**Oracle® Fusion Middleware**

Installation Guide for Oracle API Catalog

12*c* Release 1 (12.1.3)

**E55979-04**

October 2015

Provides information and instructions for installing Oracle API Catalog.

ORACLE®

Oracle Fusion Middleware Installation Guide for Oracle API Catalog, 12*c* Release 1 (12.1.3)

E55979-04

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# Preface

The *Oracle Fusion Middleware Installation Guide for Oracle API Catalog* provides information and instructions for installing, configuring, and troubleshooting Oracle API Catalog.

## Audience

This document is intended for system administrators or application developers who are installing Oracle API Catalog 12*c* software. It is assumed that readers are familiar with web technologies and have a general understanding of Windows and UNIX platforms.

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

### Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

## Related Documents

For more information, see the following documents in the Oracle API Catalog 12*c* documentation set:

- *Oracle Fusion Middleware Concepts Guide for Oracle API Catalog*

- *Oracle Fusion Middleware Administrator's Guide for Oracle API Catalog*

- *Oracle Fusion Middleware Developer's Guide for Oracle API Catalog*

## 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. |

# 1

# Planning the Installation

This chapter provides information about planning an Oracle API Catalog installation.

This chapter includes the following sections:

- Introducing Oracle API Catalog Installation
- Product Distribution
- Verifying Certification, System Requirements, and Interoperability
- Installing Software Required for an Oracle API Catalog Installation
- Choosing an Oracle Home Directory
- Next Steps

## 1.1 Introducing Oracle API Catalog Installation

Oracle API Catalog includes a simple metamodel for an API asset, automation to populate OAC, and the ability for users to search OAC for APIs and understand the details of the APIs to assess their fit in the users application.

Oracle API Catalog consists of the following subcomponents that can be installed on your system:

- **Core Product**: Installs everything necessary for Oracle API Catalog.
- **Oracle API Catalog Plug-ins**

  The following plug-ins are available in Oracle API Catalog:

  - **Development Environments (IDEs)**

    * Oracle JDeveloper

  - **Harvester Plug-ins for**

    * WLST

    * Ant

> **Note:** Installing Oracle Enterprise Repository and Oracle API Catalog into the same Middleware Home is not supported. If you create a valid OER or OAC domain in a Middleware Home, and then create a valid domain for the other product in the same Middleware Home, accessing the first domain you created (whether it is OER or OAC) results in a message similar to the following:
>
> ```
> The server has not found anything matching the Request-URI
> ```
>
> To run Oracle Enterprise Repository and Oracle API Catalog from the same server simultaneously, you must install each into a separate Middleware Home.

## 1.2 Product Distribution

You must obtain this installer from the Oracle Software Delivery Cloud located at

https://edelivery.oracle.com/

> **Note:** You must accept the license agreement before you download the installer.

## 1.3 Verifying Certification, System Requirements, and Interoperability

Oracle recommends that you use the certification matrix and system requirements documents in conjunction with each other to verify that your environment meets the necessary requirements for installation.

### Step 1  Verifying Your Environment Meets Certification Requirements

Make sure that you are installing your product on a supported hardware and software configuration. For more information, see the certification document for your release on the *Oracle Fusion Middleware Supported System Configurations* page.

Oracle has tested and verified the performance of your product on all certified systems and environments; whenever new certifications occur, they are added to the proper certification document right away. New certifications can occur at any time, and for this reason the certification documents are kept outside of the documentation libraries and are available on Oracle Technology Network.

### Step 2  Using the System Requirements Document to Verify Certification

Oracle recommends that you use the *Oracle Fusion Middleware System Requirements and Specifications* document to verify that the requirements of the certification are met. For example, if the certification document indicates that your product is certified for installation on 64-Bit Oracle Linux 5, this document should be used to verify that your Oracle Linux 5 system has met the required minimum specifications, like disk space, available memory, specific platform packages and patches, and other operating system-specific items. System requirements can be updated at any time, and for this reason the system requirement documents are kept outside of the documentation libraries and are available on Oracle Technology Network.

