriate pages:

   - **Outbound Connection Pools:** monitor the outbound connection pools for this resource adapter module

     See Configuration Options.

     Optionally, select one of the Current Connections listed in the table to display additional monitoring information for a specific outbound connection pool.

     – Select **Statistics** to display statistics about the pool's connections

– Select **Outbound Connections** to display information about the status of the connections in the connection pool

- **Inbound Listeners:** monitor the current state of message listener endpoints in this resource adapter module

  See Configuration Options.

- **Workload:** monitor the Work Managers, constraints, and policies configured specifically for this resource adapter module

  See Configuration Options.

Optionally, select **View** on any of the tables to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Control a resource adapter module

To control a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Deployments**.
2. In the Deployments table, expand the name of the application that contains the resource adapter module you want to control.
3. Select the name of the resource adapter module you want to control.
4. Select **Control**.
5. To control this resource adapter module, select the appropriate pages:

   - **Resource Adapter:** start, stop, suspend, or resume the resource adapter module

     In the Resource Adapter table, select the row of the resource adapter module you want to control. The control options are displayed above the table.

   - **Outbound Connection Pools:** reset or force reset the outbound connection pools associated with this resource adapter module

     In the Outbound Connection Pools table, select the row of the resource adapter module you want to control. The control options are displayed above the table.

Optionally, select **View** on any of the tables to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure resource adapter module general settings

To configure general settings for a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the resource adapter module you want to configure.

3. Select the name of the resource adapter module you want to configure.

4. Select **General**.

   From the General page, you can configure general settings for this resource adapter module, such as:

   • Deployment Order

   • Deployment Principal Name

   • Native Lib Dir

   • JNDI Name

   • Access Outside App Enabled

   • Global Access to Classes Enabled

   • Deploy as a Whole

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure resource adapter module properties

To configure properties for a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the module you want to configure.

3. Select the name of the resource adapter module you want to configure.

4. Select **Properties**.

   From the Properties page, you can view properties and define property values for this resource adapter module, such as:

   • Property Name

   • Property Type

   • Property Value

   • Supports Dynamic Updates

   For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

Configure resource adapter module outbound connection pools

To configure outbound connection pools for a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the module you want to configure.

3. Select the name of the resource adapter module you want to configure.

4. Select **Outbound Connection Pools**.

From the Outbound Connection Pools page, you can view outbound connection pool groups and instances for this resource adapter module.

See Configuration Options.

5. In the table, select the outbound connection pool for which you want to view configuration information. See Configure a resource adapter outbound connection pool.

Configure resource adapter module administered objects

To view administered objects for a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the module you want to configure.

3. Select the name of the resource adapter module you want to configure.

4. Select **Admin Objects**.

   From the Admin Objects page, you can view the administered object groups and instances for this resource adapter module.

   See Configuration Options.

5. Click **Apply**.

Specify resource adapter module Work Managers

To specify a Work Manager to manage work requests for a specific resource adapter module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the module you want to configure.

3. Select the name of the resource adapter module you want to configure.

4. Select **Configuration**, then select **Workload**.

   From the Workload page, you can configure the maximum number of concurrent long running requests.

   You can also view information about the Work Managers specified for this resource adapter module, such as:

   • Name

   • Type

   For more information about these fields, see Configuration Options.

5. To create a new Work Manager for this resource adapter module, click **New**. See Create application-scoped Work Managers.

6. To delete an existing Work Manager from this resource adapter module, click **Delete**.

Configure a resource adapter outbound connection pool

This section includes the following tasks:

• Configure outbound connection pool general settings

• Configure outbound connection pool properties

- Configure outbound connection pool transaction support
- Configure outbound connection pool authentication
- Configure outbound connection pool parameters

Configure outbound connection pool general settings

To configure general settings for a specific outbound connection pool:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the resource adapter that contains the outbound connection pool you want to configure.

   An overview page displays information related to the resource adapter.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Outbound Connection Pools**.

4. In the table, select the outbound connection pool you want to configure.

5. Select **General**.

   From the General page, you can view general information for this resource adapter outbound connection pool, such as the interface name.

   For more information about this field, see Configuration Options.

6. Click **Apply** to save your configuration changes.

Configure outbound connection pool properties

To configure properties for a specific outbound connection pool:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the resource adapter that contains the outbound connection pool you want to configure.

   An overview page displays information related to the resource adapter.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Outbound Connection Pools**.

4. In the table, select the outbound connection pool you want to configure.

5. Select **Properties**.

   From the Properties page, you can view configuration properties and define property values for this resource adapter outbound connection pool, such as:

   - Property Name
   - Property Type
   - Property Value
   - Supports Dynamic Updates

   For more information about these fields, see Configuration Options.

6. Click **Apply** to save your configuration changes.

Configure outbound connection pool transaction support

To configure transaction support settings for a specific outbound connection pool:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the resource adapter that contains the outbound connection pool you want to configure.

   An overview page displays information related to the resource adapter.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Outbound Connection Pools**.

4. In the table, select the outbound connection pool you want to configure.

5. Select **Transaction**.

   From the Transaction page, you can configure the transaction support parameter of this resource adapter outbound connection pool.

   For more information about this field, see Configuration Options.

6. Click **Apply** to save your configuration changes.

Configure outbound connection pool authentication

To configure authentication parameters for a specific outbound connection pool:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the resource adapter that contains the outbound connection pool you want to configure.

   An overview page displays information related to the resource adapter.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Outbound Connection Pools**.

4. In the table, select the outbound connection pool you want to configure.

5. Select **Authentication**.

   From the Authentication page, you can configure authentication parameters of this resource adapter outbound connection pool, such as:

   - Reauthentication Support
   - Resource Authentication Source

   For more information about these fields, see Configuration Options.

6. Click **Apply** to save your configuration changes.

Configure outbound connection pool parameters

To configure pool parameters for a specific outbound connection pool:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the resource adapter that contains the outbound connection pool you want to configure.

   An overview page displays information related to the resource adapter.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Outbound Connection Pools**.

4. In the table, select the outbound connection pool you want to configure.

5. Select **Connection Pool**.

From the Connection Pool page, you can configure the pool parameters of this resource adapter outbound connection pool, such as:

- Initial Capacity

- Max Capacity

- Capacity Increment

- Shrinking Enabled

- Shrink Frequency Seconds

- Highest Num Unavailable

- Highest Num Waiters

- Connection Creation Retry Frequency Seconds

- Connection Reserver Timeout Seconds

- Test Frequency Seconds

- Test Connection On Create

- Test Connections On Reserve

- Test Connections On Release

- Match Connections Supported

For more information about these fields, see Configuration Options.

6. Click **Apply** to save your configuration changes.

Web applications

A Web application can be installed as `WAR` archive or exploded `WAR` directory.

This section includes the following tasks:

- Monitor Web applications

- Monitor a Web application

- Configure a Web application

- Monitor and configure Web application modules

Monitor Web applications

To monitor all Web applications deployed to this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Select **Web Applications**.

The Web Applications table displays information about all of the Web applications deployed to the current domain, such as:

- Context Root

- Application

- Server

- Machine

- State

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

3. In the table, select the name of the Web application for which you want to view additional configuration information.

Monitor a Web application

To monitor a specific Web application:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the Web application you want to monitor.

   An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Monitoring**, then select **Environment Monitoring**.

4. On the Web Applications page, the table displays information about the Web application, such as:

- Context Root
- Application
- Server
- Machine
- State

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

5. To view additional monitoring information for this Web application, select the appropriate pages:

- **Servlets**: monitor servlets associated with this Web application

  See Configuration Options.

- **Sessions**: monitor sessions associated with this Web application

  See Configuration Options.

- **Page Flows**: monitor pageflows used by this Web application

  See Configuration Options.

- **Workload**: monitor Work Managers, constraints, and policies configured for this Web application

  See Configuration Options.

- **Web Service Clients**: monitor Web service clients associated with this Web application

  See Configuration Options.

- **JAX-RS Applications**: monitor the JAX-RS applications associated with this Web application

  See Configuration Options.

Configure a Web application

This section includes the following tasks:

- Configure Web application general settings
- View persistence units for a Web application
- Specify Web application Work Managers
- Configure Web application instrumentation
- Configure tags for a Web application
- Target a Web application
- Create Web application notes

Configure Web application general settings

To configure general settings for a specific Web application:

1. From the **WebLogic Domain** menu, select **Deployments**.
2. In the Deployments table, select the name of the Web application you want to configure.

   An overview page displays information related to the Web application.
3. From the **Domain Application Deployment** menu, select **Administration**, then select **General Settings**.
4. From the General Settings page, you can define configuration information for this Web application, such as:

   - Deployment Order
   - Deployment Principal Name
   - Session Cookies Max Age
   - Session Invalidation Interval
   - Session Timeout
   - Debug Enabled
   - Maximum In-Memory Sessions
   - Monitoring Attribute Name
   - Index Directory Enabled
   - Indext Directory Sort By

- Servlet Reload Check

- Resource Reload Check

- Session Monitoring Enabled

- Maximum Native File Size

- JSP Page Check

- JSP Keep Generated

- JSP Verbose

- Context Root

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

View persistence units for a Web application

To view the persistence units defined for a Web application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Web application you want to configure.

An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Persistence**.

4. From the Persistence page, you can view configuration information for the persistent units defined in this Web application, such as:

- Name

- Provider

- Description

For more information about these fields, see Configuration Options.

5. Select the name of a persistence unit to view additional configuration information.

Specify Web application Work Managers

To specify a Work Manager to manage work requests for a specific Web application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Web application you want to configure.

An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Workload**.

From the Workload page, you can view information about the Work Managers specified for this Web application, such as:

- Name

- Type

For more information about these fields, see Configuration Options.

4. To create a new Work Manager for this Web application, click **New**. See Create application-scoped Work Managers.

5. To delete an existing Work Manager from this Web application, click **Delete**.

Configure Web application instrumentation

To configure instrumentation for a specific Web application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Web application you want to configure.

   An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Instrumentation**.

Configure tags for a Web application

To configure tags for a specific Web application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Web application you want to configure.

   An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Tags**.

4. On the Tags page, you can configure the tags associated with this Web application:

   • In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this Web application.

   • In **Add New Tag**, create a new tag by entering the tag name.

   See Configuration Options.

5. Click **Apply**.

Target a Web application

To target a specific Web application deployed to the global scope:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Web application you want to configure.

   An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Targets**.

4. From the Targets page, you can specify the WebLogic Server instances and clusters to which you want to deploy this Web application.

   See Configuration Options.

5. Click **Save**.

Create Web application notes

To create notes to describe the configuration of this Web application:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, select the name of the Web application you want to configure.

   An overview page displays information related to the Web application.

3. From the **Domain Application Deployment** menu, select **Administration**, then select **Notes**.

4. On the Notes page, enter your notes about the configuration of this Web application.

   See Configuration Options.

5. Click **Save**.

Monitor and configure Web application modules

You can configure and monitor Web application modules that are deployed to this domain.

This section includes the following tasks:

- Monitor a Web application module
- Configure a Web application module
- View persistence units for a Web application module
- Specify Web application module Work Managers

Monitor a Web application module

To monitor a Web application module:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, expand the name of the application that contains the module you want to monitor.

3. Select the name of the Web application module you want to monitor.

4. Select **Monitoring**.

   The Web Applications table displays information about the Web application module, such as:

   - Context Root
   - Application
   - Server
   - Machine
   - State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

5. To view additional monitoring information for this Web application module, select the appropriate pages:

- **Servlets:** monitor servlets associated with this Web application module

  See Configuration Options.

- **Sessions:** monitor sessions associated with this Web application module

  See Configuration Options.

- **PageFlows:** monitor pageflows used by this Web application module

  See Configuration Options.

- **Workload:** monitor Work Managers, constraints, and policies configured for this Web application module

  See Configuration Options.

- **Web Service Clients:** monitor Web service clients associated with this Web application module

  See Configuration Options.

- **JAX-RS Applications:** monitor JAX-RS applications associated with this Web application module

  See Configuration Options.

Configure a Web application module

To configure general settings for a specific Web application module:

1. From the **WebLogic Domain** menu, select **Deployments**.
2. In the Deployments table, expand the name of the application that contains the module you want to configure.
3. Select the name of the Web application module you want to configure.
4. Select **Configuration**, then select **General**.

   From the General Settings page, you can define configuration information for this Web application module, such as:

   - Deployment Order
   - Deployment Principal Name
   - Session Cookies Max Age
   - Session Invalidation Interval
   - Session Timeout
   - Debug Enabled
   - Maximum In-Memory Sessions
   - Monitoring Attribute Name
   - Index Directory Enabled
   - Indext Directory Sort By
   - Servlet Reload Check
   - Resource Reload Check
   - Session Monitoring Enabled

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- Maximum Native File Size
- JSP Page Check
- JSP Keep Generated
- JSP Verbose
- Context Root

For more information about these fields, see Configuration Options.

5. Click **Apply** to save your configuration changes.

View persistence units for a Web application module

To view the persistence units defined for a Web application module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the Web application module you want to configure.

3. Select the name of the Web application module you want to configure.

4. Select **Configuration**, then select **Persistence**.

From the Persistence page, you can view configuration information for the persistent units defined in this Web application module, such as:

- Name
- Provider
- Description

For more information about these fields, see Configuration Options.

5. Select the name of a persistence unit to view additional configuration information.

Specify Web application module Work Managers

To specify a Work Manager to manage work requests for a specific Web application module:

1. From the **WebLogic Domain** menu, select **Deployments**.

2. In the Deployments table, expand the name of the application that contains the module you want to configure.

3. Select the name of the Web application module you want to configure.

4. Select **Configuration**, then select **Workload**.

From the Workload page, you can view information about the Work Managers specified for this Web application module, such as:

- Name
- Type

For more information about these fields, see Configuration Options.

5. To create a new Work Manager for this Web application module, click **New**. See Create application-scoped Work Managers.

6. To delete an existing Work Manager from this Web application module, click **Delete**.

Web services

This section includes the following tasks:

- Monitor domain Web services
- Monitor JAX-RS applications
- Monitor Web service clients

Monitor domain Web services

To monitor all Web services deployed to this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Select **Web Services**.

   The Web Services table displays information about all of the Web services deployed to the current domain, such as:

   - Service Name
   - Application
   - Module
   - Active Server Count
   - Error Count

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

3. In the table, select the name of the Web service for which you want to view additional configuration information.

Monitor JAX-RS applications

To monitor all JAX-RS applications deployed to this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Select **JAX-RS Applications**.

   The JAX-RS Applications table displays information about all of the JAX-RS applications deployed to the current domain, such as:

   - JAX-RS Application Name
   - JAX-RS Application Context
   - Application Name
   - Source Information

- Error Count

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

3. In the table, select the name of the JAX-RS application for which you want to view additional configuration information.

Monitor Web service clients

To monitor all Web service clients in this domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. Select **Web Service Clients**.

The Web Service Clients table displays information about all of the Web service clients in the current domain, such as:

- Client
- Port
- Active Server Count
- Error Count
- Response Error Count

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

WebSocket applications

This section includes the following tasks:

- Monitor a WebSocket application
- Test WebSocket endpoints

Monitor a WebSocket application

To monitor a specific WebSocket application:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the WebSocket application you want to monitor.

   An overview page displays information related to the WebSocket application.

3. On the Domain Application Deployment home page, click the **Deployments** tile.

4. In the Deployments table, expand the WebSocket application and select the application deployed to the server instance you want to monitor.

5. From the **Application Deployment** menu, select **Monitoring**, then select **WebSocket Monitoring**.

6. You can view monitoring information about this WebSocket application, such as the server instance on which the WebSocket application is deployed and the number of endpoints.

   On the Session page, you can monitor session statistics associated with this WebSocket application, such as:

   • Name

   • Open Sessions

   • Maximum Open Sessions

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Expand All and Collapse All

   • Scroll to First and Scroll to Last

   • Reorder Columns: change the order of the columns displayed

7. To view additional monitoring information for this WebSocket application, select the appropriate pages:

   • **Error**: monitor error statistics associated with this WebSocket application.

     See Configuration Options.

   • **Message**: monitor message statistics associated with this WebSocket application, including message count, message size, and message count per second.

     See Configuration Options.

   • **Text Message**: monitor text message statistics associated with this WebSocket application, including message count, message size, and message count per second.

     See Configuration Options.

   • **Binary Message**: monitor binary message statistics associated with this WebSocket application, including message count, message size, and message count per second.

     See Configuration Options.

   • **Control Message**: monitor control message statistics associated with this WebSocket application, including message count, message size, and message count per second

     See Configuration Options.

   • **Endpoints**: monitor and test endpoints associated with this WebSocket application

     See Configuration Options.

Test WebSocket endpoints

To test endpoints for a specific WebSocket application:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **Deployments**.

2. In the Summary table, select the name of the WebSocket application you want to monitor.

   An overview page displays information related to the WebSocket application.

3. On the Domain Application Deployment home page, click the **Deployments** tile.

4. In the Deployments table, expand the WebSocket application and select the application deployed to the server instance you want to monitor.

5. From the **Application Deployment** menu, select **Monitoring**, then select **WebSocket Monitoring**.

6. Select **Endpoints**.

7. On the Endpoints page, in the **Test** column, click the Test icon.

8. On the Test WebSocket page, you can verify the URI endpoints for this WebSocket application. Enter information about the WebSocket endpoint host and port, proxy information, and the WebSocket protocol to use.

   See Configuration Options.

9. Click **Perform Test**.

11

WebLogic Server Messaging

This chapter describes the typical tasks you need to create, monitor, control and configure WebLogic Server messaging components.

The WebLogic Server implementation of JMS is an enterprise-class messaging system that is tightly integrated into WebLogic Server. It fully supports the JMS specification, and also provides numerous WebLogic Server JMS Extensions that go beyond the standard JMS APIs. For more information on WebLogic Server JMS and other related WebLogic Server messaging components, refer to the following guides:

- *Developing JMS Applications for Oracle WebLogic Server* for a guide to JMS API programming with WebLogic Server.

- *Administering JMS Resources for Oracle WebLogic Server* for information about configuring and managing JMS resources.

- *Administering the Store-and-Forward Service for Oracle WebLogic Server* for information about the benefits and usage of the Store-and-Forward service with WebLogic Server JMS.

- Using the WebLogic Persistent Store for information about the benefits and usage of the system-wide WebLogic Persistent Store with WebLogic Server JMS.

- *Configuring and Managing the WebLogic Messaging Bridge* for information about a forwarding mechanism that provides interoperability between WebLogic Server JMS implementations, as well as between WebLogic Server JMS and other messaging products.

This chapter includes the following sections:

- JMS servers
- Store-and-Forward agents
- JMS resources and modules
- Path services
- Messaging bridges
- JMS bridge destinations
- JMS smoke test

JMS servers

JMS servers act as management containers for JMS queue and topic resources within JMS modules that are specifically targeted to JMS servers. You can create, monitor, control, and configure JMS servers.

This section includes the following tasks:

- Create JMS servers
- Monitor JMS servers
- Monitor a JMS server

- Control JMS server messages
- Control active JMS destinations
- Control active JMS transactions
- Control active JMS connections
- Configure general JMS server properties
- Configure JMS server thresholds and quotas
- Create a new JMS session pool
- Configure JMS server session pools
- Create a new connection consumer
- Configure and monitor connection consumers
- Select JMS server targets
- Create JMS server notes

Create JMS servers

JMS servers are environment-related configuration entities that act as management containers for JMS queue and topic destinations in JMS modules that are targeted to them. Multiple JMS modules can be targeted to each JMS server in a domain.

To create a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

   The JMS Server summary table displays information about the state of each JMS server that has been configured in the current WebLogic Server domain.

2. Click **Create**.

   > ✎ **Note:**
   >
   > Once you create a JMS server, you cannot rename it. Instead, you must delete it and create another JMS server that uses the new name.

3. Define the configuration options for your JMS server on each page of the following sections.

4. Then, click **Create**.

- General Settings
- Targets
- Review

General Settings

On the **General Settings** page, define the following settings for this JMS server:

- In **Name**, enter a name for this JMS server.
- In **Scope**, select the scope in which you would like this new JMS server to be created.

- In **Persistent Store**, select a pre-configured custom file or JDBC store that will be used by the JMS server or click the **Create a Store** button to create a store on the fly.

  If you leave this field set to none, then the JMS server will use the default file store that is automatically configured on each targeted server instance. For more information about configuring stores, see Configure a file store.

  > **Note:**
  >
  > When a JMS server is targeted to:
  >
  > – A migratable target, it cannot use the default store, so a custom store must be configured and targeted to the same migratable target.
  >
  > – A dynamic cluster, a custom persistent store must target the same dynamic cluster or the default store available on each dynamic cluster member.

  For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, select the server instance, dynamic cluster, or migratable server target on which to deploy the JMS server.

See Configuration Options.

Review

On the **Review** page, review the configuration for this JMS server.

See Configuration Options.

Monitor JMS servers

You can monitor statistics for runtime information for active JMS servers in your domain. You can also access runtime information for a JMS server's destinations, transactions, connections, and server session pools.

To monitor JMS servers deployed to this domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

   The JMS Server summary table displays information about the state of each JMS server that has been configured in the current WebLogic Server domain, such as:

   - Name
   - Scope
   - Health
   - Health Reason
   - Persistent Store
   - Target

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

2. In the table, select the name of the JMS server for which you want to view configuration information.

Monitor a JMS server

You can monitor a variety of runtime statistics for each JMS server in your domain, such as the JMS server's paging store, active destinations, active transactions, active connections, and session pools. View the statistics for a JMS server to look for unusual activity, such as an abnormal number of messages waiting on a destination.

To monitor a specific JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the name of the server you want to monitor.

3. Select **Monitoring**, then select **Summary**.

   The JMS Server summary table displays runtime statistics for this JMS server, such as:

   - Name

   - Destinations Current

   - Messages Current

   - Messages Pending

   - Messages Received

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

   - Detach: detach the table (viewing option)

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

4. To view monitoring information for this JMS server, select the appropriate pages:

   - **Paging Store**: displays runtime statistics for the JMS server's paging store.

     See Configuration Options.

   - **Active Destinations**: displays statistics for all active JMS destinations targeted to the JMS server.

     See Configuration Options.

   - **Active Transactions**: displays all active JMS transactions running on the JMS server.

     See Configuration Options.

- **Active Connections**: displays all active JMS connections to the JMS server. A JMS connection represents an open communication channel between an application and the messaging system and is used to create a session for producing and consuming messages.

  See Configuration Options.

- **Active Session Pools**: displays all active JMS session pools running on the JMS server.

  See Configuration Options.

- **Active Pooled Connections**: displays all active pooled connections to the JMS server. A pooled JMS connection is a session pool used by EJBs and servlets that use a resource-ref element in their EJB or servlet deployment descriptor to define their JMS connection factories (also known as a *wrapped connection factory*). Use this page to monitor JMS connection and session objects, as well as message producer objects that are automatically created when declaring a wrapped JMS connection factory in your EJB or servlet.

  See Configuration Options.

- Monitor JMS connection session information

Monitor JMS connection session information

A session defines a serial order for both the messages produced and the messages consumed, and can create multiple message producers and message consumers. The same thread can be used for producing and consuming messages.

To monitor session information for a JMS connection:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the name of the server you want to monitor.

3. Select **Monitoring**, then select **Active Connections**.

4. In the Active Connections table, select the **Sessions Current Count** number for the connection you want to monitor.

5. From the Sessions page, you can view detailed information about the session's consumers and producers, such as:

    - Consumers

    - Consumers High

    - Consumers Total

    - Producers

    - Producers High

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    - Columns: add or remove the columns displayed in the table

    - Detach: detach the table (viewing option)

    - Sort: sort the columns in ascending or descending order

    - Reorder: change the order of the columns displayed

    - Query by Example

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Control JMS server messages

You can temporarily pause all runtime message production, insertion (in-flight messages), and consumption operations on all destinations targeted to a JMS server. These message pausing options let you assert administrative control of the JMS subsystem behavior in the event of an external resource failure.

For example, by temporarily pausing message production and insertion on destinations, you can effectively drain all the existing messages for troubleshooting purposes, and then resume production and insertions once the issue has been resolved.

To control messages on a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the name of the server you want to control.

3. Select **Control**, then select **Summary**.

4. In the Summary table, select the row of the JMS server on which you want to control messages.

   The control options are displayed above the table.

5. Select one of the following message control operations:

   • Click **Production**, then select **Pause** to stop production of new messages on all destinations targeted to this JMS server.

   When a JMS server's destinations are paused for production, it prevents any new message production operations from both new and existing producers attached to those destinations. To resume message production, click **Production**, then select **Resume**.

   • Click **Consumption**, then select **Pause** to stop message consumption on all destinations targeted to this JMS server.

   When a JMS server's destinations are paused for consumption, it prevents any further message consumption operations from those destinations. To resume the consumption of messages, click **Consumption**, then select **Resume**.

   • Click **Insertion**, then select **Pause** to stop the insertion of in-flight messages on all destinations targeted to this JMS server.

   When a JMS server's destinations are paused for insertion, all the messages that are the result of in-flight work completion are prevented from appearing on the destinations. This occurs in addition to pausing the new message production operations. To resume the insertion of in-flight messages, click **Insertion**, then select **Resume**.

See Configuration Options.

Control active JMS destinations

You can temporarily pause runtime message production, insertion (in-flight messages) and consumption operations on selected destinations targeted to a JMS server.

To control active destinations on a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the name of the JMS server you want to control.

3. Select **Control**, then select **Active Destinations**.

4. In the Active Destinations table, select the row of the destination you want to control.

    The control options are displayed above the table.

5. Select one of the following destination control operations:

    - Click **Production**, then select **Pause** to stop production of new messages on this destination.

        When a JMS server's destinations are paused for production, it prevents any new message production operations from both new and existing producers attached to those destinations. To resume message production, click **Production**, then select **Resume**.

    - Click **Consumption**, then select **Pause** to stop message consumption on this destination.

        When a JMS server's destinations are paused for consumption, it prevents any further message consumption operations from those destinations. To resume the consumption of messages, click **Consumption**, then select **Resume**.

    - Click **Insertion**, then select **Pause** to stop the insertion of in-flight messages on this destination.

        When a JMS server's destinations are paused for insertion, all the messages that are the result of in-flight work completion are prevented from appearing on the destinations. This occurs in addition to pausing the new message production operations. To resume the insertion of in-flight messages, click **Insertion**, then select **Resume**.

See Configuration Options.

Control active JMS transactions

You can force commits or rollbacks on selected transactions running on a JMS server.

To control active transactions on a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the name of the JMS server you want to control.

3. Select **Control**, then select **Active Transactions**.

4. In the Active Transactions table, select the row of the transaction you want to control.

    The control options are displayed above the table.

5. Select one of the following transaction control operations:

    - Click **Force Commit** to initiate a commit operation.

    - Click **Force Rollback** to initiate a rollback operation.

See Configuration Options.

Control active JMS connections

A JMS connection represents an open communication channel between an application and the messaging system and is used to create a session for producing and consuming messages. For troubleshooting purposes, you can destroy selected connections on a JMS server.

To destroy a JMS connection on a JMS sever:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the name of the JMS server you want to control.

3. Select **Control**, then select **Active Connections**.

4. In the Active Connections table, select the row of the connection you want to destroy.

   The Destroy option is displayed above the table.

5. Click **Destroy** to terminate the JMS connection.

See Configuration Options.

Configure general JMS server properties

After you create a JMS server, you can define optional general properties for message paging, specify a template to use when your applications create temporary destinations, and a desired pausing interval between active scans of destinations for expired messages.

To configure general settings for a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **General**.

   From the General page, you can define the general configuration settings for a JMS server, including:

   • Name

   • Scope

   • Persistent Store

   • Paging File Locking Enabled

   • Paging Directory

   • Message Buffer Size

   • Hosting Temporary Destinations

   • Module Containing Temporary Template

   • Temporary Template Name

   • Expiration Scan Interval

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced settings for this cluster.

4. Click **Save**.

Configure JMS server thresholds and quotas

After you create a JMS server, you can define the upper and lower byte and/or message thresholds for destinations in JMS modules that targeted to this JMS server. Exceeding these thresholds will trigger events such as generating log messages and starting message flow control. In the Quota section, you can specify a maximum size allowed for messages and the number of messages and/or bytes available to a JMS server. You can also select a blocking policy to determine whether the JMS server delivers smaller messages before larger ones when a destination has exceeded its maximum number of messages.

To configure thresholds and quotas for a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Thresholds and Quotas**.

   From the Thresholds and Quotas page, you can define threshold and quota settings for a JMS server, including:

   • Bytes Threshold High

   • Bytes Threshold Low

   • Messages Threshold High

   • Messages Threshold Low

   • Bytes Maximum

   • Messages Maximum

   • Blocking Send Policy

   • Maximum Message Size

   For more information about these fields, see Configuration Options .

4. Click **Save**.

Create a new JMS session pool

A JMS session pool enables an application to process messages concurrently. Once you have defined a JMS server, optionally, you can configure one or more session pools for each JMS server.

To create a new JMS session pool:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   The Session Pools table displays information about the session pools that have been created for a JMS server.

4. Click **Create**.

5. On the Create a New JMS Session Pool page, you can define settings for your new session pool, such as:

   • Name

   • Listener Class

   For more information about these fields, see Configuration Options.

6. Click **Create**.

Configure JMS server session pools

A JMS session pool enables an application to process messages concurrently. Once you have defined a JMS server, optionally, you can configure one or more session pools for each JMS server.

To view configuration information for the session pools that have been created for a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   The Session Pools table displays information about the session pools that have been created for a JMS server, including:

   - Name
   - Acknowledge Mode
   - Listener Class
   - Sessions Maximum
   - Transacted
   - Connection Factory

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

- Configure a JMS session pool
- Configure JMS session pool consumers
- Create session pool notes

Configure a JMS session pool

To configure a specific JMS session pool:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to configure.

4. Select **Configuration**.

   From the Configuration page, you can define configuration settings for the JMS session pool, such as:

   - Name
   - Connection Factory
   - Listener Class
   - Acknowledge Mode
   - Sessions Maximum

- Transacted

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure JMS session pool consumers

To view configuration information for the connection consumers associated with a specific JMS session pool:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to configure.

4. Select **Consumers**.

   From the Consumers page, you can view configuration information for the connection consumers associated with this JMS session pool, such as:

   - Name
   - Messages Maximum
   - Selector
   - Destination

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Create session pool notes

To create session pool notes:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to configure.

4. Select **Notes**.

5. On the Notes page, enter your notes.

6. Click **Save**.

   See Configuration Options.

Create a new connection consumer

Connection consumers are queues or topics that retrieve JMS server sessions and process messages. After you define a session pool, configure one or more connection consumers for each session pool.

To create a new consumer:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to configure.

4. Select **Consumers**, then click **Create**.

5. On the Create a Connection Consumer page, you can define settings for your new connection consumer, such as:

   - Name
   - Messages Maximum
   - Selector
   - Destination

   For more information about these fields, see Configuration Options.

6. Click **Create**.

Configure and monitor connection consumers

Connection consumers are queues or topics that retrieve JMS server sessions and process messages. After you define a session pool, configure one or more connection consumers for each session pool.

This section includes the following topics:

- Configure connection consumers
- Monitor connection consumers
- Create connection consumer notes

Configure connection consumers

To configure connection consumers:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to configure.

4. Select **Consumers**.

   In the Consumers table, select the consumer you want to configure.

5. Select **Configuration**.

From the Configuration page, you can define configuration settings for the JMS connection consumer, such as:

- Name
- Messages Maximum
- Selector
- Destination

For more information about these fields, see Configuration Options.

6. Click **Apply**.

Monitor connection consumers

To monitor connection consumers:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.
2. In the JMS Server table, select the JMS server you want to monitor.
3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to monitor.
4. Select **Consumers**.

   In the Consumers table, select the consumer you want to monitor.
5. Select **Monitoring**.

   From the Monitoring page, you can view information about connection consumers, such as:

   - Name
   - Messages Maximum
   - Selector
   - Destination
   - Active
   - Durable
   - Messages Pending
   - Messages Received
   - Bytes Pending
   - Bytes Received

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Create connection consumer notes

To configure connection consumers:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Configuration**, then select **Session Pools.**

   In the Session Pools table, select the session pool you want to configure.

4. Select **Consumers**.

   In the Consumers table, select the consumer you want to configure.

5. Select **Notes**.

6. On the Notes page, enter your notes.

   See Configuration Options.

7. Click **Save**.

Select JMS server targets

To select targets for a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Targets.**

   From the **Target** menu, select the server instance or migratable target on which you want to deploy this JMS server.

   See Configuration Options.

4. Click **Apply**.

Create JMS server notes

To create notes for a JMS server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Servers**.

2. In the JMS Server table, select the JMS server you want to configure.

3. Select **Notes.**

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Apply**.

Store-and-Forward agents

The Store-and-Forward (SAF) service enables WebLogic Server to deliver messages reliably between applications that are distributed across WebLogic Server instances. If the destination is not available at the moment the messages are sent, either because of network problems or system failures, then the messages are saved on a local server instance and are forwarded to the remote destination once it becomes available.

SAF agents are responsible for store-and-forwarding messages between local sending and remote receiving endpoints. A SAF agent can be configured to have only sending capabilities, receiving capabilities, or both. WebLogic Server SAF only requires a sending agent on the sending side for JMS messages. Whereas, Web Services Reliable Messaging (WSRM) SAF requires both a sending agent and a receiving agent.

This section includes the following tasks:

- Create Store-and-Forward agents
- Monitor SAF agents
- Monitor a SAF agent
- Control SAF agents
- Control SAF remote endpoints
- Control SAF conversations
- Configure SAF agent general settings
- Configure SAF agent thresholds and quotas
- Select SAF agent targets
- Create SAF agent notes

Create Store-and-Forward agents

The Store-and-Forward (SAF) service uses SAF agents to deliver messages reliably between applications that are distributed across WebLogic Server instances. A SAF agent can be configured to have only sending capabilities, receiving capabilities, or both. JMS SAF only requires a sending agent on the sending side for JMS messages. Whereas, WSRM SAF requires both a sending agent and a receiving agent.