### Step 3  Verifying Interoperability Among Multiple Products

The *Oracle Fusion Middleware Understanding Interoperability and Compatibility* document defines interoperability, defines compatibility, and describes how multiple Fusion Middleware products from the same release or mixed releases may be used with each

other. You should read this document if you are planning to install multiple Fusion Middleware products on your system.

## 1.4  Installing Software Required for an Oracle API Catalog Installation

You must install the components described in this section before installing API Catalog.

This section contains the following:

- Section 1.4.1, "Installing a Certified JDK"
- Section 1.4.2, "Installing and Configuring a Certified Database"
- Section 1.4.3, "Installing Oracle Fusion Middleware 12c Infrastructure"

### 1.4.1  Installing a Certified JDK

Before you can install Oracle API Catalog, you must download and install a supported JDK on your system before attempting to run the installer.

Make sure that the JDK is installed outside of the Oracle home. The Oracle Universal Installer validates that the designated Oracle home directory is empty, and the install will not progress until an empty directory is specified. If you install JDK under Oracle home, you will experience issues in future operations. So, it is recommended that you use the /home/oracle/products/jdk directory for the location of your JDK installation. You can then use the java -jar command to run the installer JAR file.

At the time this document was published, Oracle Fusion Middleware products required JDK 7.0 Update 55 or later. However, you should always verify the required JDK version by reviewing the certification information, as described in Section 1.3.

To download the required JDK, use your browser to navigate to the following URL and download the Java SE JDK:

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

### 1.4.2  Installing and Configuring a Certified Database

Oracle API Catalog requires database schemas prior to domain configuration. If you do not already have a database where you can install these schemas, you must install and configure a certified database.

To find a certified database for your operating system, see the certification document for your release on the *Oracle Fusion Middleware Supported System Configurations* page.

To make sure your database is properly configured for schema creation, see "Verifying Requirements for Oracle Repository Creation Utility" in the *Oracle Fusion Middleware System Requirements and Specifications* document.

> **Note:**  For 12*c* Release 1 (12.1.3), only a certified Oracle database can be used for the Oracle Fusion Middleware Infrastructure standard installation topology.

When installing or identifying a database to use with Oracle SOA Suite, there are additional considerations, including the size and profile of the database and its ability to store data for large numbers of Oracle SOA Suite composite applications. For more information, see the following resources:

- "About the Database Profile Custom Variable" in *Oracle Fusion Middleware Installing and Configuring Oracle SOA Suite and Business Process Management*

- "Introduction to SOA Composite Applications" in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*

- "Identifying the Profile or Size of the Database" in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*

See the following references for more information about creating your product schemas:

- The Repository Creation Utility (RCU) is the tool used to create schemas in your database. This tool is available by installing the Oracle Fusion Middleware Infrastructure. For more information, see *Oracle Fusion Middleware Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

- See Section 3.1, "Creating the Database Schemas" for the specific schemas required by Oracle API Catalog along with instructions to create the schemas.

- Refer to *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility* for more information about the Repository Creation Utility.

> **Note:** After installing a certified database and installing the product software, you must install the RCU patch as described in Section 2.4.1, "Installing the RCU Patch" before you can create the product schemas.

## 1.4.3 Installing Oracle Fusion Middleware 12c Infrastructure

After you have installed the JDK and installed and configured a certified database, you must install an Oracle WebLogic Server instance. After installing Oracle API Catalog and creating the required database schemas, you configure a domain and deploy the application to a WebLogic server instance.

The latest version of Oracle WebLogic Server is available by installing the Oracle Fusion Middleware Infrastructure.

> **Note:** You must install Oracle WebLogic server using the Oracle Fusion Middleware 12c (12.1.3.0.0) Infrastructure installer (Part Number V44416-01) that includes Java Required Files (JRF). JRF consists of components not typically included in WebLogic Server installations that provide common functionality for Oracle business applications and application frameworks.
>
> You must obtain this installer from the Oracle Fusion Middleware 12c Media Pack on the Oracle Software Delivery Cloud located at
>
> https://edelivery.oracle.com/
>
> Installing WebLogic Server using another installer will cause the OAC installation to fail.