To create a Store-and-Forward agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

   The SAF summary table displays information about the state of each SAF agent that has been configured in the current WebLogic Server domain.

2. Click **Create**.

   > **Note:**
   >
   > Once you create a SAF agent, you cannot rename it. Instead, you must delete it and create another SAF agent that uses the new name.

3. Define the configuration options for your SAF agent on each page of the following sections.

4. Then, click **Create**.

- General Settings
- Targets
- Review

General Settings

On the **General Settings** page, define the following settings for this SAF agent:

- In **Name**, enter a name for this SAF agent.

- In **Scope**, select the scope in which you would like this new SAF agent to be created.

- In **Persistent Store**, select a custom persistent store if you want a dedicated store for SAF messages or click **Create a New Store** to configure a new custom store.

  If you leave this field set to none, then the SAF agent will use the default file store that is automatically configured on each targeted server instance. For more information about configuring stores, see Configure a file store.

  > **Note:**
  >
  > When a SAF agent is targeted to a migratable target, it cannot use the default store. Therefore, a custom store must be configured and targeted to the same migratable target.

- In **Agent Type**, select one of the following:

  - **Sending-only**: Configures an agent that stores messages in persistent storage, forwards messages to the receiving side, and re-transmits messages when acknowledgements do not come back in time.

  - **Receiving-only**: Configures an agent that detects and eliminates duplicate messages sent by a receiving agent, and delivers messages to the final destination.

  - **Both**: Configures an agent that has sending and receiving agent functionality.

  > **Note:**
  >
  > JMS SAF users should select **Sending-only** since JMS SAF doesn't require a configured receiving agent.

For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, select the server instance, cluster, or migratable target where you want to deploy the SAF agent.

A migratable target is a logical target that serves as a grouping of services, such as a SAF agent, and which is active on only server member in a cluster. High availability is achieved by migrating a migratable target from one server member to another when a problem occurs on the original server.

See Configuration Options.

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> **Note:**
>
> Oracle recommends targeting the SAF agent to a migratable target, so that a member server will not be a single point of failure. However, if a SAF agent is targeted to a migratable target, it cannot be targeted to any other server targets, including an entire cluster.

Review

On the **Review** page, review the configuration for this SAF agent.

See Configuration Options.

Monitor SAF agents

To monitor all SAF agents created for this domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

   The SAF summary table displays information about the state of each SAF agent that has been configured in the current WebLogic Server domain, such as:

   • Name

   • Agent Type

   • Persistent Store

   • Scope

   • Server

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

2. In the table, select the name of the SAF agent for which you want to view configuration information.

Monitor a SAF agent

You can monitor a variety of runtime statistics for each SAF agent in your domain, including remote endpoints and conversations.

To view the current statistics for a specific SAF agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the name of the SAF agent you want to monitor.

The Settings for Store-and-Forward Agent page displays monitoring information related to this SAF agent.

3. Select **Monitoring**.

4. To monitor the following SAF agent information, select the appropriate pages:

   • **Statistics**: displays runtime statistics for this SAF agent.

      See Configuration Options.

   • **Remote Endpoints**: displays monitoring information for the remote endpoints associated with this SAF agent. You can view a table of active messages for a remote endpoint by selecting a remote endpoint. To view the contents of a message, select the message.

      See Configuration Options.

   • **Conversations**: displays monitoring information for the conversations associated with this SAF agent.

      See Configuration Options.

Control SAF agents

You can temporarily pause runtime message activity on SAF agents.

To control message operations on a SAF agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the name of the SAF agent you want to control.

3. Select **Monitoring**, then select **Statistics**.

4. In the Statistics table, select the row of the SAF agent on which you want to control messages.

   The control options are displayed above the table.

5. Select one of the following message control operations:

   • Click **Incoming**, then select **Pause** or **Resume** to control the flow of incoming messages to the SAF agent.

   • Click **Forwarding**, then select **Pause** or **Resume** to control the forwarding of messages to the SAF agent.

   • Click **Receiving,** then select **Pause** or **Resume** to control the receiving of messages to the SAF agent.

See Configuration Options.

Control SAF remote endpoints

You can control message operations for active remote endpoints associated with a SAF agent.

To control remote endpoints for a SAF agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the name of the SAF agent you want to control.

3. Select **Monitoring**, then select **Remote Endpoints**.

4. In the Remote Endpoints table, select the row of the remote endpoint you want to control.

   The control options are displayed above the table.

5. Select one of the following remote endpoint control operations:

   • Click **Incoming**, then select **Pause** or **Resume** to control the flow of incoming messages. The table reflects the remote endpoint's new `paused` or `non-paused` state.

   • Click **Forwarding,** then select **Pause** or **Resume** to control the forwarding of messages to the SAF agent. The table reflects the remote endpoint's new `paused` or `non-paused` state.

   • Click **Expire All** to process all pending messages for a remote destination, according to the policy specified by the associated error handling configuration, and then remove them from the remote endpoint.

   • Click **Purge All** to destroy all conversations and purge all messages on a remote endpoint.

   See Configuration Options.

Control SAF conversations

You can terminate active conversations associated with a SAF agent.

To destroy SAF conversations:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the name of the SAF agent you want to control.

3. Select **Monitoring**, then select **Conversations**.

4. In the Conversations table, select the row of the conversation you want to destroy.

   The Destroy option is displayed above the table.

5. Click **Destroy** to terminate the SAF conversation.

See Configuration Options.

Configure SAF agent general settings

To configure general settings for a SAF sending or receiving agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the SAF agent you want to configure.

3. Select **Configuration**, then select **General**.

   From the General page, you can view and define basic and advanced properties for this SAF agent, such as:

   • Name

   • Scope

   • Persistent Store

   • Agent Type

   • Conversation Idle Time Maximum

- Sending Agent Attributes
- Receiving Agent Attributes

For more information about these fields, see Configuration Options.

4. Click **Apply**.

Configure SAF agent thresholds and quotas

To configure thresholds and quotas for a SAF agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the SAF agent you want to configure.

3. Select **Configuration**, then select **Thresholds and Quotas**.

   From the Thresholds and Quotas page, you can define message threshold and quota settings for this SAF agent, such as:

   - Bytes Threshold High
   - Bytes Threshold Low
   - Messages Threshold High
   - Messages Threshold Low
   - Bytes Maximum
   - Messages Maximum
   - Maximum Message Size

   For more information about these fields, see Configuration Options.

4. Click **Apply**.

Select SAF agent targets

To select targets for a SAF agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the SAF agent you want to configure.

3. Select **Targets.**

   From the **Target** menu, select the server instance, cluster, or migratable target on which you want to deploy this SAF agent

   See Configuration Options.

4. Click **Apply**.

Create SAF agent notes

To create notes for a SAF agent:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Store-and-Forward Agents**.

2. In the SAF table, select the SAF agent you want to configure.

3. Select **Notes.**

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Apply**.

JMS resources and modules

JMS system resources are configured and stored as modules similar to standard Java EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS Store-and-Forward (SAF) parameters.

System modules are globally available for targeting to server instances and clusters configured in the domain, and therefore are available to all applications deployed on the same targets and to client applications.

> **✎ Note:**
>
> JMS configuration resources can also be managed as deployable application modules, either with a Java EE application as a packaged module, which is available only to the enclosing application, or as a standalone module that provides global access to the resources defined in that module. For more information about configuring JMS application modules, see Configuring JMS Application Modules for Deployment in *Administering JMS Resources for Oracle WebLogic Server*.

This section includes the following tasks:

- Create JMS resources
- Monitor JMS resources
- Monitor, control, and configure queues
- Monitor and configure uniform distributed queues
- Monitor, control, and configure topics
- Monitor and configure uniform distributed topics
- Configure connection factories
- Configure destination keys
- Configure quotas for destinations
- Configure JMS templates
- Configure remote SAF contexts
- Configure SAF error handling resources
- Configure SAF imported destinations
- Configure SAF queues and SAF topics
- Configure foreign servers
- Create JMS modules
- Monitor JMS modules

-

Create JMS resources

JMS system resources are configured and stored as modules similar to standard Java EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS Store-and-Forward (SAF) parameters.

To create a JMS system resource:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources that are defined as part of all JMS system modules configured in the current domain.

3. Click **Create**.

   > ✎ **Note:**
   >
   > Once you create a JMS resource, you cannot rename it. Instead, you must delete it and create another JMS resource that uses the new name.

4. Define the configuration options for your JMS resource on each page of the following sections.

5. Then, click **Create**.

   The new JMS resource is added to the JMS Resources table.

- Resource Type
- JMS System Module
- Properties
- Targets
- Review

Resource Type

On the **Resource Type** page, choose the type of JMS resource that you would like to create. You can choose to create the following JMS resource types:

- **Connection Factory**: defines a set of connection configuration settings that enable JMS clients to create JMS connections.

- **Destination Key**: defines a sort order for messages as they arrive on destinations.

- **Quota**: controls the allotment of system resources available to destinations.

- **JMS Template**: provides an efficient means of defining multiple queues and topics with similar configuration settings.

- **JMS Queue**: defines a point-to-point (PTP) destination, which enables one application to send a message to another.

- **Uniform Distributed Queue**: represents a single unit of JMS queues that is accessible as a single, logical queue to a client.

- **JMS Topic**: defines a publish/subscribe (pub/sub) destination, which enables an application to send a message to multiple applications.

- **Uniform Distributed Topic**: represents a single unit of JMS topics that is accessible as a single, logical topic to a client.

- **Remote SAF Context**: specifies the SAF login context that the SAF imported queue or topic uses to connect to a remote destination.

- **SAF Error Handler**: specifies the action to be taken when the SAF service fails to forward messages to a remote destination.

- **SAF Imported Destinations**: represents a collection of SAF queues and topics that locally represent JMS queues or topics on a remote server instance or cluster.

- **Foreign Server**: represents a third-party JMS provider that is outside WebLogic Server.

See Configuration Options.

JMS System Module

On the **JMS System Module** page, select a JMS system module for this JMS resource:

- In **JMS Module**, click the icon to select the JMS system module in which you would like to create this JMS resource from the JMS module table.

  If the table is empty or does not contain the JMS module you need, then click **Create a New JMS Module** to create a JMS module, and then select the JMS module from the table.

- The **Scope** field identifies the scope of the selected JMS module.

For more information about these fields, see Configuration Options.

Properties

On the **Properties** page, define the settings for your JMS system resource. Properties depend on the JMS system resource type:

- Connection Factory
- Destination Key
- Quota
- JMS Template
- JMS Queue
- Uniform Distributed Queue
- JMS Topic
- Uniform Distributed Topic
- Remote SAF Context
- SAF Error Handling
- SAF Import Destination
- Foreign Server

Connection Factory

On the **Properties** page, define the settings for your connection factory:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the connection factory.

  Once you create a connection factory, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **JNDI Name**, enter a name for accessing the connection factory within the JNDI name space. Applications use the JNDI Name to look up the connection factory.

  If you do not specify a JNDI name for the connection factory, then it will not be available for JNDI lookup even after the connection factory has been targeted to a server resource. Therefore, you will only be able to access the connection factory in an application-scoped context.

- In **Notes**, enter notes about the configuration for this connection factory.

- In **Client ID Policy**, select **Restricted** if only one connection that uses this policy can exist in a cluster at any given time for a particular Client ID. Select **Unrestricted** if connections created using this policy can specify any Client ID, even when other restricted or unrestricted connections already use the same Client ID.

- In **Subscription Sharing Policy**, select **Exclusive** if all subscribers created using this connection factory cannot share subscriptions with any other subscribers. Select **Sharable** if subscribers created using this connection factory can share their subscriptions with other subscribers, regardless of whether those subscribers are created using the same connection factory or a different connection factory.

  Consumers can share a non-durable subscriptions only if they have the same Client ID and Client ID Policy; consumers can share a durable subscription only if they have the same Client ID, Client ID Policy, and Subscription Name.

- In **Prefetch Mode for Synchronous Consumer**, specifies whether a synchronous consumer will prefetch messages sent from the server to the client in one server access.

- In **Maximum Messages per Session**, specify the maximum number of messages that can exist for an asynchronous session and that have not yet been passed to the message listener. When the Synchronous Prefetch Mode is enabled, this value also affects synchronous sessions with a message consumer that will prefetch messages in one server access.

- Under **Distributed Destination Load Balancing**, select the appropriate checkboxes if you want to enable load balancing and server affinity.

- Under **Transaction**, in **Enable XA connection factory**, select whether an XA queue or XA topic connection factory is used, instead of a standard queue or topic connection factory.

  An XA factory is required for JMS applications to use JTA user-transactions, but is not required for transacted sessions.

- In **Transacted session transaction timeout**, specify the timeout value (in seconds) for all transactions on connections created with this connection factory.

For more information about these fields, see Configuration Options.

Destination Key

On the **Properties** page, define the settings for your destination key:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for this destination key.

- In **Notes**, enter notes about the configuration of this destination key.

- In **Sort Key**, select a message sort key from the menu or enter the name of a message header field on which to sort.

- In **Key Type**, select the expected property type for the sort key. (This setting is ignored for message header field keys, which have an implied type.)

- In **Direction**, select the direction in which the key will sort messages (ascending or descending).

For more information about these fields, see Configuration Options.

Quota

On the **Properties** page, define the settings for your quota:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for this quota.

- In **Notes**, enter notes about the configuration for this quota

- In **Policy**, select the delivery policy to determine whether to allow smaller message send requests to be satisfied before larger ones when a destination has exceeded its message quota.

  The default **FIFO** (first in, first out) policy blocks subsequent newer sender requests until there is enough space for the first request in line, or denies the newer requests with a quota exception if the newer requests time out.

  The **Preemptive** policy allows newer smaller send requests to preempt previous larger requests when there is sufficient space for smaller messages on the destination, but not sufficient space for the older larger requests.

- Select **Shared by multiple destinations** to specify whether this quota is shared by destinations that refer to it.

- In **Total number of bytes that can be stored in a destination**, enter the total number of bytes that can be stored in a destination that uses this quota.

- In **Number of messages that can be stored in a destination**, enter the total number of messages that can be stored in a destination that uses this quota.

For more information about these fields, see Configuration Options.

JMS Template

On the **Properties** page, define the settings for your JMS template:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for this JMS template.

- In **Notes**, enter notes about the configuration for this JMS template.

For more information about these fields, see Configuration Options.

JMS Queue

On the **Properties** page, define the settings for your JMS queue:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the queue.

    Once you create a queue, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this JMS queue.

- In **JNDI Name**, enter a name for accessing the queue within the JNDI name space. Applications use the JNDI Name to look up the queue.

    If you do not specify a JNDI name for the queue, then it will not be available for JNDI lookup even after it has been targeted to a JMS server. Therefore, you will only be able to access the queue using the `javax.jms.queueSession.createqueue()` API or in an application-scoped context.

- If you are using a configured JMS template to define the queue's settings, in **Template**, select the template for the queue.

For more information about these fields, see Configuration Options.

Uniform Distributed Queue

On the **Properties** page, define the settings for your uniform distributed queue:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the uniform distributed queue.

    Once you create a uniform distributed queue, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this uniform distributed queue.

- In **JNDI Name**, enter the JNDI name used to look up the uniform distributed queue within the JNDI namespace. Applications use the JNDI Name to look up the distributed queue.

    If you do not specify a JNDI name for the distributed queue, then it will not be available for JNDI lookup even after it has been targeted to a server resource. Therefore, you will only be able to access the distributed queue using the `javax.jms.queueSession.createqueue()` API or in an application-scoped context.

- Optionally, in **Template**, specify the template to use when creating this uniform distributed queue. Templates provide an efficient means of defining multiple destinations with similar configuration values.

- Under **Distributed Configuration**, in **Load Balancing Policy**, specify a policy (Round Robin or Random) for how messages are distributed to the members of this distributed queue.

- In **Unit-of-Ordering Routing**, specify how the distributed queue members are selected as the destination for a message. If set to **Hash**, then the producer computes the queue member. If set to **Path Service**, then the configured Path Service determines the queue member.

- In **Set Forward Delay**, select **Forward delay** to specify the amount of time, in seconds, that a queue member with messages, but with no consumers, will wait before forwarding

its messages to other queue members that do have consumers, or select **No messages are forwarded**.

For more information about these fields, see Configuration Options.

JMS Topic

On the **Properties** page, define the settings for your JMS topic:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the topic.

  Once you create a topic, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this JMS topic.

- In **JNDI Name**, enter a name for accessing the topic within the JNDI name space. Applications use the JNDI Name to look up the topic.

  If you do not specify a JNDI name for the topic, then it will not be available for JNDI lookup even after it has been targeted to a JMS server. Therefore, you will only be able to access the topic using the `javax.jms.topicSession.createtopic()` API or in an application-scoped context.

- If you are using a configured JMS template to define the topic's settings, in **Template**, select the template for the topic.

For more information about these fields, see Configuration Options.

Uniform Distributed Topic

On the **Properties** page, define the settings for your uniform distributed topic:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the uniform distributed topic.

  Once you create a uniform distributed topic, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this uniform distributed topic.

- In **JNDI Name**, enter the JNDI name used to look up the uniform distributed topic within the JNDI namespace. Applications use the JNDI Name to look up the distributed topic.

  If you do not specify a JNDI name for the distributed topic, then it will not be available for JNDI lookup even after it has been targeted to a server resource. Therefore, you will only be able to access the distributed topic using the `javax.jms.topicSession.createtopic()` API or in an application-scoped context.

- Optionally, in **Template**, select a template to define configuration values.

- Under **Distributed Configuration**, in **Forwarding Policy**, specify **Replicated** to allow a member to replicate (forward) information to other members of the distributed topic.

- In **Load Balancing Policy**, specify how messages are distributed to the members of this destination.

- In **Unit-of-Order Routing**, specify how the distributed topic members are selected as the destination for a message. If set to `Hash`, then the producer computes the topic member. If set to **Path Service**, then the configured Path Service determines the topic member.

For more information about these fields, see Configuration Options.

Remote SAF Context

On the **Properties** page, define the settings for your remote SAF context:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter the name for the remote SAF context.

- In **Notes**, enter notes about the configuration for this remote SAF context.

- In **Compression Threshold**, specify the number of bytes for a serialized message body so that any message that exceeds this limit triggers message compression.

- In **Reply to Remote SAF Context**, specify the name of the remote SAF context used by the replyTo destination in the remote cluster or server.

- Select **Specify the Login Context** to specify a URL, user name and password when using this remote SAF context.

- In **URL**, specify the URL that the imported queue or topic uses to connect to the remote destination.

- In **User Name**, specify the user name that the imported queue or topic gives to the remote destination.

- In **Password**, enter the password that the imported queue or topic gives to the remote destination.

- In **Confirm Password**, confirm the specified password.

For more information about these fields, see Configuration Options.

SAF Error Handling

On the **Properties** page, define the settings for your SAF error handling resource:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the SAF error handling resource.

  Once you create a SAF error handling resource, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this SAF error handling resource.

- In **SAF Error Handling Policy**, select the policy type for this SAF error handling resource:

  - **Discard**:

  - **Log**: specify the log format or add a new log format for this SAF error handling resource.

  - **Redirect**: select an error destination for this SAF error handling resource.

  - **Always-forward**:

For more information about these fields, see Configuration Options.

SAF Import Destination

On the **Properties** page, define the settings for your SAF import destination:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the SAF imported destinations resource.

  Once you create a SAF imported destination, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this SAF import destination.

- In **JNDI Prefix**, specify a prefix that is appended to the remote destination JNDI name.

  If you do not specify a JNDI name for the SAF imported destination, then it will not be available for JNDI lookup even after the SAF imported destination has been targeted to a server resource. Therefore, you will only be able to access the SAF imported destination in an application-scoped context.

- In **Remote SAF Context**, select a remote context instance. If necessary, create a new remote SAF context and then select it from the menu.

- In **SAF Error Handling**, select an error handling instance. If necessary, create a new SAF error handling resource and then select it from the menu.

- In **Message Unit-of-Order Routing**,

- In **SAF Default Time-to-Live**, specify a default Time-to-Live value, in milliseconds, for JMS messages. The expiration time set on JMS messages will override this value unless the **Enable SAF Default Time-to-Live** checkbox is selected.

- Select **Enable SAF Default Time-to-Live** to override the expiration time set on JMS messages with the value specified this field.

For more information about these fields, see Configuration Options.

Foreign Server

On the **Properties** page, define the settings for your foreign server:

- **Resource Type** identifies the JMS resource type.

- In **Name**, enter a name for the foreign server.

  Once you create a foreign server, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

- In **Notes**, enter notes about the configuration for this foreign server.

- In **JNDI Initial Context Factory**, enter the name of the class that must be instantiated to access the JNDI provider. This class name depends on the provider and vendor that are being used.

- In **JNDI Connection URL**, enter the URL that WebLogic Server uses to contact the JNDI provider. The syntax of this URL depends on which JNDI provider is being used. For WebLogic JMS, leave this field blank if you are referencing WebLogic JMS objects within the same cluster.

- In **JNDI Properties Credential**, specify any credentials that must be set for the JNDI provider. These Credentials will be part of the properties that will be passed directly to the constructor for the JNDI provider's `InitialContext` class. When connecting to a remote domain, you must specify the secure password for the domain (e.g., `remote_domain_password`) along with the domain username in the **JNDI Properties** field.

- In **Confirm JNDI Properties Credential**, re-enter any credentials that must be set for the JNDI provider.

- In **JNDI Properties**, specify any additional properties that must be set for the JNDI provider.

  These properties will be passed directly to the constructor for the JNDI provider's `InitialContext` class. When connecting to a remote domain, you must specify the secure username for the domain using the following format:
  `java.naming.security.principal=remote_domain_username`

  > **✎ Note:**
  >
  > The JNDI Properties values may be a `name=value` list of properties, separated by commas.

  For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, specify the targeting policy for this JMS resource:

- Select **Default to the parent module's target** to use the default targeting.
- Select **Subdeployment targeting** to choose an existing subdeployment or to create a new one.
  - To select an existing subdeployment for the connection factory, select one from the **Subdeployment Name** menu. When a valid subdeployment is selected, its targeted JMS server(s), server(s), or cluster appear as selected in the Targets box. (A subdeployment with stand-alone destinations can only be targeted to a single JMS server.)
  - To create a new subdeployment for the connection factory, click the **Create a New Subdeployment** button. See ADD CREATE SUBDEPLOYMENT TAKSK HERE.

For more information about these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for this JMS resource.

See Configuration Options.

Monitor JMS resources

You can view all the resources from all the JMS system modules created in the current WebLogic Server domain. You can also view monitoring information, including the resource's system module, JNDI name, targeted subdeployment resources, and the JMS server, WebLogic server, instance or cluster on which the resource is targeted.

For certain resources, you can monitor detailed statistical information or perform control operations.

To monitor all JMS system resources in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.
2. Select **JMS Resources**.

The JMS Resources table lists all the resources that are defined as part of all JMS system modules configured in the current domain:

- **Connection Factory**: defines a set of connection configuration settings that enable JMS clients to create JMS connections.

- **Destination Key**: defines a sort order for messages as they arrive on destinations.

- **Foreign Server**: represents a third-party JMS provider that is outside WebLogic Server.

- **Queue**: defines a point-to-point (PTP) destination, which enables one application to send a message to another. See Monitor queues.

- **Quota**: controls the allotment of system resources available to destinations.

- **SAF Error Handler**: specifies the action to be taken when the SAF service fails to forward messages to a remote destination.

- **SAF Imported Destinations**: represents a collection of SAF queues and topics that locally represent JMS queues or topics on a remote server instance or cluster. See Monitor SAF queues and Monitor SAF topics .

- **SAF Remote Context**: specifies the SAF login context that the SAF imported queue or topic uses to connect to a remote destination.

- **Template**: provides an efficient means of defining multiple queues and topics with similar configuration settings.

- **Topic**: defines a publish/subscribe (pub/sub) destination, which enables an application to send a message to multiple applications. See Monitor topics.

- **Uniform Distributed Queue**: represents a single unit of JMS queues that is accessible as a single, logical queue to a client. See Monitor uniform distributed queues.

- **Uniform Distributed Topic**: represents a single unit of JMS topics that is accessible as a single, logical topic to a client. See Monitor uniform distributed topics.

From the JMS Resources table, you can monitor information about each JMS system module resource, such as:

- Name

- Type

- JMS Module Name

- JNDI Name

- Subdeployment

- Scope

- Targets

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

3. In the table, select the name of the JMS system resource for which you want to view additional monitoring information.

Monitor, control, and configure queues

A JMS queue is based on the point-to-point (PTP) messaging model, which enables one application to send a message to another. PTP messaging applications send and receive messages using named queues. A queue sender (producer) sends a message to a specific queue. A queue receiver (consumer) receives messages from a specific queue.

You configure queues explicitly or by configuring a JMS template that can be used to define multiple queues with similar option settings, as described in Configure JMS templates.

> **Note:**
>
> To help manage recovered or rolled back messages, you can also configure a target error destination for messages that have reached their redelivery limit. However, the error destination must be targeted to same JMS server as the other queues in a module.

Some queue options are dynamically configurable. When options are modified at runtime, only incoming messages are affected; stored messages are not affected.

This section includes the following tasks:

- Monitor queues
- Control messages on queues
- Configure general queue settings
- Configure advanced queue settings
- Configure queue message delivery failure options
- Configure queue message delivery overrides
- Configure queue message logging
- Configure queue thresholds and quotas
- Create queue notes

Monitor queues

To monitor runtime statistics on queues in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to monitor.

4. Select **Monitoring**.

   The Monitoring page displays runtime statistics for the queue, including:

- Name

- Messages Current

- Messages Pending

- Messages Total

- Consumers Current

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Control messages on queues

To control messages on queues in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue for which you want to control messages.

4. Select **Control**.

5. In the Control table, select the row of the queue you want to control.

   The control options are displayed above the table.

6. Select one of the following message control operations:

   - Click **Production**, then select **Pause** to stop production of new messages on the selected queue.

     When a queue is paused for production, it prevents new message production operations from both new and existing producers attached to that queue. To resume message production, click **Production**, then select **Resume**.

   - Click **Consumption**, then select **Pause** to stop message consumption on the selected queue.

     When a queue is paused for consumption, it prevents further message consumption operations from that queue. To resume the consumption of messages, click **Consumption**, then select **Resume**.

   - Click **Insertion**, then select **Pause** to stop the insertion of in-flight messages on the selected queue.

     When a queue is paused for insertion, all the messages that are the result of in-flight work completion are prevented from appearing on the queue. This occurs in addition to pausing new message production operations. To resume the insertion of in-flight messages, click **Insertion**, then select **Resume**.

See Configuration Options.

Configure general queue settings

After you create a queue, you can define general property values, such as selecting a destination key for sorting messages as they arrive on the queue, or a selecting JMS template if you are using one to configure properties for multiple queues.

To define general configuration settings for a queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure general settings for this queue, such as:

   - Name
   - Scope
   - JNDI Name
   - Template
   - Targeting policy
   - Subdeployment

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure advanced queue settings

After you create a queue, you can define advanced property values, such as specifying unit-of-order parameters, attaching the credentials of message senders, or defining unit-of-work parameters.

To define advanced configuration settings for a queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to configure.

4. Select **Configuration**, then select **Advanced Configuration**.

   From the Advanced Configuration page, you can configure additional settings for this queue, such as:

   - Pause Message Production at Startup
   - Pause Message Consumption at Startup

- Pause Message Insertion at Startup

- Auto-generate Unit-of-Order Name

- Attach Sender Credential

- Local JNDI Name

- Create Destination Identifier

- SAF Export Policy

- Messaging Performance Preference

- Unit-of-Work (UOW) Message Handling Policy

- Expiration Time for Incomplete UOW Messages

- Destination Keys

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure queue message delivery failure options

After you create a queue, you can change the default message delivery failure values, like defining a message redelivery limit, selecting a message expiration policy, and specifying an error destination for expired or undeliverable messages.

To define general configuration settings for a queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to configure.

4. Select **Configuration**, then select **Delivery Failure**.

   From the Delivery Failure page, you can configure message delivery settings for this queue, such as:

   - Expiration Policy

   - All Headers

   - Headers

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure queue message delivery overrides

After you create a queue, you can define message delivery override values that can override those specified by a message producer.

To configure message delivery overrides for a queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to configure.

4. Select **Configuration**, then select **Delivery Overrides**.

   From the Delivery Overrides page, you can define override settings for this queue, such as:

   - Delivery Mode Override
   - Time-to-Deliver Override
   - Priority Override
   - Time-to-Live Override

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure queue message logging

After you create a queue, you can enable the logging of message life cycle information into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure life cycle logging for messages on this queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to configure.

4. Select **Configuration**, then select **Logging**.

   From the Logging page, you can configure message life cycle logging options for this queue, such as:

   - Enable Message Logging
   - All Headers
   - Headers
   - All Properties
   - Properties
   - User-defined Properties
   - All Body

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure queue thresholds and quotas

After you create a queue, you can change the default upper and lower byte and/or message thresholds for the queue. Exceeding these thresholds will trigger events, such as generating log messages and starting message flow control. You can also specify a maximum size allowed for messages on the queue, and select a pre-configured quota, which determines the maximum number of bytes or messages that the queue is allowed to store to conserve memory use.

If a JMS template is specified for this queue, then the default values imply that the actual value will come from the template, see Configure JMS template thresholds and quotas. A JMS server can also manage thresholds and certain quota settings for all destinations in a JMS module targeted to that JMS server, see Configure JMS server thresholds and quotas.

To configure thresholds and quotas for a queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue you want to configure.

4. Select **Configuration**, then select **Thresholds and Quotas**.

   From the Thresholds and Quotas page, you can define message threshold and quota settings for this queue, such as:

   • Bytes Threshold High

   • Bytes Threshold Low

   • Messages Threshold High

   • Messages Threshold Low

   • Quota

   • Maximum Message Size

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create queue notes

To create notes about a queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the queue for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

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See Configuration Options.

6. Click **Save**.

Monitor and configure uniform distributed queues

A distributed queue is a single unit of JMS queues that are accessible as a single, logical queue to a client (for example, a distributed queue has its own JNDI name). The members of the unit are usually distributed across multiple servers within a cluster, with each queue member belonging to a separate JMS server.

By configuring uniform distributed queues, WebLogic Server uniformly creates the necessary members on the JMS servers to which a JMS module is targeted. This ensures the consistent configuration of all distributed destination parameters, particularly in regards to weighting, security, persistence, paging, and quotas across a cluster.

This section includes the following tasks:

- Monitor uniform distributed queues
- Configure general uniform distributed queue settings
- Configure advanced uniform distributed queue settings
- Configure uniform distributed queue message delivery failure options
- Configure uniform distributed queue message delivery overrides
- Configure uniform distributed queue message logging
- Configure uniform distributed queue thresholds and quotas
- Create uniform distributed queue notes

Monitor uniform distributed queues

To monitor statistics for all of the members of a uniform distributed queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to monitor.

4. Select **Monitoring**.

   The Monitoring page displays runtime statistics for the uniform distributed queue, such as:

   - Name
   - Consumers Current
   - Consumers High
   - Consumers Total

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure general uniform distributed queue settings

After you create a uniform distributed queue, you can modify and define general property values, such as selecting a destination key for sorting messages as they arrive on the members of the distributed queue.

To define general configuration settings for a uniform distributed queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure general settings for this uniform distributed queue, such as:

   - Name
   - Scope
   - JNDI Name
   - Template
   - Load Balancing Policy
   - Unit-of-Ordering Routing
   - Set the Forward Delay
   - Reset Delivery Count On Forward
   - Targeting policy
   - Subdeployment

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure advanced uniform distributed queue settings

After you create a distributed queue, you can define advanced property values, such as specifying unit-of-order parameters and attaching the credentials of message senders.

To define advanced configuration settings for a uniform distributed queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to configure.

4. Select **Configuration**, then select **Advanced Configuration**.

   From the Advanced Configuration page, you can configure additional settings for this uniform distributed queue, such as:

   - Pause Message Production at Startup

   - Pause Message Consumption at Startup

   - Pause Message Insertion at Startup

   - Auto-generate Unit-of-Order Name

   - Attach Sender Credential

   - Local JNDI Name

   - Create Destination Identifier

   - SAF Export Policy

   - Messaging Performance Preference

   - Unit-of-Work (UOW) Message Handling Policy

   - Expiration Time for Incomplete UOW Messages

   - Destination Keys

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed queue message delivery failure options

After you create a uniform distributed queue, you can change the default message delivery failure values, like defining a message redelivery limit, selecting a message expiration policy, and specifying an error destination for expired or undeliverable messages.

To define general configuration settings for a uniform distributed queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to configure.

4. Select **Configuration**, then select **Delivery Failure**.

   From the Delivery Failure page, you can configure message delivery settings for this uniform distributed queue, such as:

   - Expiration Policy

   - All Headers

   - Headers

- All Properties

- Properties

- All Body

- Error Destination

- Redelivery Limit

- Redelivery Delay Override

- Expiration Logging Format

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed queue message delivery overrides

After you create a uniform distributed queue, you can define message delivery override values that can override those specified by a message producer.

To configure message delivery overrides for a uniform distributed queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to configure.

4. Select **Configuration**, then select **Delivery Overrides**.

   From the Delivery Overrides page, you can define override settings for this uniform distributed queue, such as:

   - Delivery Mode Override

   - Time-to-Deliver Override

   - Priority Override

   - Time-to-Live Override

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed queue message logging

After you create a uniform distributed queue, you can enable the logging of message life cycle information into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure life cycle logging for messages on this uniform distributed queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to configure.

4. Select **Configuration**, then select **Logging**.

From the Logging page, you can configure message life cycle logging options for this uniform distributed queue, such as:

- Enable Message Logging
- All Headers
- Headers
- All Properties
- Properties
- User-defined Properties
- All Body

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed queue thresholds and quotas

After you create a uniform distributed queue, you can change the default upper and lower byte and/or message thresholds for the distributed queue members. Exceeding these thresholds will which trigger events such as generating log messages and starting message flow control. You can also select a pre-configured quota, which specifies the maximum number of bytes or messages that the distributed queue is allowed to store to conserver memory use. You can also specify a maximum size allowed for messages on the distributed queue.