For more information about installing and configuring the Oracle Fusion Middleware Infrastructure, see *Oracle Fusion Middleware Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

## 1.5  Choosing an Oracle Home Directory

During the installation of the Oracle software, you are prompted to specify an Oracle home directory. This directory serves as a repository for common files that are used by various Oracle products installed on the same computer. For this reason, the Oracle home directory can be considered a central support directory for all the Oracle products installed on your system.

The files in the Oracle home directory are essential to ensuring that Oracle software operates correctly on your system. These files:

- Facilitate checking of cross-product dependencies during installation
- Facilitate Service Pack installation

The default Oracle home directory where these files are installed is:

*$ORACLE_HOME/oer*

All files related to the application installation are found under this Oracle home directory.

For more information about Oracle Fusion Middleware directory structure, see "Selecting Directories for Installation and Configuration" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

## 1.6  Next Steps

After all of the tasks in this chapter have been addressed, continue to Chapter 2, "Installing the Oracle API Catalog Software" for information about running the Oracle API Catalog installation program.

# 2

# Installing the Oracle API Catalog Software

This chapter describes how to install the Oracle API Catalog software.

This chapter contains the following sections:

- Starting the Installation Program
- Navigating the Installation Screens
- Verifying the Installation
- Installing Required Patches
- Next Steps

## 2.1  Starting the Installation Program

To start the installation program, perform the following steps.

1. Log in to the target system.

2. The installer requires that a certified JDK already exists on your system. For more information, see the appropriate certification document for 12*c* Release 1 (12.1.3) on the *Oracle Fusion Middleware Supported System Configurations* page.

3. Go to the directory to which you downloaded the installation program.

4. Launch the installation program by invoking the `java` executable from the JDK directory on your system, as shown in the examples below.

    On UNIX operating systems:

    ```
    /home/Oracle/jdk7_15/jdk1.7.0_55/bin/java -jar oer-generic.jar
    ```

    On Windows operating systems:

    ```
    C:\Program Files\Java\jdk1.7.0_55\bin\java -jar oer_generic.jar
    ```

    Be sure to replace JDK location in these examples with the actual JDK location on your system.

When the installation program appears, you are ready to begin the installation. See Section 2.2 for a description of each installation program screen.

## 2.2  Navigating the Installation Screens

The installation program displays a series of screens, in the order listed in Table 2–1.

If you need additional help with any of the installation screens, click the screen name.

***Table 2–1    Oracle API Catalog Install Screens***

| Screen | Description |
| --- | --- |
| Installation Inventory Setup | On UNIX operating systems, this screen will appear if this is the first time you are installing any Oracle product on this host. Specify the location where you want to create your central inventory. Make sure that the operating system group name selected on this screen has write permissions to the central inventory location. |
| | For more information about the central inventory, see "Understanding the Oracle Central Inventory" in *Oracle Fusion Middleware Installing Software with the Oracle Universal Installer*. |
| | This screen will not appear on Windows operating systems. |
| Welcome | This screen introduces you to the product installer. |
| Installation Location | Use this screen to specify the location of your Oracle home directory. |
| | For more information about Oracle Fusion Middleware directory structure, see "Selecting Directories for Installation and Configuration" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*. |
| Installation Type | Use this screen to select the type of installation and consequently, the products and feature sets you want to install. |
| | Oracle API Catalog is the only option on this screen. It is selected by default. |
| | **Note:** When installing Oracle API Catalog, Oracle Enterprise Repository is still the only option on the Installation Type screen. This is as intended. Proceed with the installation as usual. |
| Prerequisite Checks | This screen verifies that your system meets the minimum necessary requirements. |
| Installation Summary | Use this screen to verify the installation options you selected. If you want to save these options to a response file, click **Save** and provide the location and name of the response file. Response files can be used later in a silent installation situation. |
| | For more information about silent or command line installation, see "Using the Oracle Universal Installer in Silent Mode" in *Oracle Fusion Middleware Installing Software with the Oracle Universal Installer*. |
| Installation Progress | This screen allows you to see the progress of the installation. |
| Installation Complete | This screen appears when the installation is complete. Review the information on this screen, then click **Finish** to dismiss the installer. |

## 2.3 Verifying the Installation

After you complete the installation, you can verify it by successfully completing the following tasks:

- Section 2.3.1, "Reviewing the Installation Log Files"

- Section 2.3.2, "Viewing the Contents of Your Oracle Home"

### 2.3.1 Reviewing the Installation Log Files

Review the contents of the installation log files to make sure that no problems were encountered. For a description of the log files and where to find them, see in

"Understanding the Installation Log Files" in *Installing Software with the Oracle Universal Installer*.

### 2.3.2 Viewing the Contents of Your Oracle Home

You can also view the contents of your Oracle home using the `viewInventory` script. For more information, see "Viewing the contents of an Oracle home" in *Oracle Fusion Middleware Installing Software with the Oracle Universal Installer*.

## 2.4 Installing Required Patches

Before you create the database schemas and configure the WebLogic domain, you must install the required RCU and WebLogic Server patches by completing the following tasks:

- Section 2.4.1, "Installing the RCU Patch"

- Section 2.4.2, "Installing the WebLogic Server Patch"

### 2.4.1 Installing the RCU Patch

Install the required RCU patch by using the OPatch utility. See *Patching with OPatch* for more information about using OPatch.

To install the required RCU patch:

1. Acquire the file for patch 18791727 (`18791727_121300_Generic.zip`) from My Oracle Support.

2. Follow the instructions in the patch's `README.txt` file.

### 2.4.2 Installing the WebLogic Server Patch

Install the required Oracle WebLogic Server patch by using the OPatch utility. See *Patching with OPatch* for more information about using OPatch.

To install the required WebLogic Server patch:

1. Acquire the file for patch 18718889 (`p18718889_121300_Generic.zip`) from My Oracle Support.

2. Follow the instructions in the patch's `README.txt` file.

## 2.5 Next Steps

Complete the tasks in Chapter 3, "Configuring the Oracle API Catalog Domain" to create the required database schemas and configure the Oracle WebLogic Server domain for Oracle API Catalog.

If you are installing Oracle API Catalog into a clustered environment, skip Chapter 3 and follow the procedure outlined in Chapter 4, "Install Oracle API Catalog into a Clustered Environment".

# 3

# Configuring the Oracle API Catalog Domain

This chapter describes how to create and configure the WebLogic Server domain for Oracle API Catalog.

The following topics are covered:

- Creating the Database Schemas
- Configuring Your WebLogic Domain
- Starting the Servers
- Next Steps

## 3.1 Creating the Database Schemas

Before you can configure an Oracle API Catalog domain, you must install the Oracle API Catalog (OAC) schema on a certified database for use with this release of Oracle API Catalog.

Follow the instructions in this section to install these schemas:

- Section 3.1.1, "Installing and Configuring a Certified Database"
- Section 3.1.2, "Starting the Repository Creation Utility (RCU)"
- Section 3.1.3, "Navigating the RCU Screens to Create the Schemas"

### 3.1.1 Installing and Configuring a Certified Database

Make sure you have installed and configured a certified database, and that the database is up and running.

For more information, see "Installing a Database and Database Schemas" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

### 3.1.2 Starting the Repository Creation Utility (RCU)

> **Note:** Before creating product schemas, ensure that you have already applied the RCU patch as described in Section 2.4.1, "Installing the RCU Patch".