To configure thresholds and quotas for a uniform distributed queue in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue you want to configure.

4. Select **Configuration**, then select **Thresholds and Quotas**.

From the Thresholds and Quotas page, you can define message threshold and quota settings for this uniform distributed queue, such as:

- Bytes Threshold High
- Bytes Threshold Low
- Messages Threshold High
- Messages Threshold Low
- Quota
- Maximum Message Size

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create uniform distributed queue notes

To create notes about a uniform distributed queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed queue for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Monitor, control, and configure topics

A JMS topic is based on the publish/subscribe (pub/sub) messaging model, which enables an application to send a message to multiple applications. Pub/sub messaging applications send and receive messages by subscribing to a topic. A topic publisher (producer) sends messages to a specific topic. A topic subscriber (consumer) retrieves messages from a specific topic.

You configure topics explicitly or by configuring a JMS template that can be used to define multiple topics with similar option settings, as described in Configure JMS templates.

> **Note:**
>
> To help manage recovered or rolled back messages, you can also configure a target error destination for messages that have reached their redelivery limit. The error destination must be targeted to same JMS server as the other topics in the module.

Some topic options are dynamically configurable. When options are modified at runtime, only incoming messages are affected; stored messages are not affected.

This section includes the following tasks:

- Monitor topics
- View durable subscriber details
- Control messages on topics
- Configure general topic settings
- Configure advanced topic settings
- Configure topic message delivery failure options
- Configure topic message delivery overrides
- Configure topic message logging
- Configure topic multicast settings

- Configure topic thresholds and quotas
- Create topic notes

Monitor topics

To monitor runtime statistics on topics in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to monitor.

4. Select Monitoring, then select **Statistics**.

   The Statistics page displays runtime statistics for the topic, such as:

   - Name
   - Messages Current
   - Messages Pending
   - Messages Total
   - Consumers Current
   - Subscription Messages Limit

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

5. To view additional monitoring information for this topic, select **Durable Subscribers**.

   The Durable Subscribers page displays additional runtime information for the topic, such as:

   - Client ID
   - Client ID Policy
   - Subscription Name
   - Active
   - Messages Current Count
   - Messages deleted due to Subscription limit

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

View durable subscriber details

To view configuration details of a durable subscriber running on a JMS topic or uniform distributed topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.
2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic or uniform distributed topic you want to monitor.
4. Select **Monitoring**, then select **Durable Subscribers**.
5. In the Durable Subscribers table, select the **Subscription Name** for the durable subscriber on which you want to view configuration details.

   The JMS Durable Subscribers page displays additional runtime information for the durable subscriber, such as:

   - Subscription Name
   - Client ID
   - Client ID Policy
   - Message Selector
   - No Local Messages

   For more information about these fields, see Configuration Options.

Control messages on topics

For troubleshooting purposes, runtime message production, consumption, and insertion activity can be temporarily paused on topics targeted to a JMS system module.

To control messages on topics in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.
2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of a JMS topic for which you want to control topics.
4. Select **Control**.
5. In the Control table, select the row of the topic you want to control.

   The control options are displayed above the table.

6. Select one of the following message control operations:

   - Click **Production**, then select **Pause** to stop production of new messages on the selected topic.

When a topic is paused for production, it prevents new message production operations from both new and existing producers attached to that topic. To resume message production, click **Production**, then select **Resume**.

- Click **Consumption**, then select **Pause** to stop message consumption on the selected topic.

  When a topic is paused for consumption, it prevents further message consumption operations from that topic. To resume the consumption of messages, click **Consumption**, then select **Resume**.

- Click **Insertion**, then select **Pause** to stop the insertion of in-flight messages on the selected topic.

  When a topic is paused for insertion, all the messages that are the result of in-flight work completion are prevented from appearing on the topic. This occurs in addition to pausing the new message production operations. To resume the insertion of in-flight messages, click **Insertion**, then select **Resume**.

See Configuration Options.

Configure general topic settings

After you create a topic, you can define general property values, such as selecting a destination key for sorting messages as they arrive on the topic, or a selecting JMS template if you are using one to configure properties for multiple topics.

To define general configuration settings for a topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure general settings for this topic, such as:

   - Name
   - Scope
   - JNDI Name
   - Template
   - Targeting policy
   - Subdeployment

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure advanced topic settings

After you create a topic, you can define advanced general property values, such as specifying unit-of-order parameters and attaching the credentials of message senders.

To define advanced configuration settings for a topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **Advanced Configuration**.

   From the Advanced Configuration page, you can configure advanced settings for this topic, such as:

   • Pause Message Production at Startup

   • Pause Message Consumption at Startup

   • Pause Message Insertion at Startup

   • Auto-generate Unit-of-Order Name

   • Attach Sender Credential

   • Local JNDI Name

   • Create Destination Identifier

   • SAF Export Policy

   • Messaging Performance Preference

   • Unit-of-Work (UOW) Message Handling Policy

   • Expiration Time for Incomplete UOW Messages

   • Destination Keys

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure topic message delivery failure options

After you create a topic, you can change the default message delivery failure values, like defining a message redelivery limit, selecting a message expiration policy, and specifying an error destination for expired or undeliverable messages.

To define general configuration settings for a topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **Delivery Failure**.

   From the Delivery Failure page, you can configure message delivery settings for this topic, such as:

   • Expiration Policy

   • All Headers

- Headers
- All Properties
- Properties
- User-defined Properties
- All Body
- Error Destination
- Redelivery Limit
- Redelivery Delay Override
- Expiration Logging Format

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure topic message delivery overrides

After you create a topic, you can define message delivery override values that can override those specified by a message producer.

To configure message delivery overrides for a topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **Delivery Overrides**.

From the Delivery Overrides page, you can define override settings for this topic, such as:

- Delivery Mode Override
- Time-to-Deliver Override
- Priority Override
- Time-to-Live Override

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure topic message logging

After you create a topic, you can enable the logging of message life cycle information into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure life cycle logging for messages on this topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

    The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **Logging**.

    From the Logging page, you can configure message life cycle logging options for this topic, such as:

    - Enable Message Logging

    - All Headers

    - Headers

    - All Properties

    - Properties

    - User-defined Properties

    - All Body

    For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure topic multicast settings

After you configure a topic, you can define multicast parameters that enable the delivery of messages to a select group of hosts that subsequently forward the messages to subscribers.

To configure multicast options for this topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

    The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **Multicast**.

    From the Multicast page, you can configure multicast options for this topic, such as:

    - Multicast Address

    - Multicast TTL

    - Multicast Port

    For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure topic thresholds and quotas

After you create a topic, you can change the default upper and lower byte and/or message thresholds for the topic. Exceeding these thresholds will trigger events, such as generating log messages and starting message flow control. You can also specify a maximum size allowed for messages on the topic, and select a pre-configured quota, which determines the maximum number of bytes or messages that the topic is allowed to store to conserve memory use.

If a JMS template is specified for this topic, then the default values imply that the actual value will come from the template, see Configure JMS template thresholds and quotas. A JMS server can also manage thresholds and certain quota settings for all destinations in a JMS module targeted to that JMS server, see Configure JMS server thresholds and quotas.

To configure thresholds and quotas for a topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic you want to configure.

4. Select **Configuration**, then select **Thresholds and Quotas**.

   From the Thresholds and Quotas page, you can define message threshold and quota settings for this topic, such as:

   • Bytes Threshold High

   • Bytes Threshold Low

   • Messages Threshold High

   • Messages Threshold Low

   • Quota

   • Maximum Message Size

   • Topic Subscription Message Limit

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create topic notes

To create notes about a topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the topic for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Monitor and configure uniform distributed topics

A distributed topic is a single unit of JMS topics that are accessible as a single, logical topic to a client (for example, a distributed topic has its own JNDI name). The members of the unit are

usually distributed across multiple servers within a cluster, with each topic member belonging to a separate JMS server.

By configuring uniform distributed topics, WebLogic Server uniformly creates the necessary members on the JMS servers to which a JMS module is targeted. This ensures the consistent configuration of all distributed destination parameters, particularly in regards to weighting, security, persistence, paging, and quotas across a cluster.

This section includes the following tasks:

- Monitor uniform distributed topics
- Configure general uniform distributed topic settings
- Configure advanced uniform distributed topic settings
- Configure uniform distributed topic message delivery failure options
- Configure uniform distributed topic message delivery overrides
- Configure uniform distributed topic message logging
- Configure uniform distributed topic multicast settings
- Configure uniform distributed topic thresholds and quotas
- Create uniform distributed topic notes

Monitor uniform distributed topics

To monitor statistics for all of the members of a uniform distributed topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to monitor.

4. Select **Monitoring**.

   The Statistics page displays runtime statistics for the uniform distributed topic, such as:

   - Name
   - Consumers Current
   - Consumers High
   - Consumers Total
   - Subscription Messages Limit

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

5. To view additional monitoring information for this uniform distributed topic, select **Durable Subscribers**.

   The Durable Subscribers page displays additional runtime information for the uniform distributed topic, such as:

   - Client ID
   - Client ID Policy
   - Subscription Name
   - Active
   - Messages Current Count
   - Messages deleted due to Subscription limit

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Configure general uniform distributed topic settings

After you create a uniform distributed topic, you can modify and define general property values, such as selecting a destination key for sorting messages as they arrive on the members of the distributed topic.

To define general configuration settings for a uniform distributed topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.
2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.
3. In the table, select the name of the uniform distributed topic you want to configure.
4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure general settings for this uniform distributed topic, such as:

   - Name
   - Scope
   - JNDI Name
   - Template
   - Load Balancing Policy
   - Unit-of-Order Routing
   - Targeting policy
   - Subdeployment

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure advanced uniform distributed topic settings

After you create a uniform distributed topic, you can define advanced property values, such as specifying unit-of-order parameters and attaching the credentials of message senders.

To define advanced configuration settings for a uniform distributed topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to configure.

4. Select **Configuration**, then select **Advanced Configuration**.

   From the Advanced Configuration page, you can configure advanced settings for this uniform distributed topic, such as:

   - Pause Message Production at Startup

   - Pause Message Consumption at Startup

   - Pause Message Insertion at Startup

   - Auto-generate Unit-of-Order Name

   - Attach Sender Credential

   - Local JNDI Name

   - Create Destination Identifier

   - SAF Export Policy

   - Messaging Performance Preference

   - Unit-of-Work (UOW) Message Handling Policy

   - Expiration Time for Incomplete UOW Messages

   - Destination Keys

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed topic message delivery failure options

After you create a uniform distributed topic, you can change the default message delivery failure values, like defining a message redelivery limit, selecting a message expiration policy, and specifying an error destination for expired or undeliverable messages.

To define general configuration settings for a uniform distributed topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to configure.

4. Select **Configuration**, then select **Delivery Failure**.

   From the Delivery Failure page, you can configure message delivery settings for this uniform distributed topic, such as:

   - Expiration Policy
   - All Headers
   - Headers
   - All Properties
   - Properties
   - User-defined Properties
   - All Body
   - Error Destination
   - Redelivery Limit
   - Redelivery Delay Override
   - Expiration Logging Format

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed topic message delivery overrides

After you create a uniform distributed topic, you can define message delivery override values that can override those specified by a message producer.

To configure message delivery overrides for a uniform distributed topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to configure.

4. Select **Configuration**, then select **Delivery Overrides**.

   From the Delivery Overrides page, you can define override settings for this uniform distributed topic, such as:

   - Delivery Mode Override
   - Time-to-Deliver Override
   - Priority Override
   - Time-to-Live Override

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed topic message logging

After you create a uniform distributed topic, you can enable the logging of message life cycle information into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure life cycle logging for messages on this uniform distributed topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to configure.

4. Select **Configuration**, then select **Logging**.

   From the Logging page, you can configure message life cycle logging options for this uniform distributed topic, such as:

   • Enable Message Logging

   • All Headers

   • Headers

   • All Properties

   • Properties

   • User-defined Properties

   • All Body

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed topic multicast settings

After you configure a distributed topic, you can define multicast parameters that enable the delivery of messages to a select group of hosts that subsequently forward the messages to subscribers.

To configure multicast options for this uniform distributed topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to configure.

4. Select **Configuration**, then select **Multicast**.

   From the Multicast page, you can configure multicast options for this uniform distributed topic, such as:

ORACLE

- Multicast Address

- Multicast TTL

- Multicast Port

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure uniform distributed topic thresholds and quotas

After you create a uniform distributed topic, you can change the default upper and lower byte and/or message thresholds for the distributed topic members. Exceeding these thresholds will which trigger events such as generating log messages and starting message flow control. You can also select a pre-configured quota, which specifies the maximum number of bytes or messages that the distributed topic is allowed to store to conserver memory use. You can also specify a maximum size allowed for messages on the distributed topic.

To configure thresholds and quotas for a uniform distributed topic in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic you want to configure.

4. Select **Configuration**, then select **Thresholds and Quotas**.

From the Thresholds and Quotas page, you can define message threshold and quota settings for this uniform distributed topic, such as:

- Bytes Threshold High

- Bytes Threshold Low

- Messages Threshold High

- Messages Threshold Low

- Quota

- Maximum Message Size

- Topic Subscription Message Limit

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create uniform distributed topic notes

To create notes about a uniform distributed topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the uniform distributed topic for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Configure connection factories

Connection factories are objects that enable JMS clients to create JMS connections. A connection factory supports concurrent use, enabling multiple threads to access the object simultaneously.

This section includes the following tasks:

- Configure general connection factory settings
- Configure advanced connection factory settings
- Configure connection factory default delivery settings
- Configure connection factory flow control
- Create connection factory notes

Configure general connection factory settings

To define general configuration settings for a connection factory in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the connection factory you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure settings for this connection factory, such as:

   - Name
   - Scope
   - JNDI Name
   - Client ID Policy
   - Subscription Sharing Policy
   - Prefetch Mode for Synchronous Consumer
   - Maximum Messages per Session
   - Load Balancing Enabled
   - Server Affinity Enabled
   - XA Connection Factory Enabled

- Transaction Timeout
- Targeting Policy
- Subdeployment

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure advanced connection factory settings

To define advanced configuration settings for a connection factory in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the connection factory you want to configure.

4. Select **Configuration**, then select **Advanced Configuration**.

   From the Advanced Configuration page, you can define advanced configuration settings for this connection factory, such as:

   - Client ID
   - Allow Close() Within onMessage()
   - Client Acknowledge Policy
   - Multicast Overrun Policy
   - Local JNDI Name
   - Reconnect Policy
   - Reconnect Blocking Time
   - Total Reconnect Time
   - Attach JMSXUserId

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure connection factory default delivery settings

After you configure a connection factory, you can define various default message delivery settings. For example, if a client does not specify certain delivery settings then the value of those settings can be controlled with the default delivery settings on this page. In addition, you can associate a unit-of-order with all sessions created from a factory configured with unit-of-order enabled, and, optionally, a name provided. As a result, all sessions created from this connection factory will have unit-of-order enabled. All messages produced from the same session will belong to the same unit-of-order. Messages from different sessions belong to different unit-of-orders.

To define default deliver settings for a connection factory in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the connection factory you want to configure.

4. Select **Configuration**, then select **Default Delivery**.

   From the Default Delivery page, you can configure default delivery settings for this connection factory, such as:

   • Default Delivery Mode

   • Default Priority

   • Default Time-to-Deliver

   • Default Redelivery Delay

   • Default Compression Threshold

   • Default Time-to-Live

   • Send Timeout

   • Default Unit-of-Order for Producer

   • User-generated Unit-of-Order Name

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure connection factory flow control

Flow control allows you to tell a JMS server or destination to slow down message producers when it determines that it is becoming overloaded. Specifically, when a JMS server or destination exceeds its specified bytes or messages thresholds, it instructs producers to limit their message flow (messages per second).

To configure message flow control on a connection factory:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the connection factory you want to configure.

4. Select **Configuration**, then select **Flow Control**.

5. In **Flow Control Enabled**, enable or disable flow control.

   If you are using the flow control feature, then you can define the flow control configuration settings for this connection factory, such as:

   • Flow Minimum

   • Flow Maximum

   • Flow Interval

   • Flow Steps

   • One-Way Send Mode

- One-Way Send Window Size

  For more information about these fields, see Configuration Options.

6. Click **Apply**.

Create connection factory notes

To create notes about a connection factory:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the connection factory for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Configure destination keys

As messages arrive on a specific destination, by default they are sorted in FIFO (first-in, first-out) order, which sorts ascending based on each message's unique JMSMessageID. However, you can use a destination key to configure a different sorting scheme for a destination, such as LIFO (last-in, first-out).

After you configure a destination key, you can select it from within a destination resource, such as a queue, topic, distributed queue, distributed topic, or JMS template if you are using templates to configure your destinations.

This section includes the following tasks:

- Configure destination key settings
- Create destination key notes

Configure destination key settings

To define general configuration settings for a destination key in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the destination key you want to configure.

4. Select **Configuration**.

   From the Configuration page, you can view and define configuration settings for this destination key, such as:

   - Name

- Scope

- Sort Key

- User-defined Sort Key

- Key Type

- Direction

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create destination key notes

To create notes about a destination key:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the destination key for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Configure quotas for destinations

JMS quotas are used to control the allotment of system resources available to destinations. For example, you can specify the number of bytes or messages that a destination is allowed to store, or specify whether the quota can be shared be all destinations that refer to it.

Once you configure a quota, you can select it on the Thresholds and Quota page from within a destination resource, such as a queue, topic, distributed queue, distributed topic, or JMS template if you are using templates to configure your destinations.

This section includes the following tasks:

- Configure quota settings

- Create quota notes

Configure quota settings

To define general configuration settings for a quota in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the quota you want to configure.

4. Select **Configuration**.

From the Configuration page, you can view and define configuration settings for this quota, such as:

- Name
- Scope
- Policy
- Shared by multiple destination
- Total number of bytes that can be stored in a destination
- Total number of messages that can be stored in a destination

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create quota notes

To create notes about a quota:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.
2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the quota for which you want to create notes.
4. Select **Notes**.
5. On the Notes page, enter your notes.

See Configuration Options.

6. Click **Save**.

Configure JMS templates

A JMS template provides an efficient means of defining multiple JMS queues and topics with similar configuration settings. Instead of re-entering configuration settings each time you define a new queue or topic, you can use a template and override the settings for which you want to assign a new value.

Once you configure a JMS template, you can select it from within a queue or topic resource.

This section includes the following tasks:

- Configure JMS template settings
- Configure advanced JMS template settings
- Configure JMS template message delivery failure settings
- Configure JMS template message delivery overrides
- Configure JMS template message logging
- Configure JMS template multicast settings
- Configure JMS template thresholds and quotas

- Create JMS template notes

Configure JMS template settings

To view general configuration settings for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view configuration settings for this JMS template, such as:

   - Name

   - Scope

   For more information about these fields, see Configuration Options.

Configure advanced JMS template settings

After you create a template, you can define advanced property values, such as specifying unit-of-order parameters, attaching the credentials of message senders, or defining unit-of-work parameters.

To define advanced configuration settings for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **Advanced Configuration**.

   From the Advanced Configuration page, you can define advanced configuration settings for this JMS template, such as:

   - Pause Message Production at Startup

   - Pause Message Consumption at Startup

   - Pause Message Insertion at Startup

   - Aut-generate Unit-of-Order Name

   - Attach Sender Credential

   - Local JNDI Name

   - Create Destination Identifier

   - SAF Export Policy

   - Messaging Performance Preference

- Unit-of-Work (UOW) Message Handling Policy
- Expiration Time for Incomplete UOW Messages
- Sorting Destination Keys

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure JMS template message delivery failure settings

After you create a JMS template, you can change the default message delivery failure values for destinations, like defining a message redelivery limit, selecting a message expiration policy, and specifying an error destination for expired messages.

To configure message redelivery options for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **Delivery Failure**.

   From the Delivery Failure page, you can define delivery failure settings for destinations created from this JMS template, such as:

   - Expiration Policy
   - All Headers
   - Headers
   - All Properties
   - Properties
   - User-defined Properties
   - All Body
   - Error Destination
   - Redelivery Limit
   - Redelivery Delay Override
   - Expiration Logging Format

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure JMS template message delivery overrides

After you create a JMS template, you can define message delivery override values that can override those specified by a message producer.

To configure message delivery overrides for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **Delivery Overrides**.

   From the Delivery Overrides page, you can configure delivery override settings for this JMS template, such as:

   • Delivery Mode Override

   • Time-to-Deliver Override

   • Priority Override

   • Time-to-Live Override

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure JMS template message logging

After you create a JMS template, you can enable the logging of message life cycle information for destinations into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure destination logging for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **Logging**.

   From the Logging page, you can configure destination logging settings for this JMS template, such as:

   • Enable Message Logging

   • All Headers

   • Headers

   • All Properties

   • Properties

   • User-defined Properties

   • All Body

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure JMS template multicast settings

After you configure a JMS template, you can define multicast parameters for topics that enable the delivery of messages to a select group of hosts that subsequently forward the messages to subscribers.

To configure multicast options for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **Multicast**.

   From the Multicast page, you can configure multicast settings for this JMS template, such as:

   • Multicast Address

   • Multicast TTL

   • Multicast Port

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure JMS template thresholds and quotas

After you create a JMS template, you can define upper and lower message/byte threshold and quota values for queues and topics created from a JMS template.

To configure thresholds and quotas for a JMS template in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template you want to configure.

4. Select **Configuration**, then select **Thresholds and Quotas**.

   From the Thresholds and Quotas page, you can define threshold and quota settings for this JMS template, such as:

   • Bytes Threshold High

   • Bytes Threshold Low

   • Messages Threshold High

   • Messages Threshold Low

   • Quota

   • Maximum Message Size

- Topic Subscription Message Limit

  For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create JMS template notes

To create notes about a JMS template:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS template for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Configure remote SAF contexts

A remote SAF context resource specifies the login context that the imported SAF queue or SAF topic uses to connect to a remote destination.

This section includes the following tasks:

- Configure general SAF remote context settings
- Create SAF remote context notes

Configure general SAF remote context settings

To define general configuration settings for a SAF remote context in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF remote context you want to configure.

4. Select **Configuration**.

   From the Configuration page, you can view and configure general settings for this SAF remote context, such as:

   - Name
   - Scope
   - URL
   - User Name

- Password

- Confirm Password

- Compression Threshold

- ReplyTo Remote SAF Context

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create SAF remote context notes

To create notes about a SAF remote context:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF remote context for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

See Configuration Options.

6. Click **Save**.

Configure SAF error handling resources

A SAF error handling resource specifies the action to be taken when the SAF service fails to forward messages to a remote destination.

This section includes the following tasks:

- Configure general SAF error handler settings
- Create SAF error handler notes

Configure general SAF error handler settings

To define general configuration settings for a SAF error handler in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF error handler you want to configure.

4. Select **Configuration**.

From the Configuration page, you can view and configure general settings for this SAF error handler, such as:

- Name

- • Scope

- • Message Handling Policy

- • Log Format

- • Error Destination

For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create SAF error handler notes

To create notes about a SAF error handler:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF error handler for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

See Configuration Options.

6. Click **Save**.

Configure SAF imported destinations

SAF imported destinations are collections of SAF queues and topics that locally represent JMS queues or topics on a remote server instance or cluster. Each collection of imported destinations is associated with a remote SAF context. They can also share the same JNDI prefix, time-to-live default (message expiration time), and SAF error handling policy.

SAF queues are used for asynchronous and disconnected peer communications. Messages delivered to a SAF queue are temporarily stored for future delivery and are forwarded to a JMS queue on a remote server or cluster when it is reachable.

SAF topics are used for asynchronous and disconnected peer communications. Messages delivered to a SAF topic are temporarily stored for future delivery and are forwarded to a JMS topic on a remote server or cluster when it is reachable.

This section includes the following tasks:

- • Configure general SAF imported destination settings
- • Monitor SAF queues
- • Monitor SAF topics
- • Create SAF queues and SAF topics
- • Create SAF imported destination notes

Configure general SAF imported destination settings

To define general configuration settings for a foreign server in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure settings for this SAF imported destination, such as:

   • Name

   • JNDI Prefix

   • Remote SAF Context

   • SAF Error Handling

   • Enable SAF Default Time-to-Live

   • SAF Default Time-to-Live

   • Message Unit-of-Order Routing

   • Targeting Policy

   • Subdeployment

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Monitor SAF queues

To view the SAF queues that have been created for this SAF imported destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to monitor SAF queues.

4. Select **Configuration**, then select **Queues**.

   The SAF Queues summary page displays the SAF queues created for this SAF imported destination.

   See Configuration Options.

5. To create a new SAF queue, click **Create**. See Create SAF queues and SAF topics.

Monitor SAF topics

To view the SAF topics that have been created for this SAF imported destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to monitor SAF topics.

4. Select **Configuration**, then select **Topics**.

The SAF Topics summary page displays the SAF topics created for this SAF imported destination.

See Configuration Options.

5. To create a new SAF topic, click **Create**. See Create SAF queues and SAF topics.

Create SAF queues and SAF topics

This section includes the following topics:

- Create a SAF queue
- Create a SAF topic

Create a SAF queue

A SAF queue represents a JMS queue in a remote server or cluster. SAF queues are used for asynchronous and disconnected peer communications. Messages delivered to a SAF queue are temporarily stored for future delivery, and are forwarded to a JMS queue on a remote server or cluster when it is reachable.

To create a SAF queue for this SAF imported destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to create an SAF queue.

4. Select **Configuration**, then select **Queues**.

5. Click **Create**.

6. On the Create a New SAF Queue page, define the following settings for this SAF queue:

- Name
- Remote JNDI Name

For more information about these fields, see Configuration Options.

7. Click **Create**.

Create a SAF topic

An imported SAF topic represents a topic in a remote server or cluster. SAF topics are used for asynchronous and disconnected peer communications. Messages delivered to a SAF topic are temporarily stored for future delivery, and are forwarded to a JMS topic on a remote server or cluster when it is reachable.

To create a SAF topic for this SAF imported destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to create an SAF topic.

4. Select **Configuration**, then select **Topic**s.

5. Click **Create**.

6. On the Create a New SAF Topic page, define the following settings for this SAF topic:

   • Name

   • Remote JNDI Name

   For more information about these fields, see Configuration Options.

7. Click **Create**.

Create SAF imported destination notes

To create notes about a SAF imported destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Configure SAF queues and SAF topics

A SAF queue represents a JMS queue in a remote server or cluster. SAF queues are used for asynchronous and disconnected peer communications. Messages delivered to a SAF queue are temporarily stored for future delivery, and are forwarded to a JMS queue on a remote server or cluster when it is reachable.

An imported SAF topic represents a topic in a remote server or cluster. SAF topics are used for asynchronous and disconnected peer communications. Messages delivered to a SAF topic are temporarily stored for future delivery, and are forwarded to a JMS topic on a remote server or cluster when it is reachable.

This section includes the following tasks:

• Configure general settings for SAF queues

Configure general settings for SAF queues

To configure general configuration settings for this SAF queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to configure SAF queues.

4. Select **Configuration**, then select **Queues**.

5. In the Queues table, select the name of the SAF queue you want to configure.

6. Select **Configuration**.

   From the Configuration page, you can view and configure settings for this SAF queue, such as:

   - Name
   - Remote JNDI Name
   - Local JNDI Name
   - Persistent QOS
   - Non-Persistent QOS
   - SAF Error Handling
   - Enable SAF Default Time-to-Live
   - SAF Default Time-to-Live
   - Message Unit-of-Order Routing

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Configure logging for SAF queues

After you create a SAF queue, you can enable the logging of message life cycle information into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure life cycle logging for messages on this SAF queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to configure SAF queues.

4. Select **Configuration**, then select **Queues**.

5. In the Queues table, select the name of the SAF queue for which you want to configure logging.

6. Select **Logging**.

   From the Logging page, you can configure logging settings for this SAF queue, such as:

   • Enable Message Logging

   • All Headers

   • Headers

   • All Properties

   • Properties

   • User-defined Properties

   • All Body

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Create notes for SAF queues

To create notes for this SAF queue:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to configure SAF queues.

4. Select **Configuration**, then select **Queues**.

5. In the Queues table, select the name of the SAF queue for which you want to create notes.

6. Select **Notes**

7. On the Notes page, enter your notes.

   See Configuration Options.

8. Click **Save**.

Configure general settings for SAF topics

To configure general configuration settings for this SAF topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to configure SAF topics.

4. Select **Configuration**, then select **Topics**.

5. In the Topics table, select the name of the SAF topic you want to configure.

6. Select **Configuration**.

   From the Configuration page, you can view and configure settings for this SAF topic, such as:

   • Name

   • Remote JNDI Name

   • Local JNDI Name

   • Persistent QOS

   • Non-Persistent QOS

   • SAF Error Handling

   • Enable SAF Default Time-to-Live

   • SAF Default Time-to-Live

   • Message Unit-of-Order Routing

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Configure logging for SAF topics

After you create a SAF topic, you can enable the logging of message life cycle information into a JMS message log file. A message life cycle is an external view of the basic events that a JMS message traverses through, such as message production, consumption, and removal. The content of the message log always includes message ID and correlation ID, but you can also configure information like message type and user properties.

To configure life cycle logging for messages on this SAF topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to configure SAF topics.

4. Select **Configuration**, then select **Topics**.

5. In the Topics table, select the name of the SAF topic for which you want to configure logging.

6. Select **Logging**.

   From the Logging page, you can configure logging settings for this SAF topic, such as:

- Enable Message Logging

- All Headers

- Headers

- All Properties

- Properties

- User-defined Properties

- All Body

For more information about these fields, see Configuration Options.

7. Click **Apply**.

Create notes for SAF topics

To create notes for this SAF topic:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the SAF imported destination for which you want to configure SAF topics.

4. Select **Configuration**, then select **Topics**.

5. In the Topics table, select the name of the SAF topic for which you want to create notes.

6. Select **Notes**

7. On the Notes page, enter your notes.

See Configuration Options.

8. Click **Save**.

Configure foreign servers

A foreign server represents a JNDI provider that is outside WebLogic Server. It contains information that allows a local WebLogic Server instance to reach a remote JNDI provider, thereby allowing for a number of foreign connection factory and destination objects to be defined on one JNDI directory.

After defining a foreign server, you can configure foreign connection factory and destination objects (queues or topics). You can configure one or more foreign connection factories and destinations for each foreign server.

This section includes the following tasks:

- Configure general foreign server settings

- Create foreign destinations

- Monitor foreign destinations

- Configure foreign destinations

- Create foreign connection factories

- Monitor foreign connection factories
- Configure foreign connection factories
- Create foreign server notes

Configure general foreign server settings

To define general configuration settings for a foreign server in a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server you want to configure.

4. Select **Configuration**, then select **General**.

   From the General page, you can view and configure settings for this foreign server, such as:

   - Name
   - Scope
   - JNDI Initial Context Factory
   - JNDI Connection URL
   - JNDI Properties Credential
   - Confirm JNDI Properties Credential
   - JNDI Properties
   - Targeting Policy
   - Subdeployment

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create foreign destinations

A foreign destination represents either a queue or a topic. It contains the destination JNDI name that is looked up on the foreign JNDI provider and the JNDI name that the destination is mapped to on the local WebLogic Server.

When the foreign destination is looked up on the local server, a lookup is performed on the remote JNDI directory, and the destination object is returned from that directory.

To create a foreign destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to create destinations.

4. Select **Configuration**, then select **Destinations**.

   The Destinations table displays information about the foreign destinations that have been created for a foreign server.

5. Click **Create**.

6. On the Create a New Foreign Destination page, define the following settings for your new foreign destination:

   • Name

   • Local JNDI Name

   • Remote JNDI Name

   For more information about these fields, see Configuration Options.

7. Click **Create**.

Monitor foreign destinations

To view configuration information for the foreign destinations that have been created for a foreign server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to view destinations.

4. Select **Configuration**, then select **Destinations**.

   The Destinations table displays information about the destinations that have been created for a foreign server, including:

   • Name

   • Local JNDI Name

   • Remote JNDI Name

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

Configure foreign destinations

A foreign destination (topic or queue) is a destination on a remote server. When this destination is looked up on the local server, a look-up will be performed automatically on the remote JNDI directory, and the object will be returned from that directory.

To configure a foreign destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to configure destinations.

4. Select **Configuration**, then select **Destinations**.

   In the Destinations table, select the foreign destination you want to configure.

5. Select **Configuration**.

   From the Configuration page, you can view and configure settings for this foreign destination, such as

   • Name

   • Local JNDI Name

   • Remote JNDI Name

   For more information about these fields, see Configuration Options.

6. Click **Apply**.

7. To create notes about the foreign destination, select **Notes**.

8. On the Notes page, enter your notes.

   See Configuration Options.

9. Click **Save**.

Create foreign connection factories

A foreign connection factory contains the JNDI name of the connection factory in the remote JNDI provider, the JNDI name that the connection factory is mapped to in the local WebLogic Server JNDI tree, and an optional user name and password.

The foreign connection factory creates non-replicated JNDI objects on each WebLogic Server instance that the parent foreign server is targeted to. (To create the JNDI object on every node in a cluster, target the foreign server to the cluster.)

To create a foreign connection factory:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to create connection factories.

4. Select **Configuration**, then select **Connection Factories**.

   The Connection Factories table displays information about the foreign connection factories that have been created for a foreign server.

5. Click **Create**.

6. On the Create a New Foreign Connection Factory page, define the following settings for your new foreign connection factory:

   • Name

   • Local JNDI Name

   • Remote JNDI Name

   For more information about these fields, see Configuration Options.

7. Click **Create**.

Monitor foreign connection factories

To view configuration information for the foreign connection factories that have been created for a foreign server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

   The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to view connection factories.

4. Select **Configuration**, then select **Connection Factories**.

   The Connection Factories table displays information about the foreign connection factories that have been created for a foreign server, including:

   • Name

   • Local JNDI Name

   • Remote JNDI Name

   • User Name

   • Password

   • Connection Health Checking

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

Configure foreign connection factories

A foreign connection factory is a connection factory that resides on another server instance and is accessible through JNDI. A remote connection factory can be used to refer to another instance of WebLogic Server running in a different cluster or server, or a foreign provider, as long as that provider supports JNDI.