To start the Repository Creation Utility (RCU):

1. Navigate to the `ORACLE_HOME`/oracle_common/bin directory on your system.

2. Start RCU:

   On UNIX operating systems:

   ```
   ./rcu
   ```

   On Microsoft Windows operating systems:

   ```
   rcu.bat
   ```

## 3.1.3 Navigating the RCU Screens to Create the Schemas

Follow the instructions in this section to create the schema for Oracle API Catalog:

- Task 1, "Introducing RCU"
- Task 2, "Selecting a Method of Schema Creation"
- Task 3, "Providing Database Credentials"
- Task 4, "Specifying a Custom Prefix and Selecting Schemas"
- Task 5, "Specifying Schema Passwords"
- Task 6, "Completing Schema Creation"

**Task 1  Introducing RCU**
Click **Next**.

**Task 2  Selecting a Method of Schema Creation**
Ensure that **Create Repository** is selected, and then select **System Load and Product Load** on the Create Repository screen. The procedure in this document assumes that you have the necessary privileges to perform DBA activities.

> **Tip:**  For more information about the options on this screen, see "Create repository" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

**Task 3  Providing Database Credentials**
On the Database Connection Details screen, provide the database connection details for RCU to connect to your database.

Click **Next** to proceed, then click **OK** on the dialog window confirming that connection to the database was successful.

> **Tip:**  For more information about the options on this screen, see "Database Connection Details" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

**Task 4  Specifying a Custom Prefix and Selecting Schemas**
Specify the custom prefix you want to use for your schemas, then expand **SOA Suite**. Select **Oracle API Catalog**.

> **Note:**  It is important that you select the correct schema only for the product that you are installing. For instance, if you are installing Oracle Enterprise Repository, do not select the schema for Oracle API Catalog; if you are installing Oracle API Catalog, do not select the schema for Oracle Enterprise Repository.

The custom prefix is used to logically group these schemas together for use in this domain.

> **Tip:** For more information about custom prefixes, see "Understanding Custom Prefixes" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.
>
> For more information about how to organize your schemas in a multi-domain environment, see "Planning Your Schema Creation" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.
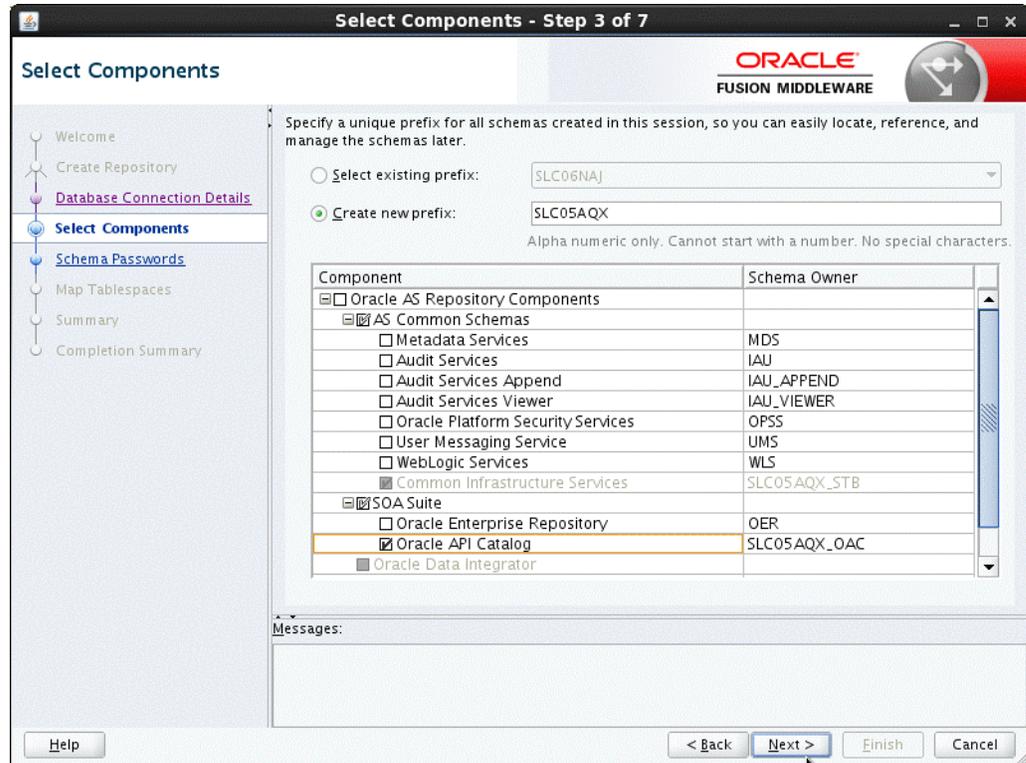