To configure a foreign connection factory:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

    The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to configure connection factories.

4. Select **Configuration**, then select **Connection Factories**.

    In the Connection Factories table, select the foreign connection factory you want to configure.

5. Select **Configuration**.

    From the Configuration page, you can view and configure settings for this foreign connection factory, such as

    *   Name
    *   Local JNDI Name
    *   Remote JNDI Name
    *   User Name
    *   Connection Health Checking

    For more information about these fields, see Configuration Options.

6. Click **Apply**.

7. To create notes about the foreign connection factory, select **Notes**.

8. On the Notes page, enter your notes.

    See Configuration Options.

9. Click **Save**.

Create foreign server notes

To create notes about a foreign server:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Resources**.

    The JMS Resources table lists all the resources defined as part of the JMS system modules configured in the current domain.

3. In the table, select the name of the foreign server for which you want to create notes.

4. Select **Notes**.

5. On the Notes page, enter your notes.

    See Configuration Options.

6. Click **Save**.

Create JMS modules

JMS resources are configured and stored as modules similar to standard Java EE modules. You can administratively configure and manage JMS modules as global system resources.

To create a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

   The JMS Modules summary table displays information about the state of each JMS module that has been configured in the current WebLogic Server domain.

3. Click **Create**.

   > ✎ **Note:**
   >
   > Once you create a JMS module, you cannot rename it. Instead, you must delete it and create another JMS module that uses the new name.

4. Define the configuration options for your JMS module on each page of the following sections.

5. Then, click **Create**.

   • General Settings

   • Targets

   • Review

General Settings

On the **General Settings** page, define the following settings for this JMS module:

• In **Name**, enter a name for this JMS module.

• In **Scope**, select the scope in which you would like this new JMS module to be created.

• In **Descriptor File**, optionally enter a name for the JMS module's underlying descriptor file. The system will automatically add a "-jms.xml" extension to this name. If you do not provide a name, then a default name is assigned.

For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, select the server instance or cluster target on which to deploy the JMS system module.

See Configuration Options.

Review

On the **Review** page, review the configuration for this JMS module.

See Configuration Options.

Monitor JMS modules

You can monitor the JMS system modules created for the current domain. The table specifies which resource types are part of each module, as well as the number of assigned resource types.

To monitor JMS modules:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

    The JMS Modules table lists information about all of the JMS system modules configured in the current domain, as well as displays the number of JMS system resource types configured for each module, such as:

    *   Name

    *   Scope

    *   Queues

    *   Topics

    *   Connection Factories

    *   Distributed Queues

    *   Distributed Topics

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    *   Columns: add or remove the columns displayed in the table

    *   Detach: detach the table (viewing option)

    *   Sort: sort the columns in ascending or descending order

    *   Reorder: change the order of the columns displayed

    *   Query by Example

3. In the table, select the name of the JMS module for which you want to view additional monitoring information.

Configure JMS system modules

JMS resources are configured and stored as modules similar to standard Java EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS modules as global system resources.

This section includes the following tasks:

*   Configure resources for JMS system modules

*   Configure subdeployments in JMS system modules

*   Create JMS system module subdeployments

*   Target JMS system module subdeployments

- Target JMS system modules
- Create JMS system module notes

Configure resources for JMS system modules

After creating a JMS system module, you can configure resources for the module, including stand-alone queues and topics, distributed queues and topics, connection factories, JMS templates, destination sort keys, destination quota, foreign servers, and JMS SAF (store-and-forward) parameters.

To configure the resources for a specific JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

   The JMS Modules table lists all the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS module that you want to configure.

4. Select **General**.

   From the General page, you can view general information about the JMS system module, such as Name and Descriptor File Name.

   The summary table displays information about the resources assigned to this JMS modules, such as:

   - Name
   - Type
   - JNDI Name
   - Subdeployment
   - Scope
   - Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

5. Optionally, in the table, select the name of a JMS resource for detailed statistical information about the selected resource. See Monitor JMS resources.

6. Optionally, click **Create** to create a new JMS resource for this JMS module. See Create JMS resources.

Configure subdeployments in JMS system modules

You can create and manage subdeployments for your JMS resources. A subdeployment is a mechanism by which JMS module resources (such as queues, topics, and connection

factories) are grouped and targeted to a server resource (such as JMS servers, server instances, SAF agents, or a cluster).

For example, you can group a connection factory with stand-alone queues or topics in a subdeployment targeted to a specific JMS server, which guarantees that all these resources are co-located to avoid extra network traffic. Another advantage of such a configuration would be if the targeted JMS server needs to be migrated to another WebLogic server instance, then the connection factory and all its connections will also migrate along with the JMS server's destinations. However, when stand-alone queues or topics are members of a subdeployment, a connection factory can only be targeted to the same JMS server.

To manage the subdeployments of a JMS module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

    The JMS Modules table lists all the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS module for which you want to configure subdeployments.

4. Select **Subdeployments**.

    The Subdeployments table displays information about the subdeployments created for a JMS system module in the current WebLogic Server domain, such as:

    *   Name

    *   Resources

    *   Targets

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    *   Columns: add or remove the columns displayed in the table

    *   Detach: detach the table (viewing option)

    *   Sort: sort the columns in ascending or descending order

    *   Reorder: change the order of the columns displayed

    *   Query by Example

5. Optionally, in the table, select the name of a subdeployment to view and configure subdeployment settings.

6. Optionally, click **Create** to create a new subdeployment for this JMS module. See Create JMS system module subdeployments.

Create JMS system module subdeployments

A subdeployment is a mechanism by which JMS module resources (such as queues, topics, and connection factories) are grouped and targeted to a server resource (such as JMS servers, server instances, SAF agents, or a cluster).

For example, you can group a connection factory with stand-alone queues or topics in a subdeployment targeted to a specific JMS server, which guarantees that all these resources are co-located to avoid extra network traffic. Another advantage of such a configuration would be if the targeted JMS server needs to be migrated to another WebLogic server instance, then the connection factory and all its connections will also migrate along with the JMS server's

destinations. However, when stand-alone queues or topics are members of a subdeployment, a connection factory can only be targeted to the same JMS server.

To create a JMS module subdeployment:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

   The JMS Modules summary table displays information about the state of each JMS module that has been configured in the current WebLogic Server domain.

3. In the table, select the name of the JMS module for which you want to create subdeployments.

4. Select **Subdeployments**.

   The Subdeployments table displays information about the subdeployments created for a JMS system module in the current WebLogic Server domain.

5. Click **Create**.

6. On the Create a New Subdeployment page, define the following settings for this subdeployment:

   • In **Subdeployment Name**, enter a name for the subdeployment.

   • Select targets for this subdeployment:

     – In the **Clusters and Servers** section, select each cluster and server instance on which you want to deploy the resources associated with the subdeployment, or select specific server instances within a cluster.

       Clusters are available only when the JMS system module is part of a clustered WebLogic Server environment.

     – In the **JMS Servers** section, select each JMS server instance on which you want to deploy the resources associated with the subdeployment.

     – In the **SAF Agents** section, select each SAF agent on which you want to deploy the resources associated with the subdeployment.

   For more information about these fields, see Configuration Options.

7. Click **Create**.

Target JMS system module subdeployments

A subdeployment is a mechanism by which JMS module resources (such as queues, topics, and connection factories) are grouped and targeted to a server resource (such as JMS servers, server instances, SAF agents, or a cluster).

To target a JMS module subdeployment:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

   The JMS Modules summary table displays information about the state of each JMS module that has been configured in the current WebLogic Server domain.

3. In the table, select the name of the JMS module for which you want to create subdeployments.

4. Select **Subdeployments**.

The Subdeployments table displays information about the subdeployments created for a JMS system module in the current WebLogic Server domain.

5. In the table, select the name of the subdeployment you want to target.

6. On the Subdeployments page, select the targets for this subdeployment:

   - In the **Clusters and Servers** section, select each cluster and server instance on which you want to deploy the resources associated with the subdeployment, or select specific server instances within a cluster.

     Clusters are available only when the JMS system module is part of a clustered WebLogic Server environment.

   - In the **JMS Servers** section, select each JMS server instance on which you want to deploy the resources associated with the subdeployment.

   - In the **SAF Agents** section, select each SAF agent on which you want to deploy the resources associated with the subdeployment.

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Target JMS system modules

After you create a JMS system module, you can deploy it on one or more servers, clusters, or even to specific servers within a cluster.

To target a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

   The JMS Modules table lists all the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS module that you want to target.

4. Select **Targets**.

   On the Targets page, select the targets for this JMS module:

   - In the **Server** section, select each server instance on which you want to deploy the JMS system module.

   - In the **Cluster** section, select each cluster on which you want to deploy the JMS system module, or select specific server instances within a cluster.

     The Cluster section is available only when the JMS system module is part of a clustered WebLogic Server environment.

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Create JMS system module notes

To create notes about a JMS system module:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Resources and Modules**.

2. Select **JMS Modules**.

   The JMS Modules table lists all the JMS system modules configured in the current domain.

3. In the table, select the name of the JMS module for which you want to create notes.

4. Select **Notes**.

5. On the **Notes** page, enter your notes.

   See Configuration Options.

6. Click **Save**.

Path services

A path service is a persistent map that can be used to store the mapping of a group of messages to a messaging resource, such as a member of a distributed destination or a Store-and-Forward agent. It provides a way to enforce message ordering by pinning messages to a member of a cluster hosting servlets, distributed queue members, or Store-and-Forward agents.

This section includes the following tasks:

- Create path services
- Monitor path services
- Configure path services

Create path services

To create a path service:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Path Services**.

   The Path Services summary table displays information about the state of each path service that has been configured in the current WebLogic Server domain.

2. Click **Create**.

   > ✎ **Note:**
   >
   > Once you create a path service, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

3. Define the configuration options for your path service on each page of the following sections.

4. Then, click **Create**.

- General Settings
- Targets
- Review

General Settings

On the **General Settings** page, define the following settings for this path service:

- In **Name**, enter a name for this path service.
- In **Scope**, select the scope in which you would like this new path service to be created.

- In **Persistent Store**, select a custom persistent store if you want a dedicated store for SAF messages or click **Create a New Store** to configure a new custom store.

  Otherwise, leave this field set to **None** when using the default Persistent Store since it requires no configuration. For more information about configuring stores, see Configure a file store.

  > **Note:**
  >
  > When a path service is targeted to a migratable target, it cannot use the default store, so a custom store must be configured and targeted to the same migratable target. And, as a best practice, the path service and its store should be the only users of that migratable target.

  For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, select a cluster member or migratable target where you want to deploy the path service.

A migratable target is a logical target that serves as a grouping of services, such as a path service, and which is active on only server member in a cluster. High availability is achieved by migrating a migratable target from one server member to another when a problem occurs on the original server.

See Configuration Options.

> **Note:**
>
> Oracle recommends targeting the path service to a migratable target, so that a member server will not be a single point of failure. A path service can also be automatically migrated from an unhealthy server instance to a healthy server instance, with the help of the server health monitoring services.

Review

On the **Review** page, review the configuration for this path service.

See Configuration Options.

Monitor path services

To monitor the path service instances configured in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Path Services**.

   The Path Services summary table displays monitoring information related to the path service instances that have been configured in the current WebLogic Server domain, such as:

   - Name
   - Target

- Persistent Store

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

2. In the Path Services table, select the name of the path service for which you want to view configuration information.

Configure path services

A path service is a persistent map that can be used to store the mapping of a group of messages to a messaging resource, such as a member of a distributed destination or a store-and-forward agent. It provides a way to enforce message ordering by pinning messages to a member of a cluster hosting servlets, distributed queue members, or Store-and-Forward agents.

This section includes the following tasks:

- Configure path service general settings
- Select path service targets
- Create path service notes

Configure path service general settings

To configure general settings for a specific path service in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Path Services**.

2. In the Path Services table, select the path service you want to configure.

3. Select **Configuration**.

   From the General page, you can view and define general settings for this path service, such as:

   - Name
   - Scope
   - Persistent Store

   For more information about these fields, see Configuration Options.

4. Click **Apply.**

Select path service targets

To select the targets for a specific path service in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Path Services**.

2. In the Path Services table, select the path service you want to configure.

3. Select **Targets**.

   From the Targets page, you can target this path services to a member of a cluster or to a migratable target. Select the target on which you wish to deploy this path service.

   See Configuration Options.

4. Click **Apply.**

Create path service notes

To create notes for a specific path service in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Path Services**.

2. In the Path Services table, select the path service you want to configure.

3. Select **Notes.**

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Save.**

Messaging bridges

A WebLogic messaging bridge is a forwarding mechanism between any two messaging products. Use a message bridge to provide interoperability between separate implementations of WebLogic JMS, or between WebLogic JMS and another messaging product.

This section includes the following tasks:

- Create messaging bridges
- Monitor messaging bridges
- Monitor a messaging bridge
- Configure messaging bridge general settings
- Configure messaging bridge high availability settings
- Configure messaging bridge connection retry settings
- Configure messaging bridge transaction settings
- Select messaging bridge targets
- Create messaging bridge notes

Create messaging bridges

A messaging bridge instance communicates with the configured source and target bridge destinations. For each mapping of a source destination to a target destination, whether it is another WebLogic JMS implementation, or a third-party JMS provider, you must configure a messaging bridge instance. Each instance defines the source and target destination for the mapping, a message filtering selector, a quality of service (QOS), transaction semantics, and reconnection parameters.

To create a messaging bridge instance:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

The Messaging Bridges Configuration summary table displays information about each messaging bridge that has been configured in the current WebLogic Server domain.

2. Click **Create**.

> **Note:**
>
> Once you create a messaging bridge instance, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

3. Define the configuration options for your messaging bridge on each page of the following sections.

4. Then, click **Create**.

- General Settings
- Source Bridge Destination
- Target Bridge Destination
- Targets
- Review

General Settings

On the **General Settings** page, define the following settings for this messaging bridge:

- In **Name**, enter a name for this messaging bridge.
- In **Scope**, select the scope in which you would like this new messaging bridge to be created.
- In **Selector**, specify the filter for messages that are sent across the messaging bridge instance.
- In **Quality of Service**, select the QOS (quality of service) for this messaging bridge instance.
- Select or deselect the **Started** checkbox to specify the initial operating state of a targeted messaging bridge instance.

For more information about these fields, see Configuration Options.

Source Bridge Destination

On the **Source Bridge Destination** page, select an existing source destination or create a new source destination.

If the drop-down box is empty or does not contain the source destination you need, then click **New Destination** to create a source destination, and then select the source destination from the drop-down box.

See Configuration Options.

Target Bridge Destination

On the **Target Bridge Destination** page, select an existing target destination or create a new target destination.

If the drop-down box is empty or does not contain the target destination you need, then click **New Destination** to create a target destination, and then select the target destination from the drop-down box.

See Configuration Options.

Targets

On the **Targets** page, select a target for your messaging bridge instance.

See Configuration Options.

Review

On the **Review** page, review the configuration for this messaging bridge instance.

See Configuration Options.

Monitor messaging bridges

To monitor the messaging bridge instances that have been configured for the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Bridges**.

2. Select **Configuration** to display information about the messaging bridge instances that have been configured in the current WebLogic Server domain, such as:

   • Name

   • Source Bridge Destination

   • Target Bridge Destination

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

3. Select **Monitoring** to display statistics for all messaging bridges configured on active servers in this domain, such as:

   • Name

   • Scope

   • Server

   • State

   • Description

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed
- Query by Example

Monitor a messaging bridge

To monitor the status of a specific messaging bridge instance configured for the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the name of the messaging bridge you want to monitor.

3. Select **Monitoring**.

   The Messaging Bridge summary table displays monitoring information associated with this messaging bridge, such as:

   - Name
   - Scope
   - Server
   - State
   - Description

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Configure messaging bridge general settings

To configure general settings for a specific messaging bridge instance in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the messaging bridge you want to configure.

3. Select **Configuration**, then select **General**.

   From the General page, you can configure general settings for this messaging bridge instance, such as:

   - Name
   - Scope
   - Source Bridge Destination
   - Target Bridge Destination
   - Selector
   - Quality of Service
   - QOS Degradation Allowed

ORACLE

- Maximum Idle Time

- Asynchronous Mode Enabled

- Durability Enabled

- Started

- Preserve Msg Property

For more information about these fields, see Configuration Options.

4. Click **Apply.**

Configure messaging bridge high availability settings

The high availability settings are applicable for a bridge when it is:

- Not targeted
- Targeted to a cluster

The high availability settings are not applicable to a bridge when it is:

- Targeted directly to a server (within a configured cluster or standalone)
- Targeted to a migratable target

To configure high availability settings for a specific messaging bridge instance in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the messaging bridge you want to configure.

3. Select **High Availability**, and choose a **Distribution Policy** and **Migration Policy** combination of either Distributed/Off (the default) or Singleton/On-Failure.

   For the Singleton case, optionally select the Initial Boot Delay Seconds, Fallback Delay Seconds, and/or Partial Cluster Stability Delay Seconds.

   For more information about these fields, see Configuration Options.

4. Click **Apply.**

Configure messaging bridge connection retry settings

To configure connection retry settings for a specific messaging bridge instance in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the messaging bridge you want to configure.

3. Select **Configuration**, then select **Connection Retry**.

   From the Connection Retry page, you can configure reconnection settings for this messaging bridge, such as:

   - Minimum Delay

   - Incremental Delay

   - Maximum Delay

   For more information about these fields, see Configuration Options.

4. Click **Apply.**

Configure messaging bridge transaction settings

To configure transactions for a specific messaging bridge instance in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the messaging bridge you want to configure.

3. Select **Configuration**, then select **Transactions.**

   From the Transactions page, you can configure transaction settings for this messaging bridge, such as:

   • Transaction Timeout

   • Batch Size

   • Batch Interval

   For more information about these fields, see Configuration Options.

4. Click **Apply.**

Select messaging bridge targets

To select the targets for a specific messaging bridge instance in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the messaging bridge you want to configure.

3. Select **Targets**.

   From the Targets page, you can target this messaging bridge to independent servers, clusters, or migratable targets. Select the targets you wish to deploy this messaging bridge on.

   See Configuration Options.

4. Click **Apply.**

Create messaging bridge notes

To create notes for a specific messaging bridge instance in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **Bridges**.

2. In the Messaging Bridges table, select the messaging bridge you want to configure.

3. Select **Notes.**

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Save.**

JMS bridge destinations

A JMS bridge destination is a source or target destination in a JMS messaging product. Configure a JMS bridge destination instance for each JMS messaging source and target destination that connects to a messaging bridge.

This section includes the following tasks:

- Create JMS bridge destinations
- Monitor JMS bridge destinations
- Configure JMS bridge destinations

Create JMS bridge destinations

A JMS bridge destination instance defines the actual source and target JMS bridge destinations within the WebLogic domain.

You need to configure a JMS bridge destination instance for each actual source and target destination to be mapped to a messaging bridge instance. Therefore, when you finish defining attributes for a source JMS bridge destination, repeat these steps to configure a target JMS bridge destination, or vice versa.

To create a JMS bridge destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Bridge Destinations**.

   The JMS Bridge Destinations summary table displays information about each JMS bridge destination that has been configured in the current WebLogic Server domain.

2. Click **Create**.

   > ✎ **Note:**
   >
   > Once you create a JMS bridge destination, you cannot rename it. Instead, you must delete it and create another one that uses the new name.

3. Define the configuration options for your JMS bridge destination on each page of the following sections.

4. Then, click **Create**.

- General Settings
- Review

General Settings

On the **General Settings** page, define the following settings for this JMS bridge destination:

- In **Name**, enter a name for this JMS bridge destination.
- In **Scope**, select the scope in which you would like this new JMS bridge destination to be created.
- In **Adapter JNDI Name**, specify the JNDI name of the adapter used to communicate with the bridge destinations.
- In **Connection URL**, specify the connection URL for this JMS bridge destination.
- In **Connection Factory JNDI Name**, specify the connection factory's JNDI name for this JMS bridge destination.
- In **Destination JNDI Name**, specify the destination JNDI name for this JMS bridge destination.

For more information about these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for this JMS bridge destination.

See Configuration Options.

Monitor JMS bridge destinations

To monitor the JMS bridge destinations configured in the current domain:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Bridge Destinations**.

   The JMS Bridge Destinations summary table displays monitoring information related to the JMS bridge destinations that have been configured in the current WebLogic Server domain, such as:

   • Name

   • Adapter JNDI Name

   • Adapter Classpath

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

2. In the table, select the name of the JMS bridge destination for which you want to view configuration information.

Configure JMS bridge destinations

This section includes the following tasks

• Configure a JMS bridge destination

• Create JMS bridge destination notes

Configure a JMS bridge destination

To configure a specific JMS bridge destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Bridge Destinations**.

2. In the JMS Bridge Destinations table, select the JMS bridge destination you want to configure.

3. Select **Configuration**.

From the Configuration page, you can configure settings for this JMS bridge destination, such as:

- Name

- Scope

- Adapter JNDI Name

- Connection URL

- Initial Context Factory

- Connection Factory JNDI Name

- Destination JNDI Name

- Destination Type

- User Name

- User Password

- Confirm User Password

For more information about these fields, see Configuration Options.

4. Click **Apply**.

Create JMS bridge destination notes

To create notes for a JMS bridge destination:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Bridge Destinations**.

2. In the JMS Bridge Destinations table, select the JMS bridge destination you want to configure.

3. Select **Notes**.

4. On the Notes page, enter your notes.

See Configuration Options.

5. Click **Save**.

JMS smoke test

To browse JMS destinations, browse messages in a specific JMS destination, and create and send JMS messages:

1. From the **WebLogic Domain** menu, select **Messaging**, then select **JMS Smoke Test**.

2. In **JMS Destinations**, browse for JMS destinations configured in the domain by provider and type.

3. In **JMS Messages**, enter a message selector expression to filter JMS messages.

4. To create and send a JMS message, click **Create**.

You can also view, purge, export, or import JMS messages by clicking the appropriate buttons.

See Configuration Options.

12

WebLogic Server JDBC Data Sources

This chapter describes how to create, monitor, control, and configure data sources deployed to the current domain. Java Database Connectivity (JDBC) enables you to configure database connectivity through JDBC data sources in your WebLogic Server domain. A data source is a Java EE standard method of configuring connectivity to a database. Each WebLogic Server data source contains a pool of database connections.
Applications look up the data source on the JNDI tree or in the local application context and then reserve a database connection with the `getConnection` method. Data sources and their connection pools provide connection management processes that help keep your system running efficiently.

This chapter includes the following sections:

- Create JDBC data sources
- Monitor JDBC data sources
- Control JDBC data sources
- Configure JDBC data sources

Create JDBC data sources

You must create a data source for each database to which you want to connect. If you need more than one set of configuration options for a database, then you can create more than one data source that includes connections to the same database. This section includes the following tasks:

- Create JDBC generic data sources
- Create JDBC GridLink data sources
- Create JDBC multi data sources
- Create JDBC UCP data sources
- Create a JDBC data source from an existing data source

Create JDBC generic data sources

Before you begin

Make sure that the JDBC drivers that you want to use to create database connections are installed on all server instances on which you want to deploy the data source. Some JDBC drivers are installed with WebLogic Server, including Oracle Type 4 JDBC drivers for DB2, Informix, MS SQL Server, and Sybase.

For more information about working with JDBC drivers, see Using JDBC Drivers with WebLogic Server.

To create a JDBC generic data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

   The JDBC Data Sources page is displayed.

2. Click **Create**, then select **Generic Data Source**.

3. Define the configuration options for your JDBC data source on each page of the following sections.

4. Then, click **Create** to save the JDBC data source configuration and deploy the data source to the targets that you selected.

- Data Source Properties

- Connection Properties

- Transaction Properties

- Select Targets

- Review

Data Source Properties

On the **Data Sources Properties** page, define the general configuration options for this JDBC data source.

- **Data Source Name**: enter a name for this JDBC data source. This name is used in the configuration file (`config.xml`) and whenever referring to this data source.

- **Scope**: select the scope in which you want to create this JDBC data source.

- **Driver Class Name**: select the JDBC driver you want to use to connect to the database. The list includes common JDBC drivers for the selected DBMS.

> **✎ Note:**
>
> You must install JDBC drivers before you can use them to create database connections. Some JDBC drivers are installed with WebLogic Server, but many are not installed.

- **JNDI Name**: enter the JNDI path to where this JDBC data source will be bound. Applications look up the data source on the JNDI tree by this name when reserving a connection.

- **Row Prefetch Enabled**: select to enable multiple rows to be "prefetched" (that is, sent from the server to the client) in one server access.

- **Row Prefetch Size**: if you enabled row prefetching, specify the number of result set rows to prefetch for a client.

- **Stream Chunk Size**: specify the data chunk size for steaming data types.

See Configuration Options.

Connection Properties

On the **Connection Properties** page:

1. On the **Connection Properties** page, enter values for the following properties in the **Database Connection Information** section:

- **Database URL**: enter the URL of the database to connect to. The format of the URL varies by JDBC driver.

- **Password**: enter the database account password to use to create database connections.

- **Test Table Name or SQL Statement**: enter the name of the database table or SQL statement to use to test physical database connections.

  This name is required when you specify a **Test Frequency** and enable **Test Reserved Connections**. The default SQL code used to test a connection is `select count(*) from TestTableName`. If the Test Table Name begins with `SQL`, then the rest of the string following that leading token will be taken as a literal SQL statement that will be used to test connections instead of the standard query. For example: `SELECT 1 FROM DUAL`.

2. In the **Properties** section, click **Add** and enter the properties that are required by the data source class. For example: `server=dbserver1`.

3. In the **System Properties** section, click **Add** and enter the system properties that are required by the data source class. For example: `server=dbserver1`.

4. In the **Encrypted Properties** section, click **Add** and enter the encrypted properties for this data source. For example: `password=value`.

5. In the **Connection Pool Properties** section, enter values for the following properties:

   - **Initial Capacity**: enter the number of physical connections to create when creating the connection pool.

   - **Maximum Capacity**: enter the maximum number of physical connections that this connection pool can contain.

   - **Minimum Capacity**: enter the minimum number of physical connections that this connection pool can contain.

   - **Statement Cache Type**: select the algorithm used for maintaining the prepared statements stored in the statement cache.

   - **Statement Cache Size**: enter the number of prepared and callable statements stored in the cache. (This may increase server performance.)

6. In the **Advanced** section, enter values for the following properties:

   - **Test Connections On Reserve**: select whether to enable WebLogic Server to test a connection before giving it to a client. (Requires that you specify a **Test Table Name**.)

   - **Test Frequency (seconds)**: enter the number of seconds between when WebLogic Server tests unused connections. (Requires that you specify a **Test Table Name**.) Connections that fail the test are closed and reopened to re-establish a valid physical connection. If the test fails again, then the connection is closed.

   - **Seconds to Trust an Idle Pool Connection**: enter the number of seconds within a connection use that WebLogic Server trusts that the connection is still viable and will skip the connection test, either before delivering it to an application or during the periodic connection testing process.

   - **Shrink Frequency (seconds)**: enter the number of seconds to wait before shrinking a connection pool that has incrementally increased to meet demand.

   - **Init SQL**: enter the SQL statement to execute that will initialize newly created physical database connections. Start the statement with SQL followed by a space.

   - **Login Delay (seconds)**: enter the number of seconds to delay before creating each physical database connection. This delay supports database servers that cannot handle multiple connection requests in rapid succession.

- **Connection Creation Retry Frequency (seconds)**: enter the number of seconds between attempts to establish connections to the database.

- **Inactive Connection Timeout (seconds)**: enter the number of inactive seconds on a reserved connection before WebLogic Server reclaims the connection and releases it back into the connection pool.

- **Maximum Waiting for Connection**: enter the maximum number of connection requests that can concurrently block threads while waiting to reserve a connection from the data source's connection pool.

- **Connection Reserve Timeout (seconds)**: enter the number of seconds after which a call to reserve a connection from the connection pool will timeout.

- **Statement Timeout**: enter the time after which a statement currently being executed will time out.

- **Ignore In-Use Connections**: enables the data source to be shutdown even if connections obtained from the pool are still in use.

- **Pinned-To-Thread**: can improve performance by enabling execute threads to keep a pooled database connection even after the application closes the logical connection.

- **Remove Infected Connections Enabled**: specifies whether a connection will be removed from the connection pool after the application uses the underlying vendor connection object.

- **Wrap Data Types**: specifies whether wrapping is enabled.

- **Fatal Error Codes**: specifies a comma-separated list of error codes that are treated as fatal errors.

- **Connection Labeling Callback**: enter the class name of the connection labeling callback.

- **Connection Harvest Max Count**: enter the maximum number of connections that may be harvested when the connection harvesting occurs.

- **Connection Harvest Trigger Count**: specifies the number of available connections (trigger value) used to determine when connection harvesting occurs.

- **Connection Count of Refresh Failures Till Disable**: specifies the number of reconnect failures allowed before WebLogic Server disables a connection pool to minimize the delay in handling the connection request caused by a database failure.

- **Count of Test Failures Till Flush**: specifies the number of test failures allowed before WebLogic Server closes all unused connections in a connection pool to minimize the delay caused by further database testing.

See Configuration Options.

Transaction Properties

On the **Transaction Properties** page, follow these steps. Depending on the driver you selected on the **JDBC Data Source Properties** page, you may not need to specify any of these options.

Supports Global Transactions: select this check box (the default) to enable global transaction support in this data source. Clear this check box to disable (ignore) global transactions in this data source. In most cases, you should leave the option selected.

If you selected **Supports Global Transactions**, then select an option for transaction processing (available options vary depending on whether you select an XA driver or a non-XA driver):

- **One-Phase Commit**: select this option to enable the non-XA connection to participate in a global transaction as the only transaction participant. This option is only available when you select a non-XA JDBC driver to make database connections.

- **Emulate Two-Phase Commit**: enables a non-XA JDBC connection to emulate participation in distributed transactions using JTA. Select this option only if your application can tolerate heuristic conditions. This option is only available when you select a non-XA JDBC driver to make database connections.

- **Logging Last Resource**: select this option to enable a non-XA JDBC connection to participate in global transactions using the Logging Last Resource (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit. This option is only available when you select a non-XA JDBC driver to make database connections.

See Configuration Options.

Select Targets

On the **Select Targets** page, select the server instances and clusters on which you want to deploy the data source.

See Configuration Options.

Review

On the **Review** page, review the configuration for this JDBC data source.

See Configuration Options.

Create JDBC GridLink data sources

Configure database connectivity with your Oracle RAC installation by adding a JDBC GridLink data source to your WebLogic Server domain. Data sources and their connection pools provide connection management processes that help keep your system running efficiently.

To create a JDBC GridLink data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

   The JDBC Data Sources page is displayed.

2. Click **Create**, then select **Active GridLink Data Source**.

3. Define the configuration options for your JDBC GridLink data source on each page of the following sections.

4. Then, click **Create** to save the JDBC GridLink data source configuration and deploy the Active GridLink data source to the targets that you selected.

- Data Source Properties
- Connection Properties
- Transaction Properties
- ONS Properties
- Select Targets
- Review

Data Source Properties

On the **Data Sources Properties** page, define the general configuration options for this JDBC data source.

- **Data Source Name**: enter a name for this JDBC data source. This name is used in the configuration file (`config.xml`) and whenever referring to this data source.

- **Scope**: select the scope in which you want to create this JDBC data source.

- **Driver Class Name**: select the JDBC driver you want to use to connect to the database. The list includes common JDBC drivers for the selected DBMS.

> **Note:**
>
> You must install JDBC drivers before you can use them to create database connections. Some JDBC drivers are installed with WebLogic Server, but many are not installed.

- **JNDI Name**: enter the JNDI path to where this JDBC data source will be bound. Applications look up the data source on the JNDI tree by this name when reserving a connection.

- **Row Prefetch Enabled**: select to enable multiple rows to be "prefetched" (that is, sent from the server to the client) in one server access.

- **Row Prefetch Size**: if you enabled row prefetching, specify the number of result set rows to prefetch for a client.

- **Stream Chunk Size**: specify the data chunk size for steaming data types.

See Configuration Options.

Connection Properties

On the **Connection Properties** page:

1. On the **Connection Properties** page, enter values for the following properties in the **Database Connection Information** section:

   - **Database URL**: enter the URL of the database to connect to. The format of the URL varies by JDBC driver.

   - **Password**: enter the database account password to use to create database connections.

   - **Test Table Name or SQL Statement**: enter the name of the database table or SQL statement to use to test physical database connections.

     This name is required when you specify a **Test Frequency** and enable **Test Reserved Connections**. The default SQL code used to test a connection is `select count(*) from TestTableName`. If the Test Table Name begins with `SQL`, then the rest of the string following that leading token will be taken as a literal SQL statement that will be used to test connections instead of the standard query. For example: `SELECT 1 FROM DUAL`.

2. In the **Properties** section, click **Add** and enter the properties that are required by the data source class. For example: `server=dbserver1`.

3. In the **System Properties** section, click **Add** and enter the system properties that are required by the data source class. For example: `server=dbserver1`.

4. In the **Encrypted Properties** section, click **Add** and enter the encrypted properties for this data source. For example: `password=value`.

5. In the **Connection Pool Properties** section, enter values for the following properties:

   • **Initial Capacity**: enter the number of physical connections to create when creating the connection pool.

   • **Maximum Capacity**: enter the maximum number of physical connections that this connection pool can contain.

   • **Minimum Capacity**: enter the minimum number of physical connections that this connection pool can contain.

   • **Statement Cache Type**: select the algorithm used for maintaining the prepared statements stored in the statement cache.

   • **Statement Cache Size**: enter the number of prepared and callable statements stored in the cache. (This may increase server performance.)

6. In the **Advanced** section, enter values for the following properties:

   • **Test Connections On Reserve**: select whether to enable WebLogic Server to test a connection before giving it to a client. (Requires that you specify a **Test Table Name**.)

   • **Test Frequency (seconds)**: enter the number of seconds between when WebLogic Server tests unused connections. (Requires that you specify a **Test Table Name**.) Connections that fail the test are closed and reopened to re-establish a valid physical connection. If the test fails again, then the connection is closed.

   • **Seconds to Trust an Idle Pool Connection**: enter the number of seconds within a connection use that WebLogic Server trusts that the connection is still viable and will skip the connection test, either before delivering it to an application or during the periodic connection testing process.

   • **Shrink Frequency (seconds)**: enter the number of seconds to wait before shrinking a connection pool that has incrementally increased to meet demand.

   • **Init SQL**: enter the SQL statement to execute that will initialize newly created physical database connections. Start the statement with SQL followed by a space.

   • **Connection Creation Retry Frequency (seconds)**: enter the number of seconds between attempts to establish connections to the database.

   • **Login Delay (seconds)**: enter the number of seconds to delay before creating each physical database connection. This delay supports database servers that cannot handle multiple connection requests in rapid succession.

   • **Inactive Connection Timeout (seconds)**: enter the number of inactive seconds on a reserved connection before WebLogic Server reclaims the connection and releases it back into the connection pool.

   • **Maximum Waiting for Connection (seconds)**: enter the maximum number of connection requests that can concurrently block threads while waiting to reserve a connection from the data source's connection pool.

   • **Connection Reserve Timeout (seconds)**: enter the number of seconds after which a call to reserve a connection from the connection pool will timeout.

   • **Statement Timeout**: enter the time after which a statement currently being executed will time out.

- **Ignore In-Use Connections**: enables the data source to be shutdown even if connections obtained from the pool are still in use.

- **Pinned-To-Thread**: can improve performance by enabling execute threads to keep a pooled database connection even after the application closes the logical connection.

- **Remove Infected Connections Enabled**: specifies whether a connection will be removed from the connection pool after the application uses the underlying vendor connection object.

- **Wrap Data Types**: specifies whether wrapping is enabled.

- **Fatal Error Codes**: specifies a comma-separated list of error codes that are treated as fatal errors.

- **Connection Labeling Callback**: enter the class name of the connection labeling callback.

- **Connection Harvest Max Count**: enter the maximum number of connections that may be harvested when the connection harvesting occurs.

- **Connection Harvest Trigger Count**: specifies the number of available connections (trigger value) used to determine when connection harvesting occurs.

- **Connection Count of Refresh Failures Till Disable**: specifies the number of reconnect failures allowed before WebLogic Server disables a connection pool to minimize the delay in handling the connection request caused by a database failure.

- **Count of Test Failures Till Flush**: specifies the number of test failures allowed before WebLogic Server closes all unused connections in a connection pool to minimize the delay caused by further database testing.

See Configuration Options.

Transaction Properties

On the **Transaction Properties** page, follow these steps. Depending on the driver you selected on the **JDBC Data Source Properties** page, you may not need to specify any of these options.

Supports Global Transactions: select this check box (the default) to enable global transaction support in this data source. Clear this check box to disable (ignore) global transactions in this data source. In most cases, you should leave the option selected.

If you selected **Supports Global Transactions**, then select an option for transaction processing (available options vary depending on whether you select an XA driver or a non-XA driver):

- **One-Phase Commit**: select this option to enable the non-XA connection to participate in a global transaction as the only transaction participant. This option is only available when you select a non-XA JDBC driver to make database connections.

- **Emulate Two-Phase Commit**: enables a non-XA JDBC connection to emulate participation in distributed transactions using JTA. Select this option only if your application can tolerate heuristic conditions. This option is only available when you select a non-XA JDBC driver to make database connections.

- **Logging Last Resource**: select this option to enable a non-XA JDBC connection to participate in global transactions using the Logging Last Resource (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit. This option is only available when you select a non-XA JDBC driver to make database connections.

See Configuration Options.

ONS Properties

On the **ONS Properties** page, enter values for the following properties:

- Select **Fan Enabled** to subscribe to Oracle Fan Events.
- Under **ONS Nodes**, click **Add** and enter the ONS host and port for each ONS node.
- To test individual nodes, click **Test ONS Node** for an ONS host and port.
- Optionally, configure an ONS wallet file if you want ONS to use SSL protocol.

See Configuration Options.

Select Targets

On the **Select Targets** page, select the server instances and clusters on which you want to deploy the data source.

See Configuration Options.

Review

On the **Review** page, review the configuration for this JDBC GridLink data source.

See Configuration Options.

Create JDBC multi data sources

Multi data sources provide failover and load balancing for connection requests between two or more data sources. Before you create a multi data source, you should create the data sources that the multi data source will manage, and deploy them to the same targets to which you want to deploy the multi data source.

To create a JDBC multi data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

   The JDBC Data Sources page is displayed.

2. Click **Create**, then select **Multi Data Source**.

3. Define the configuration options for your JDBC multi data source on each page of the following sections.

4. Then, click **Create** to save the JDBC multi data source configuration and deploy the multi data source to the targets that you selected.

- Configure Data Source Properties
- Select Targets
- Select Data Source Type
- Add Data Sources
- Review

Configure Data Source Properties

On the **Configure Data Sources Properties** page, define the general configuration options for this JDBC multi data source.

- **Data Source Name**: enter a name for this JDBC multi data source. This name is used in the configuration files (`config.xml` and the JDBC module) and whenever referring to this multi data source.

- **Scope**: select the scope in which you want to create this JDBC data source.

- **JNDI Name**: enter the JNDI path to where this JDBC multi data source will be bound. Applications look up the data source on the JNDI tree by this name when reserving a connection.

- **Algorithm Type**: select an algorithm option:

  – **Failover**: The multi data source routes connection requests to the first data source in the list; if the request fails, the request is sent to the next data source in the list, and so forth.

  – **Load-Balancing**: The multi data source distributes connection requests evenly to its member data sources.

See Configuration Options.

Select Targets

On the **Select Targets** page, select the server instances or clusters on which you want to deploy this JDBC multi data source.

The targets you select will limit the data sources that you can select as part of the multi data source. You can only select data sources that are deployed to the same targets as the multi data source.

See Configuration Options.

Select Data Source Type

On the **Select Data Source Type** page, select one of the following options:

- **XA Driver**: The multi data source will only use data sources that use an XA JDBC driver to create database connections.

- **Non-XA Driver**: The multi data source will only use data sources that use a non-XA JDBC driver to create database connections.

The option you select limits the data sources that you can select as part of the multi data source in a later step. Limiting data sources by JDBC driver type enables the WebLogic Server transaction manager to properly complete or recover global transactions that use a database connection from a multi data source.

See Configuration Options.

Add Data Sources

On the **Add Data Sources** page, select the data sources that you want the multi data source to use to satisfy connection requests.

See Configuration Options.

Review

On the **Review** page, review the configuration for this JDBC multi data source.

See Configuration Options.

Create JDBC UCP data sources

To create a JDBC UCP data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

   The JDBC Data Sources page is displayed.

2. Click **Create**, then select **UCP Data Source**.

3. Define the configuration options for your UCP GridLink data source on each page of the following sections.

4. Then, click **Create** to save the JDBC UCP data source configuration and deploy the UCP data source to the targets that you selected.

   • Data Source Properties

   • Connection Properties

   • Select Targets

   • Review

Data Source Properties

On the **Data Sources Properties** page, define the general configuration options for this UCP data source.

• **Data Source Name**: enter a name for this JDBC data source. This name is used in the configuration file (`config.xml`) and whenever referring to this data source.

• **Scope**: select the scope in which you want to create this JDBC data source.

> **✎ Note:**
>
> The scope defaults to `Global` for the domain level.

• **Driver Class Name**: select the JDBC driver you want to use to connect to the database. The list includes common JDBC drivers for the selected DBMS.

> **✎ Note:**
>
> You must install JDBC drivers before you can use them to create database connections. Some JDBC drivers are installed with WebLogic Server, but many are not installed.

• **JNDI Name**: enter the JNDI path to where this JDBC data source will be bound. Applications look up the data source on the JNDI tree by this name when reserving a connection.

For more information on these fields, see Configuration Options.

Connection Properties

On the **Connection Properties** page:

1. On the **Connection Properties** page, enter values for the following properties in the **Database Connection Information** section:

   • **Database URL**: enter the URL of the database to connect to. The format of the URL varies by JDBC driver.

   • **Password**: enter the database account password to use to create database connections.

   • **Test Table Name or SQL Statement**: enter the name of the database table or SQL statement to use to test physical database connections.

      This name is required when you specify a **Test Frequency** and enable **Test Reserved Connections**. The default SQL code used to test a connection is `select count(*) from TestTableName`. If the Test Table Name begins with `SQL`, then the rest of the string following that leading token will be taken as a literal SQL statement that will be used to test connections instead of the standard query. For example: `SELECT 1 FROM DUAL`.

2. In the **Properties** section, click **Add** and enter the properties that are required by the data source class. For example: `server=dbserver1`.

3. In the **System Properties** section, click **Add** and enter the system properties that are required by the data source class. For example: `server=dbserver1`.

4. In the **Encrypted Properties** section, click **Add** and enter the encrypted properties for this data source. For example: `password=value`.

For more information on these fields, see Configuration Options.

Select Targets

On the **Select Targets** page, select the server instances and clusters on which you want to deploy the data source.

See Configuration Options.

Review

On the **Review** page, review the configuration for this JDBC UCP data source.

See Configuration Options.

Create a JDBC data source from an existing data source

You can create a new JDBC data source to have the same configuration settings as an existing JDBC data source.

To create a new JDBC data source from an existing JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the row of the data source instance you want to use to create your new data source.

   The Create Like option is displayed above the table.

3. Click **Create Like**.

   The Creating New JDBC Data Source assistant is displayed with the same configuration settings as the existing JDBC data source you modeled.

4. Review each page of the Creating New JDBC Data Source assistant to ensure the property values match the desired configuration for your new JDBC data source.

5. Click **Create** to save the JDBC data source configuration and deploy the new data source to the targets that you selected.

Monitor JDBC data sources

After you create a JDBC data source, you can monitor it to look for unusual activity, such as an abnormal number of requests waiting for a connection. You can also test the connection between a data source and the database. This section includes the following tasks:

- Monitor JDBC data sources
- Monitor a JDBC data source
- Monitor a JDBC GridLink data source
- Monitor a JDBC multi data source
- Test JDBC data sources

Monitor JDBC data sources

You can monitor a variety of statistics for each data source instance in your domain, such as the current number of database connections in the connection pool, current number of connections in use, the longest wait time for a database connection, and so forth.

To monitor the activity of the JDBC data source instances deployed to the current domain:

1. From the **WebLogic Domain** menu, select **Monitoring**, then select **JDBC Data Sources**.

   The JDBC Data Sources (Monitoring) table displays statistics about the JDBC data source instances deployed to the current domain, such as:

   - Name
   - Type
   - Resource
   - Server Name
   - State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. In the table, select the name of the JDBC data source for which you want to view configuration information.

Monitor a JDBC data source

To monitor the activity of a specific JDBC data source instance deployed to the current domain:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to monitor.

3. Select **Monitoring**.

4. The Monitor JDBC Data Source page displays statistics about this JDBC data source instance, such as:

   • Type

   • Resource

   • Scope

   • Server Name

   • State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

Monitor a JDBC GridLink data source

To monitor the activity of a specific JDBC GridLink data source instance deployed to the current domain:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC GridLink data source you want to monitor.

3. Select **Monitoring**.

   The Monitoring page displays statistics about this JDBC GridLink data source.

4. Optionally, in the Monitoring table, select the Active GridLink data source instance you want to monitor.

   The Instances page displays statistics about this Active GridLink data source instance, such as:

   • Instance Name

   • State

   • Current Capacity

   • Number Available

   • Active Connections Current Count

   For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

5. Optionally, in the Monitoring table, select the Active GridLink data source ONS client you want to monitor.

   The ONS page displays statistics about this Active GridLink data source ONS client, such as:

   - Host
   - Port
   - Status

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

Monitor a JDBC multi data source

To monitor the activity of a specific JDBC multi data source instance deployed to the current domain:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.
2. In the JDBC Data Sources table, select the JDBC multi data source you want to monitor.
3. Select **Monitoring**.
4. The Monitor JDBC Multi Data Source page displays statistics about all the JDBC data sources participating in this JDBC multi data source, such as:

   - Name
   - Type
   - Resource
   - Server Name
   - State

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed
- Query by Example

Test JDBC data sources

You can manually test individual instances of a data source. When you test a data source, WebLogic Server reserves a connection from the data source, tests it using the standard testing query or the query specified in Test Table Name, and then returns the database connection to the pool of connections. Test results are displayed at the top of the page.

The manual connection test relies on the Test Reserved Connections and Test Table Name attributes of the data source. Those attributes are set by default. However, if you changed either attribute, the changes will affect the database connection test.

To test a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.
2. In the JDBC Data Sources table, select the JDBC data source you want to monitor.
3. Select **Monitoring**.
4. Click **Test Data Source**. Test results are displayed.

Control JDBC data sources

After you create a JDBC data source, you can perform administrative tasks on instances of the data source, including resetting all database connections, suspending use of the data source, and shutting down the data source. This section includes the following tasks:

- Start JDBC data sources
- Stop JDBC data sources
- Resume suspended JDBC data sources
- Suspend JDBC data sources
- Shrink JDBC data source connection pools
- Reset JDBC data source connections
- Clear JDBC data source statement caches
- Delete JDBC data sources
- Control a JDBC data source
- Control a JDBC multi data source

Start JDBC data sources

You can manually start data source instances that have a health state of `Shutdown`.

To start a JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.
2. In the JDBC Data Sources (Control) table, select the row of the data source instance you want to start.

   The control options are displayed above the table.

3. Click **Start**, then select **Yes** to confirm the action.

Stop JDBC data sources

You can manually stop individual instances of a data source. When you stop a data source, behavior depends on the type of stop that you select:

- **Stop:** shuts down a data source that has a health state of `Running`. If any connections from the data source are currently in use, then the `Shutdown` operation fails and the health state remains `Running`.

- **Force Stop**: shuts down a data source that has a health state of `Running`, including forcing the disconnection of all current connection users.

To stop a JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.

2. In the JDBC Data Sources (Control) table, select the row of the data source instance you want to stop.

   The control options are displayed above the table.

3. Click **Stop** or **Force Stop**, and then select **Yes** to confirm the action.

Resume suspended JDBC data sources

You can manually resume data source instances that are in a `Suspended` state.

To resume a suspended JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.

2. In the JDBC Data Sources (Control) table, select the row of the data source instance you want to resume.

   The control options are displayed above the table.

3. Click **Resume**, then select **Yes** to confirm the action.

Suspend JDBC data sources

You can manually suspend individual instances of a data source. When you suspend a data source, applications can no longer get a database connection from the data source. For connections that are already reserved by an application, behavior depends on the type of suspension that you select:

- **Suspend:** marks the data source as disabled and blocks any new connection requests. If there are any reserved connections, then the operation will wait for `InactiveTimeout` seconds, if configured. Otherwise, the operation waits 60 seconds before suspending all connections. If successful, then the health state is set to `Suspended`.

- **Force Suspend:** marks the data source as disabled, blocks any new requests for a connection from the connection pool, and closes and recreates connections currently in use.

Most connections in a suspended data source remain intact. The connections are not recreated when you resume the data source, except for the connections in use when the data source is Force Suspended.

To suspend a JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.

2. In the JDBC Data Sources (Control) table, select the row of the data source instance you want to suspend.

   The control options are displayed above the table.

3. Click **Suspend** or **Force Suspend**, then select **Yes** to confirm the action.

Shrink JDBC data source connection pools

You can manually shrink the pool of database connections in individual instances of a data source to the initial capacity or the current number of connections in use, whichever is greater.

To shrink the connection pool in a JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.

2. In the JDBC Data Sources (Control) table, select the row of the data source instance for which you want to shrink the connection pool.

   The control options are displayed above the table.

3. Click **Shrink**, then select **Yes** to confirm the action.

Reset JDBC data source connections

When you reset the database connections in a JDBC data source, WebLogic Server closes and recreates all available database connections in the pool of connections in the data source.

To reset database connections in a JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.

2. In the JDBC Data Sources (Control) table, select the row of the data source instance for which you want to reset connections.

   The control options are displayed above the table.

3. Click **Reset**, then select **Yes** to confirm the action.

Clear JDBC data source statement caches

If statement caching is enabled for a data source, then WebLogic Server caches are prepared and callable statements that are used in each connection in the data source. Each connection has its own cache, but the caches for each connection are configured and managed as a group. When you clear the statement cache for a data source, you clear the statement cache for all connections in the instance of the data source you select.

See Increasing Performance with the Statement Cache.

To clear the statement cache in a JDBC data source:

1. From the **WebLogic Domain** menu, select **Control**, then select **JDBC Data Sources**.

2. In the JDBC Data Sources (Control) table, select the row of the data source instance for which you want to clear the statement cache.

   The control options are displayed above the table.

3. Click **Clear Statement Cache**, then select **Yes** to confirm the action.

Delete JDBC data sources

Before you begin

Ensure that the data source you want to delete is not used by a multi data source. If the data source you want to delete is used by a multi data source, then you must remove the data source from the multi data source before the data source can be deleted. The delete operation will fail if the data source you are attempting to delete is used by a multi data source.

To delete a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the row of the JDBC data source you want to delete.

   The Delete option is displayed above the table.

3. Click **Delete**, then select **Yes** to confirm the action.

Control a JDBC data source

To control a specific JDBC data source instance deployed to the current domain:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to control.

3. Select **Control**.

4. From the Control JDBC Data Source page you can perform the following actions:

   - Start
   - Stop
   - Force Stop
   - Resume
   - Suspend
   - Force Suspend
   - Shrink Connection Pools
   - Reset
   - Clear Statement Cache

   For more information about these actions, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

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Control a JDBC multi data source

To control a specific JDBC multi data source instance deployed to the current domain:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC multi data source you want to control.

3. Select **Control**.

4. From the Control JDBC Multi Data Source page you can perform the following actions:

    • Start

    • Stop

    • Force Stop

    • Resume

    • Suspend

    • Force Suspend

    • Shrink Connection Pools

    • Reset

    • Clear Statement Cache

    For more information about these actions, see Configuration Options.

    Optionally, select **View** to access the following table options:

    • Columns: add or remove the columns displayed in the table

    • Detach: detach the table (viewing option)

    • Sort: sort the columns in ascending or descending order

    • Reorder: change the order of the columns displayed

    • Query by Example

Configure JDBC data sources

When you create a JDBC data source, most data source attributes are configured so that the data source will work in your environment. However, you may need to modify a data source configuration to enable or disable specific features or to tune performance.

This section includes the following tasks:

• Define general configuration settings

• Configure connection pool properties

• Configure Oracle parameters

• Configure ONS client parameters

• Configure global transaction options

• Configure JDBC data source diagnostic profiling

• Configure JDBC data source identity options

• Target JDBC data sources

- Configure tags for a JDBC data source
- Create JDBC data sources notes
- Configure a JDBC multi data source

Define general configuration settings

Applications connect to databases from a data source by looking up the data source on the Java Naming and Directory Interface (JNDI) tree and then requesting a connection. The data source provides the connection to the application from its pool of data base connections.

To define general configuration settings for a specific JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Source table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **General**.

4. From the General Configuration page, you can define configuration settings for this JDBC data source, such as:

   - Data Source Name
   - Scope
   - Type
   - Database Type
   - Driver Class Name
   - JNDI Name
   - Row Prefetch Enabled
   - Row Prefetch Size
   - Stream Chunk Size

   For more information about these fields, see Configuration Options.

5. Click **Save**.

After you finish

After you activate your changes, you will need to redeploy the data source or restart your server before the changes will take effect.

- Bind a JDBC data source to the JNDI tree with multiple names

Bind a JDBC data source to the JNDI tree with multiple names

Before you begin

You can configure a data source so that it binds to the JNDI tree with multiple names. You can use a multi-JNDI-named data source in place of legacy configurations that included multiple data sources that pointed to a single JDBC connection pool. You must either restart the system after making your change or undeploy the data source before making the change, and then redeploy it after making the change.

To add JNDI names to an existing JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **General**.

4. In the **JNDI Name** field, enter the names you want to use to bind the data source to the JNDI tree with each name on a separate line.

   For more information about these fields, see Configuration Options.

5. Click **Save**.

After you finish

After you activate your changes, you will need to redeploy the data source or restart your server before the changes will take effect.

Configure connection pool properties

The connection pool within a JDBC data source contains a group of JDBC connections that applications reserve, use, and then return to the pool. The connection pool and the connections within it are created when the connection pool is registered, usually when starting WebLogic Server or when deploying the data source to a new target.

To configure the connection pool for a specific JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Connection Pool**.

4. From the Connection Pool page, you can define connection properties for this JDBC data source, such as:

   - Driver Class Name
   - Database URL
   - Password
   - Properties
   - System Properties
   - Encrypted Properties
   - Initial Capacity
   - Maximum Capacity
   - Minimum Capacity
   - Statement Cache Type
   - Statement Cache Size

   For more information about these fields, see Configuration Options.

5. Optionally, expand **Advanced** to define advanced connection properties for this JDBC data source.

6. Click **Save**.

- Configure JDBC data source testing options
- Configure statement cache
- Configure connection pool capacity
- Enable connection requests to wait for a connection

Configure JDBC data source testing options

You can set database connection testing options in a data source to make sure that the database connections remain healthy, which helps keep your applications running properly.

To configure testing options for a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Connection Pool**.

4. Expand **Advanced** to display the advanced connection pool options.

5. Select one or more of the following options:

    • **Test Connections on Reserve**: select this check box to test the database connection before giving it to your application when your application requests a connection from the data source.

    • **Test Frequency**: enable periodic background connection testing by entering the number of seconds between periodic tests.

    You can use these options to achieve the right mix of performance and fault tolerance for your system.

6. In the **Test Table Name or SQL Statement** field, enter the name of a small table to use in a query to test database connections. The standard query is `select 1 from table_name`. If you prefer to use a different query as a connection test, then enter `SQL` followed by a space and the SQL code you want to use to test database connections.

7. Optionally, in the **Seconds to Trust an Idle Pool Connection** field, enter the number of seconds within which, if the database connection has been used or tested, WebLogic Server will skip the connection test. This option can help reduce the overhead of connection testing and improve application performance.

    For more information about these fields, see Configuration Options.

8. Click **Save**.

Configure statement cache

To improve performance, WebLogic Server can cache prepared and callable statements used in your applications (enabled by default). When an application or EJB calls any of the statements stored in the cache, WebLogic Server reuses the statement stored in the cache. Each database connection in a data source has its own statement cache.

To configure the statement cache for a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Connection Pool**.

4. In the **Statement Cache Type** field, select one of the following options:

    • **LRU**: after the Statement Cache Size is met, the Least Recently Used statement is removed when a new statement is used.

    • **Fixed**: the first Statement Cache Size number of statements is stored and stay fixed in the cache. No new statements are cached unless the cache is manually cleared or the cache size is increased.

ORACLE

5. In the **Statement Cache Size** field, enter the number of statements to cache per connection per data source instance.

   For more information about these fields, see Configuration Options.

6. Click **Save**.

Configure connection pool capacity

You can configure the initial and maximum capacity for a JDBC connection pool.

To configure the connection capacity for a JDBC connection pool:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Connection Pool**.

4. In the **Initial Capacity** field, enter the number of physical connections to create when creating the connection pool.

5. In the **Maximum Capacity** field, enter the maximum number of physical connections that this connection pool can contain.

> **Note:**
>
> An easy way to boost performance of JDBC in WebLogic Server applications is to set the value of **Initial Capacity** equal to the value for **Maximum Capacity** when configuring connection pools in your data source.

   For more information about these fields, see Configuration Options.

6. Click **Save**.

Enable connection requests to wait for a connection

To enable connection requests to wait for a connection from a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Connection Pool**.

4. Expand **Advanced** to display the advanced connection pool options.

5. In the **Maximum Waiting for a Connection** field, enter the maximum number of connection requests that can wait for a connection from the connection pool while blocking threads.

6. In the **Connection Reserve Timeout** field, enter the number of seconds that connection requests can wait for a connection.

   For more information about these fields, see Configuration Options.

7. Click **Save**.

Configure Oracle parameters

Before you begin

Additional configuration may be required to support Oracle parameters.

See Using Active GridLink Data Sources in *Administering JDBC Data Sources for Oracle WebLogic Server*.

To configure Oracle parameters:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC GridLink data source you want to configure.

3. Select **Configuration**, then select **Oracle**.

4. From the Oracle Parameters page, you can define Oracle parameters for this JDBC GridLink data source, such as:

   • Oracle Optimize UTF8 Conversion

   • Replay Initiation Timeout

   • Connection Initialization Callback

   • Oracle Proxy Session

   • Use Database Credentials

   • Active GridLink Data Source

   • Affinity Policy

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure ONS client parameters

Before you begin

Additional configuration may be required to support ONS client parameters.

See Using Active GridLink Data Sources in *Administering JDBC Data Sources for Oracle WebLogic Server*.

To configure ONS client parameters:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC GridLink data source you want to configure.

3. Select **Configuration**, then select **ONS Client**.

4. From the ONS Client Configuration page, you can define ONS configuration options, such as:

   • Fan Enabled

   • ONS Nodes

   • ONS Wallet File Directory

   • ONS Wallet Password

   • Confirm ONS Wallet Password

   For more information about these fields, see Configuration Options.

5. Click **Save**.

• Configure SSL for the ONS client using a Oracle wallet file

Configure SSL for the ONS client using a Oracle wallet file

Before you begin

A wallet file is only required when the ONS client is configured to communicate with ONS daemons using SSL. Additional configuration is required to support this feature.

See Using GridLink Data Sources in *Administering JDBC Data Sources for Oracle WebLogic Server*.

To configure an Oracle wallet file when using SSL:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC GridLink data source you want to configure.

3. Select **Configuration**, then select **ONS Client**.

4. On the ONS Client Configuration page, configure the following attributes:

   • **ONS Wallet File**: enter the location of the Oracle wallet file in which the SSL certificates are stored.

   • **ONS Wallet Password**: enter and confirm the ONS wallet password.

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure global transaction options

The transaction protocol for a JDBC data source determines how connections from the data source are handled during transaction processing.

See JDBC Data Source Transaction Options in *Administering JDBC Data Sources for Oracle WebLogic Server*.

> **✎ Note:**
>
> If the data source uses an XA JDBC driver to create database connections, then connections from the data source will support the two-phase commit transaction protocol only. No other transaction options are available for data sources that use an XA JDBC driver.

To configure transaction options for a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Transaction**.

4. From the Transaction Options page, select the **Supports Global Transactions** checkbox to enable global transaction support in this data source. Clear this checkbox to disable (ignore) global transactions in this data source. In most cases, you should select this option.

If you select Supports Global Transactions, then select an option for transaction processing.

- **One-Phase Commit**: Select this option to enable the non-XA connection to participate in a global transaction as the only transaction participant.

- **Emulate Two-Phase Commit**: Enables a non-XA JDBC connection to emulate participation in distributed transactions using JTA. Select this option only if your application can tolerate heuristic conditions.

- **Logging Last Resource**: Select this option to enable a non-XA JDBC connection to participate in global transactions using the Logging Last Resource (LLR) transaction optimization. Recommended in place of Emulate Two-Phase Commit.

For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure JDBC data source diagnostic profiling

If the monitoring statistics indicate that there is a problem in your WebLogic Server domain, then you can configure any data source to collect profile information to help you pinpoint the source of the problem. The collected profile information is stored in records in the WLDF Archive.

To configure diagnostic profiling for a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Diagnostics**.

4. From the Diagnostic Profiling Options page, you can configure diagnostic profiling options, such as:

    - Profile Connection Usage

    - Profile Connection Reservation Wait

    - Profile Connection Leak

    - Profile Connection Reservation Failed

    - Profile Statement Cache Entry

    - Profile Statement Usage

    - Profile Connection Last Usage

    - Profile Connection Multithreaded Usage

    - Profile Connection Unwrap

    - Profile Harvest Frequency Seconds

    - Driver Interceptor

    For more information about these fields, see Configuration Options.

5. Click **Save.**

Configure JDBC data source identity options

You can choose the security option you want to use when mapping WebLogic Server user credentials to database user credentials. This section includes the following tasks:

- Enable credential mapping
- Enable identity-based connection pooling

Enable credential mapping

When an application requests a database connection from the data source, WebLogic Server determines the current WebLogic Server user ID and then sets the mapped database ID as a lightweight client ID on the database connection.

> **Note:**
>
> This feature relies on features in the JDBC driver and DBMS. It is only supported for use with Oracle and DB2 databases and with the Oracle Thin and DB2 UDB JDBC drivers, respectively.

To enable credential mapping for a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Identity Options**.

4. Select the **Set Client ID On Connection** checkbox.

> **Note:**
>
> **Set Client ID On Connection** and **Enable Identity Based Connection Pooling** are mutually exclusive. If you think you need both mechanisms to pass security credentials in your application environment, then create separate data sources— one for use with **Set Client ID On Connection** and one for use with **Enable Identity Based Connection Pooling**.

For more information about this field, see Configuration Options.

5. Click **Save**.

Enable identity-based connection pooling

Identity-based connection pooling allows applications to use a JDBC connection with a specific DBMS credential based on the end user application by pooling physical connections.

To enable identity-based connection pooling for a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to configure.

3. Select **Configuration**, then select **Identity Options**.

4. Select the **Enable Identity Based Connection Pooling** checkbox.

> **Note:**
>
> **Set Client ID On Connection** and **Enable Identity Based Connection Pooling** are mutually exclusive. If you think you need both mechanisms to pass security credentials in your application environment, then create separate data sources—one for use with **Set Client ID On Connection** and one for use with **Enable Identity Based Connection Pooling**.

For more information about this field, see Configuration Options.

5. Click **Save**.

Target JDBC data sources

Before you begin

Ensure that the JDBC drivers you want to use to create database connections are installed on all server instances on which you want to deploy the data source. Some JDBC drivers are installed with WebLogic Server, including WebLogic Type 4 JDBC drivers for DB2, Informix, MS SQL Server, and Sybase.

For more information about working with JDBC drivers, see Using JDBC Drivers with WebLogic Server.

When you target a JDBC data source, a new instance of the data source is created on the target. When you select a server as a target, an instance of the data source is created on the server. When you select a cluster as a target, an instance of the data source is created on all member server instances in the cluster.

To target a JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source you want to target.

3. Select **Targets**.

4. On the Targets page, select the server instances or clusters on which you want to deploy the data source.

5. Click **Save** to save the JDBC data source configuration and deploy the data source to the targets that you selected.

See Configuration Options.

Configure tags for a JDBC data source

To configure tags for a specific JDBC data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Source table, select the name of the JDBC data source you want to configure.

3. Select **Tags**.

4. On the Tags page, you can configure the tags associated with this JDBC data source:

    - In **Add new tag**, create a new tag by entering the tag name.

- In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with this Coherence archive.

See Configuration Options.

5. Click **Apply**.

Create JDBC data sources notes

To create notes for JDBC data source configuration:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC data source for which you want to create notes.

3. Select **Notes**.

4. On the Notes page, enter your notes.

5. Click **Save**.

See Configuration Options.

Configure a JDBC multi data source

Multi data sources provide failover and load balancing for connection requests between two or more data sources. Before you create a multi data source, you should create the data sources that the multi data source will manage, and deploy them to same targets on which you want to deploy the multi data source. Note that the underlying databases must have some kind of data synchronization or replication. WebLogic Server does not handle that replication.

To configure a specific JDBC multi data source:

1. From the **WebLogic Domain** menu, select **JDBC Data Sources**.

2. In the JDBC Data Sources table, select the JDBC multi data source you want to configure.

3. To configure general settings, select **Configuration**, then select **General**.

   From the General Configuration page, you can define configuration options for this JDBC multi data source, such as:

   - Name
   - JNDI Name
   - Algorithm Name
   - Failover Request if Busy
   - Failover Callback Handler
   - Test Frequency Seconds

   For more information about these fields, see Configuration Options.

4. To select the JDBC data sources that you would like to include as part of this JDBC multi data source, select **Configuration**, then select **Data Sources**.

5. To deploy this JDBC multi data source to targeted server instances, select **Targets**.

6. To monitor this JDBC multi data source, see Monitor a JDBC multi data source.

7. To control this JDBC multi data source, see Control a JDBC multi data source.

8. To create notes that describe the configuration of this JDBC data source, select **Notes**.

9. Click **Save**.

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WebLogic Server Persistent Stores

This chapter describes how to monitor and configure persistent stores created for this domain. A persistent store is a physical repository for storing subsystem data.
The WebLogic Server persistent store provides a built-in, high-performance storage solution for WebLogic Server subsystems and services that require persistence. For example, it can store persistent JMS messages or temporarily store messages sent using the Store-and-Forward feature. The persistent store supports persistence to a file-based store or to a JDBC-accessible store in a database. See Using the WebLogic Persistent Store in *Administering the WebLogic Persistent Store*.

This chapter includes the following sections:

- Create persistent stores
- Monitor persistent stores
- Monitor and configure file stores
- Monitor and configure JDBC stores
- Monitor and configure replicated stores
- Monitor and configure default stores

Create persistent stores

This section describes how to create new persistent stores. It includes the following tasks:

- Create a JDBC store
- Create a file store

Create a JDBC store

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

    The Persistent Stores table displays information about all the persistent stores configured in this domain.

2. Click **Create**, then select **JDBC Store**.

3. Define the configuration options for your JDBC store on each page of the following sections.

4. Then, click **Create**.

- General Settings
- Targets
- High Availability
- Review

General Settings

On the **General Settings** page, define the general configuration settings for your new JDBC store:

- **Name**: enter a name for the JDBC store.

- **Scope**: specify the scope in which you would like this new persistent store to be created.

- **Data Source**: select a data source or click Create a New Data Source to create a new data source for this JDBC store. For more information on creating data sources, see Create JDBC data sources.

- **Prefix Name**: specify a prefix name to prepend to the table name in this JDBC store for use with multiple instance

For more information on these fields, see Configuration Options.

Targets

On the **Targets** page, select the server instances and clusters on which you want to deploy the JDBC store.

See Configuration Options.

High Availability

On the **High Availability** page, define the high availability settings for your new JDBC store:

- **Distribution Policy**: specify if the file store is a singleton or is distributed.