This image shows a portion of the RCU Select Components screen. The "Create new prefix" option is selected with "SLC05AQX" specified as the custom prefix. Below that is a table with two columns. The left column shows the component name and the right column shows the corresponding schema owner and custom prefix (as specified in the "Create new prefix" field). The components selected and their corresponding schema owners are listed below:

■ Oracle API Catalog (SLC05AQX_OAC)

*****************************************************************************************

> **Tip:** You must make a note of the custom prefix you choose to enter here; you will need this later on during the domain creation process.

Click **Next** to proceed, then click **OK** on the dialog window confirming that prerequisite checking for schema creation was successful.

### Task 5  Specifying Schema Passwords

Specify how you want to set the schema passwords on your database, then specify and confirm your passwords.

> **Tip:**   You must make a note of the passwords you set on this screen; you will need them later on during the domain creation process.

### Task 6  Completing Schema Creation

Navigate through the remainder of the RCU screens to complete schema creation. When you reach the Completion Summary screen, click **Close** to dismiss RCU.

For more information about RCU and its features and concepts, see *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*

## 3.2  Configuring Your WebLogic Domain

This section provides instructions for creating a WebLogic domain using the configuration wizard. For more information on other methods available for domain creation, see "Additional Tools for Creating, Extending, and Managing WebLogic Domains" in *Creating Domains Using the Configuration Wizard*.

> **Note:**   Before configuring the WebLogic Domain, ensure that you have installed the WebLogic Server patch as described in Section 2.4.2, "Installing the WebLogic Server Patch".

The following topics are covered in this section:

- Section 3.2.1, "Starting the Configuration Wizard"
- Section 3.2.2, "Navigating the Configuration Wizard Screens to Configure the Domain"

### 3.2.1  Starting the Configuration Wizard

To begin domain configuration, navigate to the `ORACLE_HOME`/`oracle_common/common/bin` directory and start the WebLogic Server Configuration Wizard.

On UNIX operating systems:

```
./config.sh
```

On Microsoft Windows operating systems:

```
config.cmd
```

On Windows operating systems, you can also start the Configuration Wizard from the **Start** menu by selecting **All Programs**, then selecting **Oracle**, then selecting **OracleHome**, then selecting **WebLogic Server 12c (12.1.3)**, then selecting **Tools**, then selecting **Configuration Wizard**.

### 3.2.2  Navigating the Configuration Wizard Screens to Configure the Domain

Follow the instructions in this section to create and configure the domain.

> **Note:** You can use the same procedure described in this section to extend an existing domain. If your needs do not match the instructions given in the procedure, be sure to make your selections accordingly, or refer to the supporting documentation for additional details.
>
> If you need to configure multiple products in a single domain, refer to "Installing Multiple Products in the Same Domain" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware* for important information.

- Task 1, "Selecting the Domain Type and Domain Home Location"
- Task 2, "Selecting the Configuration Templates"
- Task 3, "Configuring the Administrator Account"
- Task 4, "Specifying the Domain Mode and JDK"
- Task 5, "Specifying JDBC Component Schema Information"
- Task 6, "Testing the JDBC Connections"
- Task 7, "Selecting Advanced Configuration"
- Task 8, "Configuring the Administration Server Listen Address"
- Task 9, "Configuring Managed Servers"
- Task 10, "Configuring a Cluster"
- Task 11, "Creating a New Machine"
- Task 12, "Reviewing Your Configuration Specifications and Configuring the Domain"
- Task 13, "Writing Down Your Domain Home and Administration Server URL"

**Task 1  Selecting the Domain Type and Domain Home Location**

On the Configuration Type screen, select **Create a New Domain**.