- **Migration Policy**: specify the migration policy to be used by the file store.

For more information on these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for this JDBC store.

See Configuration Options.

Create a file store

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

   The Persistent Stores table displays information about all the persistent stores configured in this domain.

2. Click **Create**, then select **File Store**.

3. Define the configuration options for your file store on each page of the following sections.

4. Then, click **Create**.

- General Settings

- Targets

- High Availability

- Review

General Settings

On the **General Settings** page, define the general configuration settings for your new file store:

• **Name**: enter a name for the file store.

• **Scope**: specify the scope in which you would like this new persistent store to be created.

• **Directory**: enter the pathname to the directory on the file system where the file store is kept. This directory must exist on your system, so be sure to create it before completing this page.

For more information on these fields, see Configuration Options.

Targets

On the **Targets** page, select the server instances and clusters on which you want to deploy the file store.

See Configuration Options.

High Availability

On the **High Availability** page, define the high availability settings for your new file store:

• **Distribution Policy**: specify if the file store is a singleton or is distributed.

• **Migration Policy**: specify the migration policy to be used by the file store.

For more information on these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for this file store.

See Configuration Options.

Monitor persistent stores

To monitor all persistent stores created for the current domain:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

   The Persistent Store table displays information about the persistent stores that have been created for the current domain, such as:

   • Name

   • Type

   • Scope

   • Target

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

2. In the table, select the name of the persistent store for which you want to view configuration information.

- Monitor server persistent stores
- Monitor cluster persistent stores

Monitor server persistent stores

To monitor all persistent stores created for a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the Administration Server and any Managed Servers that have been configured in the current domain.

2. In the Servers table, select the name of the server instance for which you want to monitor persistent stores.

3. From the **WebLogic Server** menu, select **Other Services**, then select **Persistent Stores**.

   The Persistent Store table displays information about the persistent stores that have been created for the current server instance, such as:

   - Name
   - Type
   - Target

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

4. In the table, select the name of the persistent store for which you want to view configuration information.

Monitor cluster persistent stores

To monitor all persistent stores created for a specific cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain.

2. In the Clusters table, select the name of the cluster for which you want to monitor persistent stores.

3. From the **WebLogic Cluster** menu, select **Other Services**, then select **Persistent Stores.**

The Persistent Store table displays information about the persistent stores that have been created for the current cluster, such as:

- Name

- Type

- Target

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

4. In the table, select the name of the persistent store for which you want to view configuration information.

Monitor and configure file stores

A file store is a file-based repository for storing subsystem data, such as persistent JMS messages or durable subscriber information.

This section includes the following tasks:

- Monitor a file store
- Configure a file store
- Select file store targets
- Create file store notes

Monitor a file store

To monitor a specific persistent file store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the file store you want to monitor.

3. Select **Monitoring**, then select **Statistics**.

The Statistics table displays runtime statistics for this persistent file store, such as:

- Create Count

- Read Count

- Update Count

- Delete Count

- Physical Write Count

- Allocated Window Buffer Bytes

- Allocated IO Buffer Bytes

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

4. Select **Monitoring**, then select **Connections**.

The Connections table displays runtime statistics for all active file store connections, such as:

- Name
- Create Count
- Read Count
- Update Count
- Delete Count
- Object Count

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure a file store

To configure a specific file store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the file store you want to configure.

3. Click **Configuration**.

   a. Select **General**.

   From the General page, you can define configuration settings for this file store, such as:

   - Name
   - Directory
   - Synchronous Write Policy
   - Cache Directory

   Optionally, expand **Advanced** to define advanced settings for this cluster.

For more information about these fields, see Configuration Options.

Click **Apply**.

b. Select **High Availability**.

From the High Availability page, you can configure High Availability settings for this file store, such as:

- Distribution Policy
- Migration Policy
- Initial Boot Delay Seconds
- Failback Delay Seconds
- Partial Cluster Stability Delay Seconds

> **Note:**
>
> The high availability settings are applicable for a store when it is:
> - Not targeted
> - Targeted to a cluster
>
> The high availability settings are not applicable to a store when it is:
> - Targeted to a migratable target (requires configuring the restart-in-place settings on the migratable target instead)
> - Targeted directly to a server within a configured cluster (recommended targeting to a migratable target instead)

c. Expand **Restart Settings** to define restart settings for this cluster, such as:

- Restart In Place
- Seconds Between Restarts
- Number Of Restart Attempts

> **Note:**
>
> The restart settings are applicable for a store when it is:
> - Targeted to a cluster
> - Targeted to a single server, where the server is not part of a cluster
> - Not targeted
>
> The settings are not applicable to a store when it is:
> - Targeted to a migratable target (requires configuring the restart-in-place settings on the migratable target instead)
> - Targeted directly to a server within a configured cluster (recommended targeting to a migratable target instead)

d. Click **Apply**.

For more information about these fields, see Configuration Options.

Select file store targets

To select the targets on which you want to deploy a specific file store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the file store you want to configure.

3. Select **Targets.**

   On the Targets page, select the server instance or migratable target on which you want to deploy this file store.

   See Configuration Options.

4. Click **Apply**.

Create file store notes

To create notes for a file store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the file store you want to configure.

3. Select **Notes.**

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Save**.

Monitor and configure JDBC stores

A JDBC store is a JDBC-accessible database for storing subsystem data, such as persistent JMS messages and durable subscriber information.

This section includes the following tasks:

- Monitor a JDBC store
- Configure a JDBC store
- Select JDBC store targets
- Create JDBC store notes

Monitor a JDBC store

To monitor a specific JDBC store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the JDBC store you want to monitor.

3. Select **Monitoring**, then select **Statistics**.

   The Statistics table displays runtime statistics for this JDBC store, such as:

- Create Count

- Read Count

- Update Count

- Delete Count

- Physical Write Count

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

4. Select **Monitoring**, then select **Connections**.

   The Connections table displays runtime statistics for all active JDBC store connections, such as:

   - Name

   - Create Count

   - Read Count

   - Update Count

   - Delete Count

   - Object Count

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

   - Detach: detach the table (viewing option)

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

Configure a JDBC store

To configure a specific JDBC store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the JDBC store you want to configure.

3. Click **Configuration**.

   a. Select **General**.

      From the General page, you can define configuration settings for this JDBC store, such as:

- Name

- Scope

- Data Source

- Prefix Name

Optionally, expand **Advanced** to define advanced settings for this cluster.

For more information about these fields, see Configuration Options.

Click **Apply**.

b. Select **High Availability**.

From the High Availability page, you can configure High Availability settings for this JDBC store, such as:

- Distribution Policy

- Migration Policy

- Initial Boot Delay Seconds

- Failback Delay Seconds

- Partial Cluster Stability Delay Seconds

> **Note:**
>
> The high availability settings are applicable for a store when it is:
>
> - Not targeted
>
> - Targeted to a cluster
>
> The high availability settings are not applicable to a store when it is:
>
> - Targeted to a migratable target (requires configuring the restart-in-place settings on the migratable target instead)
>
> - Targeted directly to a server within a configured cluster (recommended targeting to a migratable target instead)

c. Expand **Restart Settings** to define restart settings for this cluster, such as:

- Restart In Place

- Seconds Between Restarts

- Number Of Restart Attempts

> ✎ **Note:**
>
> The restart settings are applicable for a store when it is:
>
> - Targeted to a cluster
> - Targeted to a single server, where the server is not part of a cluster
> - Not targeted
>
> The settings are not applicable to a store when it is:
>
> - Targeted to a migratable target (requires configuring the restart-in-place settings on the migratable target instead)
> - Targeted directly to a server within a configured cluster (recommended targeting to a migratable target instead)

   d. Click **Apply**.

For more information about these fields, see Configuration Options.

Select JDBC store targets

To select the targets on which you want to deploy a specific JDBC store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.
2. In the Persistent Store table, select the name of the JDBC store you want to configure.
3. Select **Targets.**

    On the Targets page, select the server instance or migratable target on which you want to deploy this JDBC store.

    See Configuration Options.

4. Click **Apply**.

Create JDBC store notes

To create notes for a JDBC store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.
2. In the Persistent Store table, select the name of the JDBC store you want to configure.
3. Select **Notes.**
4. On the Notes page, enter your notes.

    See Configuration Options.

5. Click **Save**.

Monitor and configure replicated stores

A replicated store is an in-memory based repository for storing subsystem data, such as persistent JMS messages or durable subscriber information.

This section includes the following tasks:

- Monitor a replicated store
- Configure a replicated store
- Select replicated store targets
- Create replicated store notes

Monitor a replicated store

To monitor a specific replicated store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the replicated store you want to monitor.

3. Select **Monitoring**, then select **Statistics**.

   The Statistics table displays runtime statistics for this replicated store, such as:

   - Create Count
   - Read Count
   - Update Count
   - Delete Count
   - Physical Write Count

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

4. Select **Monitoring**, then select **Connections**.

   The Connections table displays runtime statistics for all active replicated store connections, such as:

   - Name
   - Create Count
   - Read Count
   - Update Count
   - Delete Count
   - Object Count

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure a replicated store

To configure a specific replicated store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.
2. In the Persistent Store table, select the name of the replicated store you want to configure.
3. Click **Configuration**.
   a. Select **General**.

   From the General page, you can define configuration settings for this replicated store, such as:

   - Name
   - Scope
   - Directory

   Optionally, expand **Advanced** to define advanced settings for this cluster.

   For more information about these fields, see Configuration Options.

   Click **Apply**.

Select replicated store targets

To select the targets on which you want to deploy a specific replicated store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.
2. In the Persistent Store table, select the name of the replicated store you want to configure.
3. Select **Targets.**

   On the Targets page, select the server instance or migratable target on which you want to deploy this replicated store.

   See Configuration Options.
4. Click **Apply**.

Create replicated store notes

To create notes for a replicated store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.
2. In the Persistent Store table, select the name of the replicated store you want to configure.
3. Select **Notes.**
4. On the Notes page, enter your notes.

   See Configuration Options.

Monitor and configure default stores

5. Click **Save**.

Monitor and configure default stores

This section describes how to monitor and configure default stores, both static and dynamic. This section includes the following tasks:

- Monitor a default store for configured server
- Configure a default store for configured server
- Create default store notes
- Monitor a default store for dynamic server
- Configure default store for dynamic server

Monitor a default store for configured server

To view monitoring information of a default store for configured server:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the static default store you want to monitor.

3. Select **Monitoring**, then select **Statistics**.

   The Statistics table displays runtime statistics for this static default store, such as:

   - Create Count
   - Read Count
   - Update Count
   - Delete Count
   - Physical Write Count
   - Allocated Window Buffer Bytes
   - Allocated IO Buffer Bytes

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

4. Select **Monitoring**, then select **Connections**.

   The Connections table displays runtime statistics for all active default store connections, such as:

   - Name
   - Create Count
   - Read Count

- • Update Count
- • Delete Count
- • Object Count

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- • Columns: add or remove the columns displayed in the table
- • Detach: detach the table (viewing option)
- • Sort: sort the columns in ascending or descending order
- • Reorder: change the order of the columns displayed
- • Query by Example

Configure a default store for configured server

To configure a specific default store for configured server:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the static default store you want to configure.

3. Select **Configuration.**

   From the Configuration page, you can define configuration settings of a default store for configured server, such as:

   - • Name
   - • Scope
   - • Directory
   - • Synchronous Write Policy
   - • Cache Directory

   Optionally, expand **Advanced** to define advanced settings for this cluster.

   For more information about these fields, see Configuration Options.

4. Click **Apply**.

Create default store notes

To create notes for a file store:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the default store you want to create notes for.

3. Select **Notes.**

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Save**.

Monitor a default store for dynamic server

To view monitoring information of a default store for dynamic server:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the dynamic default store you want to monitor.

3. Select **Monitoring**, then select **Statistics**.

    The Statistics table displays runtime statistics for this dynamic default store, such as:

    • Create Count

    • Read Count

    • Update Count

    • Delete Count

    • Physical Write Count

    • Allocated Window Buffer Bytes

    • Allocated IO Buffer Bytes

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    • Columns: add or remove the columns displayed in the table

    • Detach: detach the table (viewing option)

    • Sort: sort the columns in ascending or descending order

    • Reorder: change the order of the columns displayed

    • Query by Example

4. Select **Monitoring**, then select **Connections**.

    The Connections table displays runtime statistics for all active default store connections, such as:

    • Name

    • Create Count

    • Read Count

    • Update Count

    • Delete Count

    • Object Count

    For more information about these fields, see Configuration Options.

    Optionally, select **View** to access the following table options:

    • Columns: add or remove the columns displayed in the table

    • Detach: detach the table (viewing option)

    • Sort: sort the columns in ascending or descending order

    • Reorder: change the order of the columns displayed

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- Query by Example

Configure default store for dynamic server

To configure a specific default store for dynamic server:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Persistent Stores**.

2. In the Persistent Store table, select the name of the dynamic default store you want to monitor.

3. Select **Configuration.**

   To view or change this default store for dynamic server, click **Server Template**.

   For more information on configuring server templates, see Configure server templates.

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WebLogic Server XML Entity Caches

This chapter describes how to monitor XML entity caches configured in the current domain You can specify that WebLogic Server cache external entities that are referenced with a URL or a pathname relative to the main directory of the EAR archive, either at server startup or when the entity is first referenced. You specify this by first creating an XML entity cache and then specifying for the particular entity when it should be cached.

Caching the external entity saves the remote access time and provides a local backup in the event that the Administration Server cannot be accessed while an XML document is being parsed, due to the network or the Administration Server being down.

This chapter includes the following sections:

- Monitor XML entity caches
- Monitor an XML entity cache

Monitor XML entity caches

To monitor all XML entity caches configured in the current domain:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **XML Entity Caches**.

   The XML Entity Caches table displays information about the XML entity caches that have been configured in the current domain, such as:

   - Name
   - Cache Location
   - Cache Memory Size
   - Cache Disk Size
   - Cache Timeout Interval

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. In the table, select the name of the XML entity cache for which you want to view configuration information.

Monitor an XML entity cache

For each XML entity cache, you can monitor a set of statistics that describes how the cache is being used and its effectiveness.

To monitor a specific XML entity cache:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **XML Entity Caches**.

2. In the XML Entity Caches table, select the name of the XML entity cache you want to monitor.

3. Select the **Current** page to view information about the current state of this XML entity cache, such as:

   - Server Name
   - Memory Usage
   - Disk Usage
   - Total Current Entries
   - Total Persistent Current Entries
   - Total Transient Current Entries

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

4. To view cumulative or historical information about this XML entity cache, select the appropriate pages:

   - **Cumulative:** view cumulative (for the current session) information about this XML entity cache for all of the currently running server instances that make use of it.

     See Configuration Options.

   - **Historical:** view historical (since the XML entity cache was created) information about this XML entity cache for all of the currently running server instances that make use of it.

     See Configuration Options.

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Oracle Coherence Clusters

This chapter describes how to monitor Oracle Coherence clusters. Oracle Coherence is a component of Oracle Fusion Middleware that enables organizations to predictably scale mission-critical applications by providing fast and reliable access to frequently used data. By automatically and dynamically partitioning data in memory across multiple servers, Oracle Coherence enables continuous data availability and transactional integrity, even in the event of a server failure. As a shared infrastructure, Oracle Coherence combines data locality with local processing power to perform real-time data analysis, in-memory grid computations, and parallel transaction and event processing.

This chapter includes the following sections:

- Create Oracle Coherence clusters
- Monitor Oracle Coherence clusters
- Configure managed Oracle Coherence clusters

Create Oracle Coherence clusters

This section describes how to create managed Oracle Coherence clusters and how to add standalone Oracle Coherence clusters. Managed Oracle Coherence clusters are comprised of managed Oracle Coherence servers that are part of a WebLogic Server domain. Standalone Oracle Coherence clusters are comprised of Oracle Coherence servers that are not part of a WebLogic Server domain.

This section includes the following tasks:

- Create managed Oracle Coherence clusters
- Add standalone Oracle Coherence clusters
- Edit standalone cluster settings

Create managed Oracle Coherence clusters

To create a new managed Oracle Coherence cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Managed**.

   The Coherence Clusters table displays information about the managed Oracle Coherence clusters that are configured in the current domain.

3. Click **Create**.

   Define the configuration options for your new configured cluster on each page of the following sections.

4. Then, click **Create**.

- Properties

- **Members**
- **Review**

Properties

On the **Properties** page, define the general cluster properties for your new managed Oracle Coherence cluster:

- **Name**: enter a unique name for your cluster.
- **Clustering Mode**: if you selected **Configure within WebLogic Server**, then select either unicast or multicast for the cluster network transmission.
- **Cluster Listen Port**: if you selected **Configure within WebLogic Server**, then enter the cluster listen port. Oracle Coherence cluster members use this port to discover and join, or create, the cluster. The default port is 7574.
- **Multicast Listen Address**: if you selected **Configure within WebLogic Server** and you are using multicast, enter an IP address for the cluster multicast listener.
- **Custom Configuration File Name**: if you selected **Use a Custom Configuration File**, enter the location of a Oracle Coherence cluster configuration file that defines the cluster properties. You can click **Browse** to navigate to the file location.

For more information about these fields, see Configuration Options.

Members

On the **Members** page, you can specify the WebLogic Server clusters or specific managed servers to associate with this managed Oracle Coherence cluster.

See Configuration Options.

Review

On the **Review** page, review the configuration for your new managed Oracle Coherence cluster.

See Configuration Options.

Add standalone Oracle Coherence clusters

To add a standalone Oracle Coherence cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Standalone**.

   The Coherence Clusters table displays information about the standalone Oracle Coherence clusters that are configured in the current domain.

3. Click **Add**.

4. On the **Add Standalone Cluster** page, enter the connection properties for an existing standalone Oracle Coherence cluster:

   - **Cluster Name**: enter the cluster name.
   - **Cluster Port**: enter the port that is used for cluster communication.
   - **Notes**: enter additional information about the cluster.

- In the **Credentials** section, enter a valid **Username** and **Password** if authentication is required on the cluster.

- In the **Management Node Hosts** section, enter the host name of a cluster node where JMX management has been enabled. Click **Add** to enter additional hosts. To delete a host, select the host and click **Delete**.

5. Click **Add**.

For more information about these fields, see Configuration Options.

Edit standalone cluster settings

This section describes how to edit standalone cluster settings. This section includes the following tasks:

- Edit standalone Oracle Coherence cluster general settings
- Edit standalone Oracle Coherence cluster notes

Edit standalone Oracle Coherence cluster general settings

To edit the general settings for a standalone Oracle Coherence cluster:

1. Select each text field and update the value as required.

2. In the **Management Node Hosts** section, click **Add** to enter a new host or select a host and click **Delete** to remove the host from the list. Use the Notes column to enter additional information about a host.

3. Click **Save** to keep the changes. Click **Revert** to discard the changes.

For more information about these fields, see Configuration Options.

Edit standalone Oracle Coherence cluster notes

To edit the notes for a standalone Oracle Coherence cluster:

1. In the text field, update the text as required.

2. Click **Save** to keep the changes. Click **Revert** to discard the changes.

For more information about these fields, see Configuration Options.

Monitor Oracle Coherence clusters

This section describes how to monitor Oracle Coherence clusters.

This section includes the following tasks:

- Monitor managed Oracle Coherence clusters
- Monitor standalone Oracle Coherence clusters

Monitor managed Oracle Coherence clusters

To monitor a Managed Oracle Coherence cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Managed**.

The Coherence Clusters table displays information about the managed Oracle Coherence clusters that have been configured in the current domain. The table provides an overview of how the cluster is configured and the operational status of the cluster.

- Name

- Status

- Logging Enabled

- Members

- Custom Configuration File

- Clustering Mode

- Transport

- Security Framework Enabled

- Unicast Listen Port

- Unicast Port Auto Adjust

- Multicast Listen Address

- Multicast Listen Port

- Time To Live

For more information about the columns in the table, see Configuration Options.

3. Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

4. From the table, select a cluster in the Name column to go to the Oracle Coherence Cluster Home Page for the selected cluster. The home page provides detailed resource performance monitoring.

Monitor standalone Oracle Coherence clusters

To monitor a standalone Oracle Coherence cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Standalone**.

The Coherence Clusters table displays information about the standalone Oracle Coherence clusters that have been configured in the current domain. The table provides an overview of the connection settings and the operational status of the cluster. Use the Target Navigation menu to access the Oracle Coherence Cluster Home Page for detailed cluster resource and performance monitoring.

- Name

- Status

- • Cluster Port

- • Management Node Hosts

- • Notes

  For more information about these fields, see Configuration Options.

3. Optionally, select **View** to access the following table options:

   - • Columns: add or remove the columns displayed in the table

   - • Detach: detach the table (viewing option)

   - • Sort: sort the columns in ascending or descending order

   - • Reorder: change the order of the columns displayed

   - • Query by Example

4. From the table, select a cluster in the Name column to the edit the connection settings for the selected cluster.

   For details on editing standalone cluster connections settings, see Edit standalone cluster settings.

Configure managed Oracle Coherence clusters

This section describes how to configure managed Oracle Coherence clusters.

This section includes the following tasks:

- • Edit managed Oracle Coherence cluster configuration settings
- • Edit managed Oracle Coherence cluster security settings
- • Edit managed Oracle Coherence cluster members
- • Edit managed Oracle Coherence cluster notes

Edit managed Oracle Coherence cluster configuration settings

To edit managed Oracle Coherence cluster configuration settings:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Managed**.

   The Coherence Clusters table displays information about the managed Oracle Coherence clusters that have been configured in the current domain.

3. From the table, select the name of the cluster you want to configure.

   The Oracle Coherence Cluster page appears.

4. From the Oracle Coherence Cluster menu, select **Administration** and then select **Configuration**.

5. Use the following pages to configure the settings for this Coherence cluster.

- • General
- • Cache Configurations
- • Well Known Addresses
- • Address Providers

- Federation
- Persistence
- Logging

General

From the **General** page, expand Custom Configuration to define custom configuration settings for this Coherence cluster, such as:

- Use a custom cluster configuration file
- Custom configuration file name

Optionally, expand Address Configurations to define address configuration settings for this Coherence cluster, such as:

- Clustering mode
- Cluster listen port
- Multicast listen address
- Transport
- Time to live

For more information on the attributes of the general page, see General.

Click **Save**.

Cache Configurations

The Cache Configurations page displays a table that lists the cache configured for this Coherence cluster.

For more information about these fields, see Configuration Options

Use the Cache Configurations page to:

- Create a cache configuration
- Edit a cache configuration
- Delete a cache configuration

Create a cache configuration

To create a new cache configuration:

1. Click **Create**.

   The Cache Configuration Properties page appears.

2. Enter a **Name** for your cache.

3. Enter a **JNDI Name**, for accessing the cache within the JNDI name space.

4. Click **Browse** to select the required **Cache Configuration File** .

5. Select the **Import Cache Configuration File** check box to import the Cache Configuration.

6. Click **Next**.

   The Cache Configuration Members page appears.

7. Expand **Servers** and/or the **Clusters** to select the servers or clusters on which you want to run the cache configuration.

8. Click **Finish**.

Edit a cache configuration

To edit a cache configuration:

1. Click the cache configuration you want to edit.

   The Cache Configuration Properties page appears.

2. Follow the steps listed in Create a cache configuration to edit the required fields.

3. Click **Finish**.

Delete a cache configuration

To delete a cache configuration:

1. Select the cache configuration you want to delete and click **Delete**.

2. Click **Ok** to confirm the deletion.

Well Known Addresses

Use the Well Known Addresses page to create, edit, and delete well known addresses for this Coherence cluster.

Create a Well known Address

1. On the **Well Known Address** page, click **Create**.

   The Configure Well Known Address dialog appears.

2. Enter a **Name** for your well known address.

3. Enter the **Listen Address** for the well known address.

4. Click **Save**.

Edit a Well known Address

1. On the **Well Known Address** page, click the well known addresses you want to edit.

   The Configure Well Known Address dialog appears.

2. Edit the required fields.

3. Click **Save**.

Delete a Well known Address

1. On the **Well Known Address** page, select the well known addresses you want to delete and click **Delete**.

2. Click **Ok** to confirm the deletion.

For more information about the fields in the Well Known Addresses page, see Configuration Options

Address Providers

The Address Providers page is used to create and delete address providers and configure the socket information for the Provider you created.

For more information about these fields, see Configuration Options

Use the Address Providers page to:

- Create an address provider
- Configure a socket for an address provider
- Edit an address provider
- Delete an address provider

Create an address provider

To create an address provider:

1. On the Address Provider page, click **Create**.

   The Configure address provider dialog appears.

2. Enter a **Name** for your address provider.

3. Click **Save**.

   The newly created address provider is listed in a table, on the Address Providers page.

Configure a socket for an address provider

You can configure socket information for the address provider you created.

For more information about these fields on this page, see Configuration Options

From the table on the **Address Providers** page, click the address provider you created, to:

- Create a socket
- Edit a socket
- Delete a socket

Create a socket

To create a socket:

1. On the Address Provider page, click the address provider you want to configure.

   The Socket Address Configuration page appears.

2. Enter a **Name** for your socket.

3. Enter a **Listen Address** for your socket.

4. Enter a **Listen Port** for your socket.

5. Click **Create**.

   The socket information will be listed in the sockets column of the provider for which you configured the socket.

Edit a socket

To edit a socket:

1. From the sockets table, click the socket you want to edit.

   The Socket Address Configuration page appears.

2. Edit the required fields.

3. Click **Save**.

Delete a socket

To delete a socket:

1. From the sockets table, select the socket you want to delete and click **Delete**.

2. Click **Ok** to confirm the deletion.

Edit an address provider

To edit an address provider:

1. From the Address Providers table, click the address provider you want to edit.

   The settings page for that address provider appears displaying the sockets configured for that address provider.

2. Follow the steps in Create an address provider to edit the required fields.

3. Click **Save**.

Delete an address provider

To delete an address provider:

1. From the Address Providers table, select the address provider you want to delete and click **Delete**.

2. Click **Ok** to confirm the deletion.

Federation

Use the Federation page to configure the Federation environment for that cluster.

Using the federation page, you can configure a remote participant for that Coherence cluster. You may replicate the data present on one server/cluster to the other (local /remote) participant of the federation environment based on the topology selected in the configuration.

1. Based on your requirement, select one of the following topologies:

   - **Active-Active** - Data written to the active(local) participant is replicated on the remote participant. Conversely, data written to the remote participant is replicated on the local participant as well.

   - **Active-Passive** - Data written to the active(local) participant will be replicated on the passive(remote) participant. However, data written to the passive participant will not be replicated on the active participant.

   - **Passive Active** - Data written to the local participant is not replicated on the remote participant(active). However, data written on the remote participant(active) is replicated on the local participant(passive).

- **None** - The Coherence cluster is not federating with any of the participants.

> **✎ Note:**
>
> The Remote Participant options are enabled if you choose Active-Active, Active-Passive, or Passive Active topology. The Remote Participant options are disabled if you choose None as the topology.

2. Expand Restart Settings to define restart settings for this Store, such as:

   - Cluster Name

   - Host name

   - Port

3. Click **Save**.

For more information about the fields on this page, see Configuration Options

Persistence

Use the Persistence page to save the cache data to the file system.

1. From the Persistence page, define the default persistence properties for this Coherence cluster, such as:

   - Persistence Mode

   - Active Directory

   - Snapshot Directory

   - Trash Directory

2. Click **Save**.

For more information about the fields on this page, see Configuration Options

Logging

Use the Logging page to configure logging properties for this Coherence cluster.

1. From the Logging page, define the logging properties for this Coherence cluster, such as:

   - Enabled

   - Logger Name

   - Message Format

2. Click **Save**.

For more information about the fields on this page, see Configuration Options

Edit managed Oracle Coherence cluster security settings

Use the Security page to configure security services on this Coherence cluster.

To select the servers or clusters on which you want to deploy this Coherence cluster configuration:

1. From the WebLogic Domain menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Managed**.

   The Coherence Clusters table displays information about the managed Oracle Coherence clusters that have been configured in the current domain.

3. From the table, select the name of the cluster for which you want to enable security.

   The Oracle Coherence Cluster page appears.

4. From the Oracle Coherence Cluster menu, select **Administration** and then select **Security**.

5. Select the following pages to configure the security settings for this Coherence cluster:

   • General

   • Services

   • Caches

General

On the General page:

1. Select the **Security Framework Enabled** check box to enable the Identity and Identity Assertion options.

2. Define the following Identity configurations:

   • Private Key Alias

   • Private Key Pass Phrase

   • Confirm Private Key Pass Phrase

3. Define the following Identity Assertion configurations:

   • Identity Asserter Class

   • Identity Asserter Constructor Arguments

4. Click **Save**.

For more information about the fields on this page, see Configuration Options

Services

The Services page displays a table that lists the services configured for this Coherence cluster.

For more information about these fields, see Configuration Options

Use the Services page to:

• Add a Service

• Configure Roles for a Service

• Configure Policies for a Service

• Remove a Service

Add a Service

To add a new service:

1. Click **Add Service**. The Add Coherence Service dialog appears.

2. Enter a **Name** for your service.

3. Select the **Global** for the Coherence service.

4. Click **Save**.

Configure Roles for a Service

To configure roles for a service:

- From the services table, select the name of the service for which you want to configure roles. The Roles page appears.

- For more information about the fields on this page, see Configuration Options

While configuring a role for a service, you can:

- Create a Role
- Edit Role Conditions
- Delete a Role

Create a Role

To create a role:

1. On the Roles page, click **Create**.

   The Create a New Coherence Cache Role dialog appears.

2. Enter a **Name** for your role.

3. Select a **Provider Name** for your role.

4. Click **Create**.

   The role you created will be displayed in the table on the Roles page.

Edit Role Conditions

The role conditions determine the membership of the role. From the Edit Coherence Cache Role dialog, you can add a condition.

To add a condition:

1. On the Edit Coherence Cache Role dialog, click **Add**.

   The Add a Condition dialog appears.

2. Click the **Choose a Predicate** drop-down and select a predicate.

3. Enter an **Argument Name** for the predicate you selected.

4. Click **Add**.

   The condition you added will be listed under the **Add** button of the Edit Coherence Cache Role dialog.

5. Select the condition and click **Save**.

For more information about the fields on this page, see Configuration Options

Delete a Role

To delete a role:

1. From the roles table, select the role you want to delete and click **Delete**.

2. Click **OK** to confirm the deletion.

Configure Policies for a Service

To configure policies for a service:

- From the services table, select the name of the service for which you want to configure policies.

  Select the **Policies** tab. The Policies page appears.

- For more information about the fields on this page, see Configuration Options

While configuring a policy for a service, you can:

- Add Policies
- Edit Policy Conditions
- Remove Policies

Add Policies

To add a policy:

1. Click **Add**.

The Add a Condition dialog appears.

2. Click the **Choose a Predicate** drop-down and select a predicate.

3. Enter an **Argument Name** for the predicate you selected.

4. Click **Add**.

The policy condition you added will be listed under the Add button of the Edit policies page.

5. Select the condition and click **Save**.

Edit Policy Conditions

The policy conditions determine the access control of the Coherence cluster. From the Policy Conditions section on the Policies page, you can add a condition.

To add a policy condition:

1. In the Policy Conditions section click **Add**.

The Add a Condition dialog appears.

2. Click the **Choose a Predicate** drop-down and select a predicate.

3. Enter an **Argument Name** for the predicate you selected.

4. Click **Add**.

The condition you added will be listed under the **Add** button of the Edit Coherence Cache Role dialog.

5. Select the condition and click **Save**.

Remove Policies

To remove a policy:

1. Select the policy you want to delete and click **Remove**.

2. Click **OK** to confirm the deletion.

Remove a Service

To remove a service:

1. Select the service you want to delete and click **Remove Service**.

2. Click **OK** to confirm the deletion.

Caches

The Caches page displays a table that lists the caches configured for this Coherence cluster.

For more information about these fields, see Configuration Options

Use the Caches page to:

- Add Cache
- Configure Roles for a Cache
- Configure Policies for a Cache
- Remove Cache

Add Cache

To add a new cache:

1. Click **Add Cache**. The Add Coherence Cache dialog appears.

2. Enter a **Name** for your service.

3. Click **Save**.

Configure Roles for a Cache

To configure roles for a cache:

- From the caches table, select the name of the cache for which you want to configure roles.
- Select the **Roles** tab. The Roles page appears.
- For more information about the fields on this page, see Configuration Options

While configuring a role for a cache, you can:

- Create a Role
- Edit Role Conditions
- Delete a Role

Create a Role

To create a role:

1. On the Roles page, click **Create**.

   The Create a New Coherence Cache Role dialog appears.

2. Enter a **Name** for your role.

3. Select a **Provider Name** for your role.

4. Click **Create**.

The role you created will be displayed in the table on the Roles page.

Edit Role Conditions

The role conditions determine the membership of the role. From the Edit Coherence Cache Role dialog, you can add a condition.

To add a condition:

1. On the Edit Coherence Cache Role dialog, click **Add**.

The Add a Condition dialog appears.

2. Click the **Choose a Predicate** drop-down and select a predicate.

3. Enter an **Argument Name** for the predicate you selected.

4. Click **Add**.

The condition you added will be listed under the **Add** button of the Edit Coherence Cache Role dialog.

5. Select the condition and click **Save**.

For more information about the fields on this page, see Configuration Options

Delete a Role

To delete a role:

1. From the roles table, select the role you want to delete and click **Delete**.

2. Click **OK** to confirm the deletion.

Configure Policies for a Cache

To configure policies for a cache:

- From the caches table, select the name of the cache for which you want to configure policies.

- Select the **Policies** tab. The Policies page appears.

- For more information about the fields on this page, see Configuration Options

While configuring a policy for a cache, you can:

- Add Policies
- Edit Policy Conditions
- Remove Policies

Add Policies

To add a policy:

1. Click **Add**.

The Add a Condition dialog appears.

2. Click the **Choose a Predicate** drop-down and select a predicate.

3. Enter an **Argument Name** for the predicate you selected.

4. Click **Add**.

The policy condition you added will be listed under the Add button of the Edit policies page.

5. Select the condition and click **Save**.

Edit Policy Conditions

The policy conditions determine the access control of the Coherence cluster. From the Policy Conditions section on the Policies page, you can add a condition.

To add a policy condition:

1. In the Policy Conditions section click **Add**.

The Add a Condition dialog appears.

2. Click the **Choose a Predicate** drop-down and select a predicate.

3. Enter an **Argument Name** for the predicate you selected.

4. Click **Add**.

The condition you added will be listed under the **Add** button of the Edit Coherence Cache Role dialog.

5. Select the condition and click **Save**.

Remove Policies

To remove a policy:

1. Select the policy you want to delete and click **Remove**.

2. Click **OK** to confirm the deletion.

Remove Cache

To remove a cache:

1. Select the cache you want to delete and click **Remove Cache**.

2. Click **Ok** to confirm the deletion.

Edit managed Oracle Coherence cluster members

The Members page displays a table listing the servers and/or clusters configured to this Coherence Cluster.

To select the servers or clusters on which you want to deploy this Coherence cluster configuration,

1. From the WebLogic Domain menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Managed**.

The Coherence Clusters table displays information about the managed Oracle Coherence clusters that have been configured in the current domain.

3. From the table, select the name of the cluster to which you want to add the members.

The Oracle Coherence Cluster page appears.

4. From the Oracle Coherence Cluster menu, select **Administration** and then select **Members**.

5. On the Members page, select the servers and/or clusters and click **Save**.

For more information about the fields on this page, see Configuration Options.

Edit managed Oracle Coherence cluster notes

Use this page to include any additional information that describes the configuration of this Coherence cluster.

To create notes for this Coherence Cluster:

1. From the WebLogic Domain menu, select **Environment**, then select **Coherence Clusters**.

2. Select **Managed**.

   The Coherence Clusters table displays information about the managed Oracle Coherence clusters that have been configured in the current domain.

3. From the table, select the name of the cluster to which you want to add the notes.

   The Oracle Coherence Cluster page appears.

4. From the Oracle Coherence Cluster menu, select **Administration** and then select **Notes**.

5. On the Notes page, enter any notes about the configuration of this Coherence cluster.

6. Click **Save**.

For more information about the fields on this page, see Configuration Options

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WebLogic Server Templates

This chapter describes how to monitor and configure server templates. A server template contains common, non-default settings and attributes that you can apply to a set of server instances, which inherit the template configuration.
Server templates let you easily manage configuration for a group of server instances in one centralized location. You define common configuration attributes in a server template and then apply the template to other server instances without having to manually configure each one. If you need to update an attribute across all server instances, then you can simply change the value in the server template and the new value takes effect in all of the server instances that use the server template.

See Server Templates in *Understanding Domain Configuration for Oracle WebLogic Server*

This chapter includes the following sections:

- Create server templates
- Monitor server templates
- Configure server templates

Create server templates

To create a new server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. Click **Create**.

3. On the Create page, you can define settings for your new server template, such as:

   - Name

   - Notes

   For more information on these fields, see Configuration Options.

4. Click **Create**.

Monitor server templates

To monitor the status of all server templates configured in a domain:

- From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

  The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain, such as:

  - Name

  - Cluster

  - Machine

- Listen Port

- Listen Address

- Administration Port

For more information about these fields, see Configuration Options.

Configure server templates

This section describes how to configure server templates. This section includes the following tasks:

- Configure server template general settings
- Configure server template cluster settings
- Configure server template services
- Configure server template keystores
- Configure server template SSL settings
- Configure server template Federation Services
- Configure server template deployment settings
- Configure server template migration
- Configure server template tuning
- Configure server template overload settings
- Configure server template health monitoring
- Configure server template startup
- Configure server template Web services
- Configure server template Coherence cluster settings
- Configure server template protocols
- Create server template notes

Configure server template general settings

Changes to your general settings for a template will apply to every server that references the template unless explicitly overridden.

To configure general settings for a sever template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **General Settings**.

4. From the General Settings page, you can configure general features of this server template, such as:

   - Machine

   - Cluster

- Listen Address

- Listen Port Enabled

- Listen Port

- SSL Listen Port Enabled

- SSL Listen Port

- Client Cert Proxy Enabled

- Java Compiler

- Diagnostic Volume

- Default Data Source

For more information about these fields, see Configuration Options.

Optionally, expand **Advanced** to define advanced settings for this server template.

5. Click **Save**.

Configure server template cluster settings

A WebLogic Server cluster is a group of servers that work together to provide a scalable and reliable application platform.

To configure cluster configuration settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Cluster**.

4. From the Cluster page, you can define a cluster configuration for your server template, such as:

   - Replication Group

   - Preferred Secondary Group

   - Cluster Weight

   - Interface Address

   - Replication Ports

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template services

To configure service settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Services**.

4. From the Services page, you can set WebLogic Server service configuration settings, such as:

    - JMS

    - Default Store

    - Transaction Log

    - Messaging Bridge

    - XML Services

    For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template keystores

Keystores ensure the secure storage and management of private keys and trusted certificate authorities (CAs). You can view and define various keystore configurations which help you manage the security of message transmissions.

To configure keystore settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

    The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Keystores**.

4. To change your keystore configuration:

    a. Click **Change**.

    b. From the Keystores menu, select the keystore configuration you want to use.

    c. Click **Save**.

5. From the Keystore page, you can define the keystore configuration settings for this server template, such as:

    - Identity settings

    - Trust settings

    For more information about these fields, see Configuration Options.

6. Click **Save**.

Configure server template SSL settings

You can view and define various Secure Sockets Layer (SSL) settings for a server template, which help you manage the security of message transmissions.

To configure SSL settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **SSL**.

4. From the SSL page, you can define the SSL configuration settings for this server template, such as:

   - Identity and Trust Locations

   - Private Key Location

   - Private Key Alias

   - Private Key Passphrase

   - Certificate Location

   - Trusted Certificate Authorities

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced configuration settings for this server template.

5. Click **Save**.

Configure server template Federation Services

You can configure a WebLogic Server instance to function as a producer or as a consumer of SAML assertions that can be used for the following:

- Web single sign-on between online business partners

- Exchange of identity information in Web services security

The general process of configuring Federation Services depends upon the version of SAML you are using. WebLogic Server supports both SAML 1.1 and SAML 2.0.

To configure WebLogic Server to serve as a SAML 1.1 federated partner, see the respective following sections.

To configure WebLogic Server to serve as a SAML 2.0 federated partner, see the respective following sections.

- Configure SAML 1.1 source services
- Configure SAML 1.1 destination services
- Configure SAML 2.0 general services
- Configure SAML 2.0 Identity Provider services
- Configure SAML 2.0 Service Provider services

Configure SAML 1.1 source services

Before you begin

You must first configure a SAML Credential Mapper V2 security provider in the server's security realm.

You can configure a WebLogic Server instance to function as a SAML source site. A SAML source site is a site that provides an Intersite Transfer Service (ITS). A source site generates assertions that are conveyed to a destination site using one of the single sign-on profiles.

To configure a server as a SAML source site:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates.**

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**.

4. Select **Federation Services**, then select **SAML 1.1 Source Site**.

5. Select the **Source Site Enabled** attribute to cause this server to act as a source for SAML assertions.

6. From the SAML 1.1 Source Site page, you can also define other configuration settings for this server, such as:

   - Source Site URL

   - Signing Key Alias

   - Intersite Transfer URIs

   - ITS Requires SSL

   - Assertion Retrieval URIs

   - ARS Requires SSL

   - ARS Requires Two-Way SSL Authentication

   - Assertion Store Class Name

   - Assertion Store Properties

   For more information about these fields, see Configuration Options.

7. Click **Save**.

Configure SAML 1.1 destination services

Before you begin

You must first configure a SAML Identity Asserter V2 security provider in the server's security realm.

You can configure a WebLogic Server instance to function as a SAML destination site. A destination site can receive SAML assertions and use them to authenticate local subjects.

To configure a server as a SAML destination site:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**.

4. Select **Federation Services**, then select **SAML 1.1 Destination Site**.

5. Select the **Destination Site Enabled** attribute to enable the Assertion Consumer Service.

6. From the SAML 1.1 Destination Site page, you can also define other desired configuration settings for this server, such as:

- Assertion Consumer URIs

- ACS Requires SSL

- SSL Client Identity Alias

- POST Recipient Check Enabled

- POST One-Use Check Enabled

- Used Assertion Cache Class Name

- Used Assertion Cache Properties

For more information about these fields, see Configuration Options.

7. Click **Save**.

Configure SAML 2.0 general services

You can configure general SAML 2.0 services for a server. If you are configuring SAML 2.0 Web single sign-on services with your federated partners, then the site information you configure is published in a metadata file that you send to your federated partners.

To configure the general SAML 2.0 properties of this server:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

2. In the Server Templates table, select the name of the server you want to configure.

3. Select **Configuration**.

4. Select **Federation Services**, then select **SAML 2.0 General**.

5. Select the **Replicated Cache Enabled** attribute to use the persistent cache for storing SAML 2.0 artifacts.

   This option is required if you are configuring SAML 2.0 services in two or more WebLogic Server instances in your domain. For example, if you are configuring SAML 2.0 services in a cluster, you must enable this option in each Managed Server instance individually.

   > **Note:**
   >
   > If you are configuring SAML 2.0 services in two or more WebLogic Server instances in your domain, then you must configure the RDBMS security store. The embedded LDAP server is not supported in these configurations.

6. In the **Site Info** section, enter the following information about your SAML 2.0 site:

   - Contact person details

   - Your organization's name and URL

   - The Published Site URL, which is the top-level URL for your site's SAML 2.0 service endpoints. This URL must be appended with the string `/saml2`, which will be automatically combined with constant suffixes to create full endpoint URLs.

7. In the **Bindings** section, enter the common binding information to be used by this SAML 2.0 server instance.

   If you do not specify a Transport Layer Security key alias and passphrase, then the server's configured SSL private key alias and passphrase from the server's SSL configuration is used for the TLS alias by default.

8. If the Artifact binding is enabled for any SAML 2.0 security provider hosted on this server instance, then define the Artifact Resolution Service settings in the **Artifact Resolution Service** section.

9. In the **Single Sign-on** section, enter the keystore alias and passphrase for the key to be used for signing documents sent to federated partners.

   If you do not specify a single sign-on signing key alias and passphrase, then the server's configured SSL private key alias and passphrase from the server's SSL configuration is used by default.

10. Click **Save**.

See Configuration Options.

After you finish

After you have configured this server's general SAML 2.0 services, select the **SAML 2.0 Identity Provider** page or the **SAML 2.0 Service Provider** page to configure this server as an Identity Provider or Service Provider, respectively. See Configure SAML 2.0 Identity Provider services and Configure SAML 2.0 Service Provider services.

Configure SAML 2.0 Identity Provider services

You can configure a server in the role of SAML 2.0 Identity Provider. A SAML 2.0 Identity Provider creates, maintains, and manages identity information for principals, and provides principal authentication to other Service Provider partners within a federation by generating SAML 2.0 assertions for those partners.

To configure a server as a SAML 2.0 Identity Provider:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**.

4. Select **Federation Services**, then select **SAML 2.0 Identity Provider**.

5. Select the **Enabled** attribute to activate this server's SAML 2.0 services in the role of Identity Provider.

6. Select **Only Accept Signed Authentication Requests** if you want to ensure that any incoming authentication requests must be signed.

7. If you are using a custom login Web application to which unauthenticated requests are directed:

   • Select **Login Customized**.

   • Enter the URL of the custom login Web application.

   • Enter the login return query parameter

      The query parameter is a unique string that the SAML 2.0 services uses to hold the login return URL for the local single sign-on service servlet. (Note that, as an alternative, the login return URL can also be specified in the login Web application.)

8. Set the SAML bindings for which this server is enabled, and select the preferred binding type.

9. Click **Save**.

See Configuration Options.

After you finish

Coordinate with your federated partners to ensure that the SAML bindings you have enabled for this SAML authority, as well as your requirements for signed documents, are compatible with your partners.

Configure SAML 2.0 Service Provider services

You can configure a WebLogic Server instances as a SAML 2.0 Service Provider. A Service Provider is a SAML authority that can receive SAML assertions and extract identity information from those assertions. The identity information can then be mapped to local Subjects, and optionally groups as well, that can be authenticated.

To configure a server as a SAML 2.0 Service Provider:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**.

4. Select **Federation Services**, then select **SAML 2.0 Service Provider**.

5. Select the **Enabled** attribute to activate SAML 2.0 services in this server in the role of Identity Provider.

6. Set the configuration options for the local SAML 2.0 Service Provider services as appropriate. Note the following:

   • Choose options for **Always Sign Authentication Requests** and **Only Accept Signed Assertions** as desired and in a manner that is coordinated with your federated partners so that authentication requests and assertions are accepted.

   • Communicate the SAML bindings settings for this server with your federated partners to ensure compatibility.

7. Click **Save**.

See Configuration Options.

After you finish

Coordinate with your federated partners to ensure that the SAML bindings you have enabled for this SAML authority, as well as your requirements for signed documents, are compatible with your partners.

Configure server template deployment settings

To configure deployment settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates.**

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Deployment**.

4. From the Deployment page, you can define the default deployment staging configuration for a server template, such as:

- Staging Mode

- Staging Directory Name

- Upload Directory Name

For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template migration

To configure migration settings for clustered servers:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Migration**.

4. From the Migration page, you can define the configuration settings for this server template, such as:

   - Automatic Server Migration Enabled

   - Candidate Machines

   - JMS Service Candidate Servers

   - JTA Migration Policy

   - JTA Candidate Servers

   - Pre-Migration Script Path

   - Post-Migration Script Path

   - Post-Migration Script Fail Cancels Automatic Migration

   - Allow Post-Migration Script to Run on a Different Machine

   - Enable Strict Ownership Check

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template tuning

To configure tuning settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Tuning**.

4. From the Tuning page, you can define tuning performance and functionality settings of this server template, such as:

- Enable Native IO

- JavaSocketMuxer Socket Readers

- Enable Gathered Writes

- Enable Scattered Reads

- Maximum Open Sockets

- Stuck Thread Max Time

- Stuck Thread Timer Interval

- Accept Backlog

- Login Timeout

- SSL Login Timeout

- Reverse DNS Allowed

For more information about these fields, see Configuration Options.

Optionally, expand **Advanced** to define advanced settings for this server template.

5. Click **Save**.

Configure server template overload settings

To configure overload settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Overload**.

4. From the Overload page, you can configure how WebLogic Server should react in the case of an overload or failure condition, including settings such as:

   - Shared Capacity for Work Managers

   - Failure Action

   - Panic Action

   - Free Memory Percent High Threshold

   - Free Memory Percent Low Threshold

   - Max Stuck Thread Time

   - Stuck Thread Count

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template health monitoring

WebLogic Server provides a self-health monitoring capability to improve the reliability and availability of servers in a WebLogic Server domain. Selected subsystems within each server monitor their health status based on criteria specific to the subsystem.

To configure health monitoring settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

    The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Health Monitoring**.

4. From the Health Monitoring page, you can configure the frequency of a server's automatic health checks and the frequency with which the Node Manager application (optional) checks the server's health state by defining settings such as:

    *   Health Check Interval
    *   Auto Kill if Failed
    *   Auto Restart
    *   Restart Interval
    *   Max Restarts Within Interval
    *   Restart Delay Seconds

    For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template startup

Node Manager is a WebLogic Server utility that you can use to start, suspend, shut down, and restart servers in normal or unexpected conditions.

To configure startup settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

    The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Server Start**.

4. From the Server Start page, you can configure the startup settings that Node Manager will use to start this server on a remote machine, including settings such as:

    *   Java Home
    *   Java Vendor
    *   BEA Home
    *   Root Directory
    *   Class Path
    *   Arguments
    *   Security Policy File
    *   User Name
    *   Password

- Confirm Password

For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template Web services

This section describes how to configure Web services for a server template.

This section includes the following tasks:

- Configure server template buffering settings
- Configure server template reliable messaging
- View server template logical stores

Configure server template buffering settings

To configure messaging buffering settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**.

4. Select **Web Services**, then select **Buffering**.

5. From the Buffering page, you can define message buffering settings for Web services on a server template, such as:

   - Retry Count
   - Retry Delay
   - Request Queue Enabled
   - Request Queue Connection Factory JNDI Name
   - Request Queue Transaction Enabled
   - Response Queue Enabled
   - Response Queue Connection Factory JNDI Name
   - Response Queue Transaction Enabled

   For more information about these fields, see Configuration Options.

6. Click **Save**.

Configure server template reliable messaging

Web service reliable messaging is a framework that enables an application running on one application server to reliably invoke a Web service running on another application server, assuming that both servers implement the WS-Reliable Messaging specification. Reliable is defined as the ability to guarantee message delivery between the two Web services.

To configure reliable messaging settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**.

4. Select **Web Services**, then select **Reliable Message**.

5. From the Reliable Messaging page, you can customize reliable messaging configuration settings on the Web service endpoint, such as:

   • Base Retransmission Interval

   • Enable Retransmission Exponential Backoff

   • Non-buffered Source

   • Non-buffered Destination

   • Acknowledgement Interval

   • Inactivity Timeout

   • Sequence Expiration

   For more information about these fields, see Configuration Options.

6. Click **Save**.

View server template logical stores

A logical store is a named unit of storage that provides the business configuration requirements and connects the Web service to the physical and buffering queue.

To view logical stores configured for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to view.

3. Select **Configuration**.

4. Select **Web Services**, then select **Logical Stores**.

5. From the Logical Stores page, you can view information about each logical store that has been configured in the current WebLogic domain, such as:

   • Name

   • Persistence Strategy

   • Request Buffering Queue JNDI Name

   • Response Buffering Queue JNDI Name

   • Default

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Configure server template Coherence cluster settings

To configure Coherence settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Configuration**, then select **Coherence**.

4. From the Coherence page, you can select the Coherence cluster you want to use in this server template and define configuration settings, such as:

   - Unicast Listen Address
   - Unicast Listen Port
   - Unicast Port Auto Adjust
   - Local Storage Enabled
   - Coherence Web Local Storage Enabled
   - Coherence Management Node
   - Site Name
   - Rack Name
   - Role Name

   See Configuration Options.

5. Click **Save**.

Configure server template protocols

This section describes how to configure server template protocols.

This section includes the following tasks:

- Configure server template protocol general settings
- Configure server template HTTP settings
- Configure server template IIOP settings
- Monitor server template network channel settings
- Configure server template network channel settings

Configure server template protocol general settings

To configure general protocol settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Protocols**, then select **General Settings**.

4. From the General Settings page, you can define connections settings for various communication protocols that this server template uses, such as:

   • Complete Message Timeout

   • Idle Connection Timeout

   • Enable Tunneling

   • Tunneling Client Ping

   • Tunneling Client Timeout

   • Maximum Message Size

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template HTTP settings

To configure HTTP protocol settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Protocols**, then select **HTTP**.

4. From the HTTP page, you can define the HTTP settings for this server template, such as:

   • Default WebApp Context Root

   • Post Timeout

   • Max Post Size

   • Enable Keepalives

   • Duration

   • HTTPS Duration

   • Frontend Host

   • Frontend HTTP Port

   • Frontend HTTPS Port

   • WAP Enabled

   • Remote Address Override

   • Send Server Header

   • Accept Context Path in Get Real Path

- HTTP Max Message Size

- Enable Tunneling

- Tunneling Client Ping

- Tunneling Client Timeout

For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template IIOP settings

To configure Internet Inter-ORB Protocol (IIOP) settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Protocols**, then select **IIOP**.

4. From the IIOP page, you enable IIOP for this server template.

   See Configuration Options.

   Optionally, expand **Advanced** to define advanced configuration settings for this server template.

5. Click **Save**.

Monitor server template network channel settings

To monitor network channel protocol settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

   The Server Templates table displays information about each server template that has been configured in the current WebLogic Server domain.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Protocols**, then select **Channels**.

4. The Channels table displays information about each network channel that has been configured for this server template, such as:

   - Name

   - Protocol

   - Enabled

   - Listen Address

   - Listen Port

   - Public Address

   - Public Port

   For more information about these fields, see Configuration Options.

5. Click **Save**.

Configure server template network channel settings

To configure network channel protocol settings for a server template:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

2. In the Server Templates table, select the name of the server template you want to configure.

3. Select **Protocols**, then select **Channels**.

4. In the Channels table, select the name of the channel you want to configure.

5. Select **Configuration**.

6. From the **General** page, you can define general configuration settings for the network channel, such as:

   • Name

   • Protocol

   • Listen Port

   • Listen Address

   • External Listen Address

   • External Listen Port

   • Enabled

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced configuration settings for this network channel.

7. Click **Save**.

8. From the **Security** page, you can define security configuration options for the network channel, such as:

   • Two Way SSL Enabled

   • Client Certificate Enforced

   For more information about these fields, see Configuration Options.

   Optionally, expand **Advanced** to define advanced configuration settings for this network channel.

9. Click **Save**.

Create server template notes

To create notes for server configuration:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Server Templates**.

2. In the Server Templates table, click the name of the server template you want to configure.

3. Select **Notes**.

4. On the Notes page, enter your notes.

5. Click **Save**.

See Configuration Options.

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WebLogic Server OSGi Frameworks

This chapter describes how to monitor and configure OSGi frameworks created in this domain. OSGi is a Java modularity system developed and maintained by the OSGi Alliance, of which Oracle is a member. For general information on OSGi, see Understanding OSGi in *Developing Applications for Oracle WebLogic Server*.

An OSGi framework provides an OSGi runtime environment to support applications that make use of OSGi features, such as packaging, lifecycle management, and an active registry. See Developing OSGi Bundles for WebLogic Server Applications in *Developing Applications for Oracle WebLogic Server*.

This chapter includes the following sections:

- Monitor OSGi frameworks
- Configure OSGi frameworks

Monitor OSGi frameworks

To monitor all OSGi frameworks configured in the current domain:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **OSGi Frameworks**.

   The OSGi Frameworks table displays information about the OSGi frameworks that have been configured in the current domain, such as:

   - Name
   - Factory Implementation Class
   - Register Global Work Managers
   - Register Global Data Sources
   - Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table
   - Detach: detach the table (viewing option)
   - Sort: sort the columns in ascending or descending order
   - Reorder: change the order of the columns displayed
   - Query by Example

2. In the table, select the name of the OSGi framework for which you want to view configuration information.

- Monitor server OSGi frameworks
- Monitor cluster OSGi frameworks

Monitor server OSGi frameworks

To monitor all OSGi frameworks configured in a specific server instance:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Servers**.

   The Servers table displays information about the Administration Server and any Managed Servers that have been configured in the current domain.

2. In the Servers table, select the name of the server instance for which you want to monitor OSGi frameworks.

3. From the **WebLogic Server** menu, select **Other Services**, then select **OSGi Frameworks**.

   The OSGi Frameworks table displays information about the OSGi frameworks that have been configured in the current server instance, such as:

   • Name

   • Factory Implementation Class

   • Register Global Work Managers

   • Register Global Data Sources

   • Targets

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   • Columns: add or remove the columns displayed in the table

   • Detach: detach the table (viewing option)

   • Sort: sort the columns in ascending or descending order

   • Reorder: change the order of the columns displayed

   • Query by Example

4. In the table, select the name of the OSGi framework for which you want to view configuration information.

Monitor cluster OSGi frameworks

To monitor all OSGi frameworks configured in a specific cluster:

1. From the **WebLogic Domain** menu, select **Environment**, then select **Clusters**.

   The Clusters table displays information about the clusters that have been configured in the current domain.

2. In the Clusters table, select the name of the cluster for which you want to monitor OSGi frameworks.

3. From the **WebLogic Cluster** menu, select **Other Services**, then select **OSGi Frameworks.**

   The OSGi Frameworks table displays information about the OSGi frameworks that have been configured in the current cluster, such as:

   • Name

   • Factory Implementation Class

- Register Global Work Managers
- Register Global Data Sources
- Targets

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

4. In the table, select the name of the OSGi framework for which you want to view configuration information.

Configure OSGi frameworks

This section describes how to configure OSGi frameworks created in the current domain. This section includes the following tasks:

- Configure an OSGi framework
- Target OSGi frameworks
- Create OSGi framework notes

Configure an OSGi framework

To modify the configuration of an OSGi framework in the current domain:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **OSGi Frameworks**.

   The OSGi Frameworks table displays information about each OSGi framework that has been configured in the current WebLogic Server domain.

2. In the OSGi Frameworks table, select the name of the OSGi framework you want to configure.

3. From the **Configuration** page, you can configure general settings of this OSGi framework, such as:

   - Factory Implementation Class
   - Register Global Work Managers
   - Register Global Data Sources
   - Boot Delegation
   - System Packages Extra
   - Deploy Installation Bundles
   - Init Properties

   For more information about these fields, see Configuration Options.

4. Click **Save**.

Target OSGi frameworks

You can assign server instances or clusters for an OSGi framework. The OSGi framework is deployed on the server instances or clusters that you select.

To target OSGi frameworks:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **OSGi Frameworks**.

   The OSGi Frameworks table displays information about each OSGi framework that has been configured in the current WebLogic Server domain.

2. In the OSGi Frameworks table, select the name of the OSGi framework you want to assign to a server instance or cluster.

3. Select **Targets**.

4. From the Targets page:

   • Select the checkbox next to the server instance or cluster to which you want to assign the OSGi framework.

   • To remove an OSGi framework from a server instance or cluster, deselect the checkbox next to the server instance or cluster from which you want to remove the OSGi framework.

   See Configuration Options.

5. Click **Save**.

Create OSGi framework notes

To create notes for OSGi framework configuration:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **OSGi Frameworks**.

2. In the OSGi Frameworks table, select the name of the OSGi framework for which you want to create notes.

3. Select **Notes**.

4. On the Notes page, enter your notes.

5. Click **Save**.

See Configuration Options.

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WebLogic Server Security

This chapter describes how to create and monitor security realms and how to monitor and configure WebLogic Server users and groups.
A security realm comprises mechanisms for protecting WebLogic Server resources. Each security realm consists of a set of configured security providers, users, groups, security roles, and security policies. A user must be defined in a security realm in order to access any WebLogic Server resources belonging to that realm. When a user attempts to access a particular WebLogic Server resource, WebLogic Server tries to authenticate and authorize the user by checking the security role assigned to the user in the relevant security realm and the security policy of the particular WebLogic Server resource.

This chapter includes the following sections:

- Create security realms
- Monitor security realms
- Monitor WebLogic Server users and groups
- Configure WebLogic Server users
- Configure WebLogic Server groups
- Configure domain security

Create security realms

To create a new security realm:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The Security Realms table displays information about the security realms that have been configured in the current domain.

2. Click **Create**.

3. On the Create a Security Realm page, enter a name for the new security realm in the **Name** field.

4. Click **Create**.

The new security realm contains the following WebLogic Server security providers with the default configuration settings:

- DefaultAuthenticator
- DefaultIdentityAsserter
- SystemPasswordValidator
- XACMLAuthorizer
- DefaultAdjudicator
- XACMLRoleMapper
- DefaultCredentialMapper
- WebLogicCertPathProvider

After creating your security realm, you can change the security providers and provider settings from the WebLogic Server Administration Console.

See Configuration Options.

Monitor security realms

To monitor the security realms configured in a domain:

- From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

  The Security Realms table displays information about the security realms that have been configured in the current domain, such as:

  - Name
  - Used By
  - Management Identity Domain
  - Deploy Credential Mapping Ignored
  - Deploy Policy Ignored
  - Deploy Role Ignored

  For more information about these fields, see Configuration Options.

  Optionally, select **View** to access the following table options:

  - Columns: add or remove the columns displayed in the table
  - Detach: detach the table (viewing option)
  - Sort: sort the columns in ascending or descending order
  - Reorder: change the order of the columns displayed
  - Query by Example

Monitor WebLogic Server users and groups

This section describes how to monitor the users and groups in your domain. This section includes the following tasks:

- Monitor users
- Monitor groups

Monitor users

To monitor users:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Users**.

   The Users table displays information about the users that have been configured in the current domain, such as:

- Name

- Description

- Groups

- Provider

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Monitor groups

To monitor groups:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Groups**.

   The Groups table displays information about the groups that have been configured in the current domain, such as:

   - Name

   - Description

   - Provider

   For more information about these fields, see Configuration Options.

   Optionally, select **View** to access the following table options:

   - Columns: add or remove the columns displayed in the table

   - Detach: detach the table (viewing option)

   - Sort: sort the columns in ascending or descending order

   - Reorder: change the order of the columns displayed

   - Query by Example

Configure WebLogic Server users

This section describes how to create and configure users in your WebLogic Server domain. This section includes the following tasks:

- Create a new user

- Configure user general settings

- Configure user password settings

- Configure user attribute settings
- Configure user group settings

Create a new user

To create a new user:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Users**.

   The Users table displays information about the users that have been configured in the current domain, such as:

   - Name
   - Description
   - Groups
   - Provider

   For more information about these fields, see Configuration Options.

4. Click **Create**.

5. From the Create a User page, you can define the properties for your new user, including:

   - Name (must be unique)
   - Description
   - Provider
   - Password

   For more information about these fields, see Configuration Options.

6. Click **Create**.

Configure user general settings

To configure general settings for a user:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Users**.

   The Users table displays information about the users that have been configured in the current domain.

4. In the Users table, select the name of the user you want to configure.

5. Select **General Settings**.

6. From the General Settings page, you can change the description for the selected user. Enter a description in the **Description** field.

See Configuration Options.

7. Click **Save**.

Configure user password settings

To configure password settings for a user:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Users**.

   The Users table displays information about the users that have been configured in the current domain.

4. In the Users table, select the name of the user you want to configure.

5. Select **Passwords**.

6. From the Passwords page, you can change the password for the selected user. Enter a password in the **New Password** and **Confirm Password** fields.

   See Configuration Options.

7. Click **Save**.

Configure user attribute settings

To configure attribute settings for a user:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Users**.

   The Users table displays information about the users that have been configured in the current domain.

4. In the Users table, select the name of the user you want to configure.

5. Select **Attributes**.

6. From the Attributes page, you can modify the values of the attributes for this selected user.

   See Configuration Options.

7. Click **Save**.

Configure user group settings

To configure group settings for a user:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Users**.

   The Users table displays information about the users that have been configured in the current domain.

4. In the Users table, select the name of the user you want to configure.

5. Select **Groups**.

6. From the Groups page, you can configure group membership for the selected user.

   See Configuration Options.

7. Click **Save**.

Configure WebLogic Server groups

This section describes how to create and configure groups in your WebLogic Server domain. This section includes the following tasks:

- Create a new group
- Configure group general settings
- Configure group membership settings

Create a new group

To create a new group:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Groups**.

   The Groups table displays information about the groups that have been configured in the current domain, such as:

   - Name
   - Description
   - Provider

   For more information about these fields, see Configuration Options.

4. Click **Create**.

5. From the Create a New Group page, you can define the properties for your new group, including:

   - Name (must be unique)
   - Description
   - Provider

   For more information about these fields, see Configuration Options.

6. Click **Create**.

Configure group general settings

To configure general settings for a group:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Groups**.

   The Groups table displays information about the groups that have been configured in the current domain.

4. In the Groups table, select the name of the group you want to configure.

5. Select **General Settings**.

6. From the General Settings page, you can change the description for the selected group. Enter a description in the **Description** field.

   See Configuration Options.

7. Click **Save**.

Configure group membership settings

To configure membership settings for a group:

1. From the **WebLogic Domain** menu, select **Security**, then select **Security Realms**.

   The security realms table displays information about the security realms that have been configured in the current domain.

2. In the table, select a realm you want to monitor.

3. Select the **Users and Groups** page and then select **Groups**.

   The Groups table displays information about the groups that have been configured in the current domain.

4. In the Groups table, select the name of the group you want to configure.

5. Select **Membership**.

6. From the Membership page, you can configure group membership for the selected group.

   See Configuration Options.

7. Click **Save**.

Configure domain security

This section describes how to configure the security settings for a WebLogic Server domain. This section includes the following task:

- Configure general settings

Configure general settings

To configure general settings:

1. From the **WebLogic Domain** menu, select **Security**, then select **Administration**.

   The Security Administration page appears.

   a. Select the **General Settings** page.

      From the General Settings page, you can define the general, advanced, and secured production mode settings for this WebLogic Server domain, such as:

      • Default Realm

      • Administrative Identity Domain

      • Identity Domain Aware Providers Required

      • Anonymous Admin Lookup Enabled

      • Cross Domain Security Enabled

      • Excluded Domain Names

      For more information about the fields on this page, see Configuration Options .

   b. Expand **Advanced** to define the advanced settings for this WebLogic Server domain, such as:

      • Security Interoperability Mode

      • Node Manager Username

      • Web App Files Case Insensitive

      • Enforce Strict URL Pattern

      • Downgrade Untrusted Principals

      • Principal Equals Case Insensitive

      • Principal Equals Compare DN and GUID

      • Compatibility Connection Filters Enabled

      • Allow Security Management Operations if Non-dynamic Changes have been Made

      • Clear Text Credential Access Enabled

      • Use KSS For Demo

      For more information about the fields on this page, see Configuration Options.

   c. Expand **Secured Production Mode Settings** to define the secured production mode settings for this WebLogic Server domain.

      Enable secured production mode for your production domain to ensure a highly secure environment for your applications and resources.

      > **Note:**
      >
      > Your domain must be in production mode to enable secured production mode.
      > Also note that if you select to run your domain in secured production mode, then the administration port is enabled by default and administrative traffic is no longer allowed on non-administration ports. For this reason, when in secured production mode, FMWC is available only via HTTPS on the default port, 9002. If you disable the administration port, FMWC will log a warning.

The Secured Production Mode Settings include:

- Secured Production Mode
- Restrictive JMX Policies
- Warn on Insecure SSL
- Warn on Insecure File System
- Warn on Auditing
- Warn on Insecure Applications
- Warn on Java Security Manager

For more information about the fields on this page, see Configuration Options.

2. Click **Save**.

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WebLogic Server Diagnostics

This chapter describes the tasks you can perform to create, monitor, and configure diagnostic system modules. A diagnostic system module is a software component that you configure to monitor an aspect of a server or server resource. This chapter also describes the tasks you can perform to create, monitor, and configure policies and actions.
This chapter includes the following sections:

- Create diagnostic system modules
- Monitor diagnostic system modules
- Control and configure diagnostic system modules
- Create and configure policies and actions
- Monitor diagnostic images

Create diagnostic system modules

To create a new diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

   The Diagnostic Modules table displays information about the diagnostic system modules that have been configured in the current WebLogic Server domain.

2. Click **Create**.

3. On the **Create Diagnostic Modules** page, define the properties for this new diagnostic system module.

   - **Name**: enter a name for this diagnostic system module.

   - **Scope**: select the scope for this diagnostic system module from the menu.

   - **Description**: enter a description to help you identify this diagnostic system module.

   - **Use a Built-in Diagnostic System Module as a Template**: select this checkbox to use a built-in diagnostic system module as the template for this new diagnostic system module.

     Using a built-in diagnostic system module as a template provides a simple, quick, and efficient way to create a diagnostic system module. You select the particular built-in module you want to use as a template, then change the configuration of the built-in module as desired.

   - **Built-In Diagnostic System Module**: if you are using a built-in diagnostic system module as a template, select one of the three built-in diagnostic system modules from this menu (Low, Medium, or High).

4. Click **Create**.

For more information about these fields, see Configuration Options.

Monitor diagnostic system modules

To monitor the diagnostic system modules in a domain:

- From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

  The Diagnostic Modules table displays information about the diagnostic system modules that have been configured in the current WebLogic Server domain, such as:

  - Name
  - Description
  - Targets
  - Scope

  For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Reorder: change the order of the columns displayed
- Query by Example

Control and configure diagnostic system modules

This section includes the following tasks:

- Control a diagnostic system module
- Define general configuration settings
- Configure collected metric settings
- Create a new collected metric
- Configure a collected metric
- Configure policies and actions
- Select targets for a diagnostic system module

Control a diagnostic system module

To control a diagnostic system module.

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to control.

3. Select **Control**.

   From the Control page, you can activate or deactivate a diagnostic system module without making a change to the domain configuration.

4. In the table, select the row of the server instance to which the diagnostic system module is targeted.

   The control options are displayed above the table.

5. Click **Activate** to activate the diagnostic system module for the targeted server instance. Click **Deactivate** to disable the diagnostic system module for the targeted server instance.

   See Configuration Options.

Define general configuration settings

To define general configuration settings for a specific diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **General**.

4. From the General Configuration page, you can define general configuration settings for this diagnostic system module, such as:

   • Name

   • Description

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure collected metric settings

To configure collected metrics for the policies and actions for a specific diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Collected Metrics**.

4. From the Collected Metrics page, you can define collected metrics settings for this diagnostic system module, such as:

   • Enabled

   • Sampling Period

   For more information about these fields, see Configuration Options.

5. Click **Apply**.

Create a new collected metric

To create a new collected metric:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Collected Metrics**.

4. Click **Create**.

5. Define the configuration options for your collected metric on each page of the following sections.

6. Then, click **Create** to complete the creation of your new collected metric.

- Collection Properties
- Additional Metric Collection Properties
- Select Instances

Collection Properties

On the **Collection Properties** page, define the general metric connection properties:

- **MBean Server Location**: select the WebLogic Server MBean server for the metric you wish to configure. You can select either ServerRuntimeMBean or DomainRuntimeMBean.

- **Select an MBean type from the following list**: select this option if you want to use a preexisting WebLogic Server MBean. From the menu, select the WebLogic Server MBean from which you want to collect data.

- **Enter a custom MBean type**: select this option if you want to enter a custom MBean type.

For more information on these fields, see Configuration Options.

Additional Metric Collection Properties

On the **Additional Metric Connection Properties** page, you can select individual MBeans to monitor. In the **Collected Attributes** section, select one or more attributes from the **Available** list. Click the right arrow button to move them to the **Chosen** list.

In the **Attribute Expressions** field, you can enter attribute expressions to collect complex or nested attributes. Start a new line for each expression.

See Configuration Options.

Select Instances

On the **Select Instances** page, you can select individual MBeans to monitor. In the **Collected Instances** section, select one or more instances from the **Available** list. Click the right arrow button to move the instances to the **Chosen** list.

In the **Instance Expressions** field, you can enter instance expressions. Start a new line for each expression.

See Configuration Options.

Configure a collected metric

This section describes how to configure a collected metric.

This section includes the following tasks:

- Configure general settings

- Configure instance settings

Configure general settings

To configure general settings for a metric:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Collected Metrics**.

   The Collected Metrics table displays information about the metrics created in this diagnostic system module.

4. Select the metric you want to configure.

5. Select **General**.

6. From the General page, you can view and define general configuration settings for this existing metric, such as:

   - Metric Type

   - MBean Server Location

   - Enable Metric

   - Collected Attributes

   - Attribute Expressions

   For more information on these fields, see Configuration Options.

7. Click **Apply**.

Configure instance settings

To configure instance settings for a metric:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Collected Metrics**.

   The Collected Metrics table displays information about the metrics created in this diagnostic system module.

4. Select the metric you want to configure.

5. Select **Instances**.

6. From the Instances page, you can view and define instance configuration settings for this existing metric, such as:

   - Metric Type

   - Collected Instances

   - Additional Instances

   For more information on these fields, see Configuration Options.

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7. Click **Apply**.

Configure policies and actions

To configure policies and actions for a diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions.**

4. From the Policies and Actions page, you can define policy and action settings for this diagnostic module, such as:

   • Enabled

   • Severity

   • Log Policy Severity

5. Click **Apply**.

• Monitor policies

• Monitor actions

Monitor policies

To monitor the policies configured in a diagnostic system module.

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to monitor.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

   The Policies table displays information about the policies that have been configured for this diagnostic system module, such as:

   • Name

   • Rule Type

   • Enabled

   • Alarm Type

   For more information on these fields, see Configuration Options.

On the **Policies** page, you can also click **Create** to create a new policy for this diagnostic system module. For more information see Create a new policy. To configure a policy, select a policy from the table. See Configure a policy.

Monitor actions

To monitor the actions configured in a diagnostic system module.

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to monitor.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

   The Actions table displays information about the actions that have been configured for this diagnostic system module, such as:

   - Name
   - Type
   - Enabled

   For more information on these fields, see Configuration Options.

   On the **Actions** page, you can also click **Create** to create a new action for this diagnostic system module. For more information see Create a new action. To configure an action, select an action from the table. See Configure an action.

Select targets for a diagnostic system module

To specify the WebLogic Server instances and clusters to which you want to deploy this diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Targets.**

4. Select the WebLogic Server instances and clusters to which you want to deploy this diagnostic system module.

   See Configuration Options.

5. Click **Save**.

Create and configure policies and actions

This section describes how to create policies and actions for a diagnostic system module.

This section includes the following tasks:

- Create a new policy
- Configure a policy
- Create a new action
- Configure an action

Create a new policy

To create a new policy for a specific diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

4. Click **Create**.

5. Define the configuration options for your policy on each page of the following sections.

6. Then, click **Create** to complete the creation of your new policy.

- Policy Configuration
- Expression/Smart Rule
- Schedule
- Alarms
- Actions

Policy Configuration

On the Policy Configuration page, define the general policy configuration settings for your new policy:

- **Policy Name**: enter a name for the policy.
- **Rule Type**: select a rule from the Rule Type menu.
    - Select **Calendar Based** to set a rule based on a set schedule.
    - Select **Collected Metrics** to set a rule based on metrics collected from MBean attributes.
    - Select **Domain Log** to set a rule based on data written to the domain log.
    - Select **Event Data** to set a rule based on data generated from a specified instrumentation event.
    - Select **Server Log** to set a rule based on data written to server logs.
    - Select **Smart Rule Based** to set a rule based on a built-in Smart Rule.
- **Enabled**: select the Enabled checkbox if you want to enable this policy.

For more information on these fields, see Configuration Options.

Expression/Smart Rule

On the Expression/Smart Rule page, assign a policy expression to this policy by either selecting a built-in smart rule or building a new expression.

- To assign a policy expression to this policy using a built-in smart rule, select **Smart Rule** and select the desired smart rule from the menu. After you choose a smart rule, the smart rule description is displayed as well as a table listing and describing the arguments for the selected smart rule. Enter the appropriate argument values in the **Value** fields.
- To build a new expression for this policy, select **Expression** and enter your new policy expression.

For more information on these fields, see Configuration Options.

Schedule

On the Schedule page, set the schedule for this policy.

- **Start Time**: set the start time for this policy using the **Hour**, **Minute**, and **Second** fields. Also, specify the time of day by selecting **AM** or **PM**.

- **Repeat**: select a schedule for this policy from the menu.

  – Select **Every N seconds** to set the policy to execute every *N* seconds.

  – Select **Every N minutes** to set the policy to execute every *N* minutes.

  – Select **Every N hours** to set the policy to execute every *N* hours.

  – Select **Specific days of the week** to set the policy to execute at the same time on the specified days.

  – Select **Specific days of the month** to set the policy to execute at the same time on the specified days.

- **Frequency**: specify a frequency for this policy's schedule. The acceptable values for this field change based on the schedule you selected in the **Repeat** field.

  – If you selected **Every N seconds**, **Every N minutes**, or **Every N hours** in the **Repeat** field, then specify the appropriate value in the **Frequency** field. You can also use the up and down arrows to select the desired value. For example, if you selected **Every N minutes** in the **Repeat** field, and you want your policy to execute every 30 minutes, enter `30` in the **Frequency** field.

  – If you selected **Specific days of the week** in the Repeat field, then select the checkboxes for the appropriate days in the **Frequency** field. For example, select the checkboxes for **Wednesday** and **Friday** to schedule your policy to execute every Wednesday and Friday.

  – If you selected **Specific days of the month** in the **Repeat** field, then select the checkboxes for the appropriate dates in the **Frequency** field. For example, select the checkboxes for **15** and **20** to schedule your policy to execute on the 15th and 20th of the month.

For more information on these fields, see Configuration Options.

Alarms

On the Alarms page, specify an alarm and the alarm's reset settings for your policy:

- **Policy Alarm**: select an alarm reset setting for your policy. You can select **Do not use an alarm**, **Use a manual reset alarm**, or **Use an automatic reset alarm**.

- **Automatic Reset Period (in seconds)**: if you selected **Use an automatic reset alarm** as the **Policy Alarm** setting, enter the automatic reset period, in seconds, for the alarm. This reset period is the time period to wait after the policy evaluates to `true` before the alarm is automatically reset. This value is converted to milliseconds before it is stored. For example, if you enter 50 seconds, it is stored as 50000 milliseconds. The default reset period is 60000 milliseconds, or 60 seconds. The minimum value you can set is 1 second (1000 ms).

For more information on these fields, see Configuration Options.

Actions

On the Actions page, you can assign scaling and other actions to your policy:

- **Scale Up Action**: assign a scale up action to the policy. For more information on creating a scale up action, see Create a scale up or scale down action.

> ✏️ **Note:**
>
> You can assign only one scaling action, either a scale up or a scale down action, to a policy. You can assign any number of non-scaling actions.

- **Scale Down Action**: assign a scale down action to the policy. For more information on creating a scale down action, see Create a scale up or scale down action.

- **Diagnostic Actions**: select the actions (not including scaling actions) that you want to assign to your policy by moving them from the **Available** column to the **Chosen** column.

For more information on these fields, see Configuration Options.

Configure a policy

Policies are monitors that observe specific diagnostic state and can be configured to send one or more actions based on configured rules.

This section includes the following tasks:

- Configure general policy settings
- Configure policy expressions
- Configure policy schedule settings
- Configure policy alarm settings
- Assign actions to a policy

Configure general policy settings

To define general settings for a policy:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

4. In the Policies table, select the policy you want to configure.

5. Select **General**.

6. From the General configuration page, you can define general configuration settings for this policy, such as:

   - Policy Name
   - Module Name
   - Rule Type
   - Enabled

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Configure policy expressions

To define policy expressions for a policy:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

4. In the Policies table, select the policy you want to configure.

5. Select **Expression**.

6. In the **Expression** field, enter new expressions for this policy or update existing ones.

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Configure policy schedule settings

To define schedule settings for a policy:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

4. In the Policies table, select the policy you want to configure.

5. Select **Schedule**.

6. On the Schedule configuration page, you can define schedule settings for this policy, such as:

   • Start Time

   • Repeat

   • Frequency

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Configure policy alarm settings

To define alarm settings for a policy:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

4. In the Policies table, select the policy you want to configure.

5. Select **Alarm**.

6. From the Alarm configuration page, you can define alarm configuration settings for this policy, such as:

   • Policy Alarm

   • Automatic Reset Period

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Assign actions to a policy

To define action settings for a policy:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Policies**.

4. In the Policies table, select the policy you want to configure.

5. Select **Actions**.

6. From the Actions configuration page, you can assign scaling and non-scaling actions to a policy.

   To assign a scaling action to this policy select either **Scale Up Action** or **Scale Down Action** and select the desired scaling action from the menu. Alternatively, you can click **Create Scale Up Action** or **Create Scale Down Action** to create a new scaling action for this policy. For more information on creating a scale up or scale down action, see Create a scale up or scale down action.

   > **✎ Note:**
   >
   > You can only assign one scaling action to a policy, but you can assign any number of non-scaling actions to a policy.

   To assign non-scaling actions to this policy, move the desired actions from the **Available** column to the **Chosen** column.

   For more information about these fields, see Configuration Options.

7. Click **Apply**.

Create a new action

To create a new action for a specific diagnostic system module:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select the type of action you want to create. You can create the following action types:

- Create a SMTP (e-mail) action
- Create a JMS message action
- Create a diagnostic image action
- Create a JMX notification action
- Create a SNMP trap action
- Create a REST action
- Create a scale up or scale down action

Create a SMTP (e-mail) action

To create a new SMTP (e-mail) action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **SMTP (E-mail)** from the menu.

5. On the Create an Action: SMTP (E-mail) page, you can define configuration settings for this action, such as:

- Action Name
- Timeout (in seconds)
- Enable Action
- Mail Session Name
- E-Mail Recipients
- Enter E-Mail Subject
- E-Mail Subject
- Enter E-Mail Body
- E-Mail Body

For more information on these fields, see Configuration Options.

6. Click **Create**.

Create a JMS message action

To create a new JMS message action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **JMS Message** from the menu.

5. On the Create an Action: JMS Message page, you can define configuration settings for this action, such as:

- Action Name
- Timeout (in seconds)
- Enable Action
- JMS Destination JNDI Name
- Connection Factory JNDI Name

For more information on these fields, see Configuration Options.

6. Click **Create**.

Create a diagnostic image action

To create a new diagnostic image action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **Diagnostic Image** from the menu.

5. On the Create an Action: Diagnostic Image page, you can define configuration settings for this action, such as:

- Action Name
- Timeout (in seconds)
- Enable Action
- Image Directory
- Lockout Time (in minutes)

For more information on these fields, see Configuration Options.

6. Click **Create**.

Create a JMX notification action

To create a new JMX notification action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **JMX Notification** from the menu.

5. On the Create an Action: JMX Notification page, you can define configuration settings for this action, such as:

- Action Name
- Timeout (in seconds)

- Notification Type

- Enable Action

For more information on these fields, see Configuration Options.

6. Click **Create**.

Create a SNMP trap action

To create a new SNMP trap action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **SNMP Trap** from the menu.

5. On the Create an Action: SNMP Trap page, you can define configuration settings for this action, such as:

   - Action Name

   - Timeout (in seconds)

   - Enable Action

   For more information on these fields, see Configuration Options.

6. Click **Create**.

Create a REST action

To create a new REST action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **REST** from the menu.

5. On the Create an Action: REST page, you can define configuration settings for this action, such as:

   - Action Name

   - Timeout (in seconds)

   - Enable Action

   - Endpoint URL

   - Invocation Method Type

   - HTTP Authentication Mode

   - HTTP Authentication Username

   - HTTP Authentication Password

In the **Custom Action Properties** field, you can add and delete properties to customize JSON objects delivered to the REST endpoint. To add a new property, click **Add** and enter a **Name** and **Value** for the property. To delete a property, click **Delete**.

For more information on these fields, see Configuration Options.

6. Click **Create**.

Create a scale up or scale down action

The section describes how to create a new scale up or scale down action.

> **Note:**
>
> creating a scaling action requires a dynamic cluster.

To create a new scale up action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **Scale Up** from the menu.

5. On the Create an Action: Scale Up page, you can define configuration settings for this action, such as:

   - Action Name
   - Timeout (in seconds)
   - Enable Action
   - Service Name
   - Scale Type
   - Current Cluster Size
   - Maximum Cluster Size
   - Minimum Cluster Size
   - Desired Server Count

   For more information on these fields, see Configuration Options.

6. Click **Create**.

To create a new scale down action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. Click **Create** and select **Scale Down** from the menu.

5. On the Create an Action: Scale Down page, you can define configuration settings for this action, such as:

   - Action Name
   - Timeout (in seconds)
   - Enable Action
   - Service Name
   - Scale Type
   - Current Cluster Size
   - Maximum Cluster Size
   - Minimum Cluster Size
   - Desired Server Count

   For more information on these fields, see Configuration Options.

6. Click **Create**.

Configure an action

This section includes the following tasks:

- Configure a SMTP action
- Configure a JMS message action
- Configure a diagnostic image action
- Configure a JMX notification action
- Configure a SNMP trap action
- Configure a REST action
- Configure a scale up action
- Configure a scale down action

Configure a SMTP action

To configure a SMTP (e-mail) action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. In the Actions table, select the SMTP action you want to configure.

5. On the SMTP configuration page, you can view and define configuration settings for this action, such as:

   - Name
   - Type
   - Timeout (in seconds)
   - Enable Action

- • E-Mail Recipients

- • Mail Session Name

- • Enter E-Mail Subject

- • E-Mail Subject

- • Enter E-Mail Body

- • E-Mail Body

For more information on these fields, see Configuration Options.

6. Click **Save**.

Configure a JMS message action

To configure a JMS message action

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. In the Actions table, select the JMS message action you want to configure.

5. On the JMS Message configuration page, you can view and define configuration settings for this action, such as:

- • Name

- • Type

- • Timeout (in seconds)

- • Enable Action

- • JMS Destination JNDI Name

- • Connection Factory JNDI Name

For more information on these fields, see Configuration Options.

6. Click **Save**.

Configure a diagnostic image action

To configure a diagnostic image action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. In the Actions table, select the diagnostic image action you want to configure.

5. On the Diagnostic Image configuration page, you can view and define configuration settings for this action, such as:

- • Name

- • Type

- Timeout (in seconds)
- Enable Action
- Image Directory
- Lockout Time (in minutes)

For more information on these fields, see Configuration Options.

6. Click **Save**.

Configure a JMX notification action

To configure a JMX notification action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.
2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.
3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.
4. In the Actions table, select the JMX notification action you want to configure.
5. On the JMX configuration page, you can view and define configuration settings for this action, such as:

   - Name
   - Type
   - Timeout (in seconds)
   - Enable Action
   - Notification Type

   For more information on these fields, see Configuration Options.
6. Click **Save**.

Configure a SNMP trap action

To configure a SNMP trap action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.
2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.
3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.
4. In the Actions table, select the SMNP trap action you want to configure.
5. On the SNMP Trap configuration page, you can view and define configuration settings for this action, such as:

   - Name
   - Type
   - Timeout (in seconds)
   - Enable Action

   For more information on these fields, see Configuration Options.

6. Click **Save**.

Configure a REST action

To configure a REST action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. In the Actions table, select the REST action you want to configure.

5. On the REST configuration page, you can view and define configuration settings for this action, such as:

   - Name
   - Type
   - Timeout (in seconds)
   - Enable Action
   - Endpoint URL
   - Invocation Method Type
   - HTTP Authentication Mode
   - HTTP Authentication Username
   - HTTP Authentication Password
   - Custom Properties

   For more information on these fields, see Configuration Options.

6. Click **Save**.

Configure a scale up action

To configure a scale up action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. In the Actions table, select the scale up action you want to configure.

5. On the Scale Up Action configuration page, you can view and define configuration settings for this action, such as:

   - Name
   - Type
   - Timeout (in seconds)
   - Enable Action
   - Service Name

- • Scale Type

- • Current Cluster Size

- • Maximum Cluster Size

- • Minimum Cluster Size

- • Desired Server Count

For more information on these fields, see Configuration Options.

6. Click **Save**.

Configure a scale down action

To configure a scale down action:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Modules**.

2. In the Diagnostics Modules table, select the diagnostic system module you want to configure.

3. Select **Configuration**, then select **Policies and Actions**, then select **Actions**.

4. In the Actions table, select the scale down action you want to configure.

5. On the Scale Down Action configuration page, you can view and define configuration settings for this action, such as:

- • Name

- • Type

- • Timeout (in seconds)

- • Enable Action

- • Service Name

- • Scale Type

- • Current Cluster Size

- • Maximum Cluster Size

- • Minimum Cluster Size

- • Desired Server Count

For more information on these fields, see Configuration Options.

6. Click **Save**.

Monitor diagnostic images

The diagnostic image functionality provided by the WebLogic Server Diagnostic Service gathers the most common sources of key server state used in diagnosing problems and packages that state into a single file, or "diagnostic image." You can specify the default destination directory where diagnostic images for a server are saved, and you can initiate an immediate capture of an image for a server.

To monitor the diagnostic images in a domain:

- • From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Images**.

The Diagnostic Images table displays information about the diagnostic images captured in the domain, such as:

- Name

- Type

- Destination Directory

- Timeout

- Status of Last Action

For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: table viewing option

- Expand or Collapse

- Scroll to First or Scroll to Last

- Reorder: change the order of the columns displayed

- Capture diagnostic images
- Download captured diagnostic images

Capture diagnostic images

To capture a diagnostic image:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Images**.

   The Diagnostic Images table displays information about the diagnostic images captured in the domain.

2. In the Diagnostic Images table, select the row containing the server instance for which you want to capture an image.

   The control options are displayed above the table.

3. Click **Capture Image**.

4. On the Capture Diagnostic Image page, enter the following information for this image:

   - Destination Directory
   - Timeout

   For more information about these fields, see Configuration Options.

5. Click **Capture Image**.

Download captured diagnostic images

To download a captured diagnostic image:

1. From the **WebLogic Domain** menu, select **Diagnostics**, then select **Diagnostic Images**.

   The Diagnostic Images table displays information about the diagnostic images captured in the domain.

2. In the Diagnostic Images table, select the row containing the server instance for which you want to download an image.

The control options are displayed above the table.

3. Click **Download Captured Images**.

4. On the Download Captured Images page, select the image you want to download and click **Download**.

   See Configuration Options.

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WebLogic Server Mail Sessions

This chapter describes the tasks you can perform to create, monitor, and configure mail sessions. Mail sessions facilitate the process of using the JavaMail APIs, which provide applications and other Java EE modules with access to Internet Message Access Protocol (IMAP)- and Simple Mail Transfer Protocol (SMTP)-capable mail servers on your network or the Internet.
This chapter includes the following sections:

- Create mail sessions
- Monitor mail sessions
- Configure mail sessions

Create mail sessions

To create a new mail session:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Mail Sessions**.

   The Mail Sessions table displays information about the mail sessions that have been configured in the current WebLogic Server domain.

2. Click **Create**.

3. Define the configuration settings for your new mail session on each page of the following sections.

4. Then, click **Create**.

- General Configuration
- Targets
- Review

General Configuration

On the **General Configuration** page, you can define general configuration settings for your new mail session:

- **Name**: enter the desired name for your new mail session.
- **Scope**: select the scope for this mail session
- **JNDI Name**: enter a unique JNDI name for this new mail session.
- **Session Username**: enter the desired user name credentials for this new mail session.
- **Session Password/Confirm Session Password**: enter and confirm the desired password credentials for this new mail session.
- **Java Mail Properties**: click Add to add properties to this new mail session and specify information for connecting to an existing mail server. Express each property as a `name=value` pair.

  For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, select the servers and clusters on which you want to target this new mail session to.

See Configuration Options.

Review

On the **Review** page, review the configuration for this mail session.

See Configuration Options.

Monitor mail sessions

To monitor the mail sessions configure in a domain:

- From the **WebLogic Domain** menu, select **Other Services**, then select **Mail Sessions**.

  The Mail Sessions table displays information about the mail sessions that have been configured in the current WebLogic Server domain, such as:

  - Name
  - JNDI Name
  - Scope

  For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table
- Detach: detach the table (viewing option)
- Sort: sort the columns in ascending or descending order
- Query by Example

Configure mail sessions

The section describes how to configure mail sessions.

This section includes the following tasks:

- Configure mail session general settings
- Target mail sessions
- Configure mail session tags
- Create mail session notes

Configure mail session general settings

To configure general settings for a mail session:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Mail Sessions**.

The Mail Sessions table displays information about the mail sessions that have been configured in the current WebLogic Server domain.

2. In the Mail Sessions table, select the mail session you want to configure.

3. Select the **General** page.

On the General page, you can view and define general configuration settings for the mail session, such as:

- Name
- Scope
- JNDI Name
- Session Username
- Session Password

In the **Java Mail Properties** section, click **Add** and enter a **Name** and **Value** to add a new Java mail property to the mail session.

4. Click **Apply**.

For more information on these fields, see Configuration Options.

Target mail sessions

After you create a mail session, you assign (target) it to one or more server instances or clusters.

To specify the targets for a mail session:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Mail Sessions**.

The Mail Sessions table displays information about the mail sessions that have been configured in the current WebLogic Server domain.

2. In the Mail Sessions table, select the mail session you want to configure.

3. Select the **Targets** page.

On the Targets page, you can select the servers and clusters you want to target the mail session to. Select the checkbox next to the target name to specify the desired targets for this mail session.

4. Click **Save**.

See Configuration Options.

Configure mail session tags

To configure tags associated with a mail session:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Mail Sessions**.

The Mail Sessions table displays information about the mail sessions that have been configured in the current WebLogic Server domain.

2. In the Mail Sessions table, select the mail session you want to configure.

3. Select the **Tags** page.

On the Tags page, you can select tags for this mail session by moving them from the **Available** column to the **Chosen** column. Additionally, you can enter a new tag in the **Add new tag** field.

4. Click **Apply**.

See Configuration Options.

Create mail session notes

To create notes for a mail session:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Mail Sessions**.

The Mail Sessions table displays information about the mail sessions that have been configured in the current WebLogic Server domain.

2. In the Mail Sessions table, select the mail session you want to configure.

3. Select the **Notes** page.

On the Notes page, enter your notes.

4. Click **Save**.

See Configuration Options.

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WebLogic Server Foreign JNDI Providers

This chapter describes the tasks you can perform to create, monitor, and configure foreign JNDI providers. A foreign JNDI provider represents a JNDI tree that resides outside of a WebLogic Server environment. This could be a JNDI tree in a different server environment or within an external Java program. By setting up a foreign JNDI provider you can lookup and use a remote object with the same ease as using an object bound in your WebLogic Server instance. In other words, you can access local and remote objects using a single WebLogic Server connection.
This chapter includes the following sections:

- Create foreign JNDI providers
- Monitor foreign JNDI providers
- Configure foreign JNDI providers

Create foreign JNDI providers

To create a new foreign JNDI provider:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

   The Foreign JNDI Provider table displays information about the foreign JNDI providers that have been configured in the current WebLogic Server domain.

2. Click **Create**.

3. Define the configuration settings for your new foreign JNDI provider on each page of the following sections.

4. Then, click **Create**.

- General Configuration
- Targets
- Review

General Configuration

On the **General Configuration** page, you can define general configuration settings for your new foreign JNDI provider:

- **Name**: enter a name for the foreign JNDI provider.
- **Scope**: select the scope for this foreign JNDI provider.
- **Initial Context Factory**: enter the name of the class that must be instantiated to access the JNDI provider. This class name depends on the JNDI provider and the vendor that are being used. The value corresponds to the standard JNDI property, `java.naming.factory.initial`.
- **Provider URL**: enter the URL that WebLogic Server will use to contact the JNDI provider. This value corresponds to the standard JNDI property, `java.naming.provider.url`.

- **User**: enter the name of a user authorized to access the foreign JNDI.

- **Password**: enter the user password.

- **Confirm Password**: confirm the user password.

- **Properties**: click **Add** to specify any additional properties that must be set for the JNDI provider. These properties will be passed directly to the constructor for the JNDI provider's `InitialContext` class. Express each property as a `name=value` pair, separated by commas.

For more information about these fields, see Configuration Options.

Targets

On the **Targets** page, select the server instances and clusters on which you want to target the new foreign JNDI provider.

See Configuration Options.

Review

On the **Review** page, review the configuration for this foreign JNDI provider.

See Configuration Options.

Monitor foreign JNDI providers

To monitor the foreign JNDI providers configured in the domain:

- From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

  The Foreign JNDI Providers table displays information about the foreign JNDI providers that have been configured in the current WebLogic Server domain, such as:

  - Name

  - Initial Context Factory

  - Provider URL

  - User

  - Scope

  - Targets

  For more information about these fields, see Configuration Options.

Optionally, select **View** to access the following table options:

- Columns: add or remove the columns displayed in the table

- Detach: detach the table (viewing option)

- Sort: sort the columns in ascending or descending order

- Reorder: change the order of the columns displayed

- Query by Example

Configure foreign JNDI providers

A foreign JNDI provider represents a JNDI tree that resides outside of a WebLogic Server environment. This could be a JNDI tree in a different server environment or within an external Java program. By setting up a foreign JNDI provider you can lookup and use a remote object with the same ease as using an object bound in your WebLogic Server instance. In other words, you can access local and remote objects using a single WebLogic Server connection.

This section includes the following tasks:

- Configure foreign JNDI provider general settings
- Configure foreign JNDI object links
- Create foreign JNDI object links
- Configure a foreign JNDI object link
- Configure tags for a foreign JNDI provider
- Target a foreign JNDI provider
- Create foreign JNDI provider notes

Configure foreign JNDI provider general settings

To configure general settings for a specific foreign JNDI provider:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.

3. Select **Configuration**, then select **General**.

4. From the General Settings page, you can view and define configuration information for this foreign JNDI provider, such as:
    - Name
    - Scope
    - Initial Context Factory
    - Provider URL
    - User
    - Password
    - Confirm Password
    - Properties

    For more information about these fields, see Configuration Options.

5. Click **Apply**.

Configure foreign JNDI object links

A foreign JNDI object link represents a local link to an object in a foreign (remote) JNDI tree. After you create a foreign JNDI provider you can add foreign JNDI links that set up a relationship between a name in your local JNDI tree and the object in the remote tree.

To configure foreign JNDI object links:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.

3. Select **Configuration**, then select **Links**.

4. From the Links page, you can view configuration information about the foreign JNDI object links associated with this foreign JNDI provider, such as:

   - Name

   - Local JNDI Name

   - Remote JNDI Name

   For more information about these fields, see Configuration Options.

5. To create a new foreign JNDI link, click **Create**. See Create foreign JNDI object links.

6. To delete an existing foreign JNDI link, select the foreign JNDI link and click **Delete**.

Create foreign JNDI object links

To create object links to a foreign JNDI provider:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider to which you want to create object links.

3. Select **Configuration**, then select **Links**.

4. Click **Create**.

5. Define the configuration settings for your new foreign JNDI object link on each page of the following sections.

6. Then, click **Create**.

- General Configuration

- Review

General Configuration

On the **General Configuration** page, you can define general configuration settings for your new foreign JNDI object link

- **Name**: enter a name for the foreign JNDI link.

- **Local JNDI Name**: specify the name that the remote JNDI object will be bound to in the local server's JNDI tree and used to look up the object on the local server.

- **Remote JNDI Name**: specify the name of the remote object that will be looked up in the foreign JNDI directory.

For more information about these fields, see Configuration Options.

Review

On the **Review** page, review the configuration for this foreign JNDI object link.

See Configuration Options.

Configure a foreign JNDI object link

A foreign JNDI object link represents a local link to an object in a foreign (remote) JNDI tree. After you create a foreign JNDI provider you can add foreign JNDI links that set up a relationship between a name in your local JNDI tree and the object in the remote tree.

This section includes the following tasks:

- Configure foreign JNDI link general settings
- Create foreign JNDI link notes

Configure foreign JNDI link general settings

To configure general settings for a foreign JNDI object link:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.
2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.
3. Select **Configuration**, then select **Links**.
4. In the Foreign JNDI Links table, select the name of the foreign JNDI object link you want to configure.
5. Select **General**.
6. From the General page, you can configure general information about this foreign JNDI object link, such as:
   - Name
   - Local JNDI Name
   - Remote JNDI Name

   For more information about these fields, see Configuration Options.
7. Click **Apply**.

Create foreign JNDI link notes

To create notes to describe the configuration of this foreign JNDI link:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.
2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.
3. Select **Configuration**, then select **Links**.
4. In the Foreign JNDI Links table, select the name of the foreign JNDI object link you want to configure.

5. Select **Notes**.

6. On the Notes page, enter your notes.

   See Configuration Options.

7. Click **Save**.

Configure tags for a foreign JNDI provider

To configure tags for a specific foreign JNDI provider:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.

3. Select **Tags**.

4. On the Tags page, you can configure the tags associated with this foreign JNDI provider:

   • In **Add new tag**, create a new tag by entering the tag name.

   • In **Tags**, move existing tags from the **Available** column to the **Chosen** column to associate these tags with foreign JNDI provider.

   See Configuration Options.

5. Click **Apply**.

Target a foreign JNDI provider

To target a specific foreign JNDI provider:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.

3. Select **Targets**.

4. From the Targets page, you can specify the WebLogic Server instances and clusters to which you want to target this foreign JNDI provider.

   See Configuration Options.

5. Click **Save**.

Create foreign JNDI provider notes

To create notes to describe the configuration of this foreign JNDI provider:

1. From the **WebLogic Domain** menu, select **Other Services**, then select **Foreign JNDI Providers**.

2. In the Foreign JNDI Provider table, select the name of the foreign JNDI provider you want to configure.

3. Select **Notes**.

4. On the Notes page, enter your notes.

   See Configuration Options.

5. Click **Save**.