In the Domain Location field, specify your Domain home directory.

Oracle recommends that you locate your Domain home in accordance with the directory structure summarized in "What are the Key Oracle Fusion Middleware Directories?" in *Oracle Fusion Middleware Understanding Oracle Fusion Middleware*, where the Domain home is located outside the Oracle home directory. This directory structure will help you avoid issues when you need to upgrade or reinstall your software.

> **Tip:** For more information about the Domain home directory, see "Choosing a Domain Home" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.
>
> For more information about reinstalling the software, see Section 7.10, "Reinstalling the Software".
>
> For more information about the other options on this screen, see "Configuration Type" in *Creating Domains Using the Configuration Wizard*.

**Task 2  Selecting the Configuration Templates**

On the Templates screen, make sure **Create Domain Using Product Templates** is selected, then select the Oracle API Catalog template.

> **Note:**   When installing Oracle API Catalog, select only the Oracle API Catalog template. Do not select the Oracle Enterprise Repository template. Do not select both templates simultaneously.



This image shows a portion of the Templates screen in the Configuration Wizard. The "Create Domain Using Product Template" checkbox is selected. The Template Categories drop-down list shows "All Templates."

Below that, there is a list of product templates. The following are selected:

- Basic WebLogic Server Domain  [wlserver]

  Note that this template is selected by default and is grayed out. You are not able to select or de-select this template.

- Oracle API Catalog [oer]

*******************************************************************************************

> **Tip:**   For more information about the options on this screen, see "Templates" in *Creating Domains Using the Configuration Wizard*.

**Task 3  Configuring the Administrator Account**

On the Administrator Account screen, specify the user name and password for the default WebLogic Administrator account for the domain.

Oracle recommends that you make a note of the user name and password specified on this screen; you will need these credentials later to boot and connect to the domain's Administration Server.

**Task 4  Specifying the Domain Mode and JDK**

On the Domain Mode and JDK screen:

- Select **Production** in the Domain Mode field.

- Select the **Oracle Hotspot JDK** in the JDK field.

Selecting **Production Mode** on this screen gives your environment a higher degree of security, requiring a user name and password to deploy applications and to start the Administration Server.

> **Tip:** More information about the options on this screen, including the differences between development mode and production mode, can be found in Domain Mode and JDK in *Creating Domains Using the Configuration Wizard*.
>
> In production mode, a boot identity file can be created to bypass the need to provide a user name and password when starting the Administration Server. For more information, see "Creating a Boot Identity File for an Administration Server" in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

### Task 5  Specifying JDBC Component Schema Information

The JDBC component schemas associated with the products for which you are creating the domain are listed in the lower half of the screen.

Select the schemas for which you want to specify data source settings by selecting the check box adjacent to each schema name.

Fill in each field at the top of the screen with information for the database schema you created in Section 3.1, "Creating the Database Schemas".

| Field | Description |
| --- | --- |
| Vendor | Select the database vendor. |
| Driver | Select the JDBC driver to use to connect to the database. The list includes common JDBC drivers for the selected database vendor. |
| DBMS/Service | Enter a database DBMS name, or service name if you selected a service type driver. |
| Host Name | Enter the name of the server hosting the database. |
| Port | Enter the port number to be used to connect to the server that hosts the database. |
| Schema Owner | Enter the user name for connecting to the database's Oracle API Catalog schema. This is the schema user name that was specified on the "Schema Passwords" screen in RCU (see Section 3.1, "Creating the Database Schemas"). The default user name is *prefix*_OAC, where *prefix* is the custom prefix that you defined in RCU. |
| Schema Password | Enter the password for connecting to the database's schema. This is the password that was specified for the Service Table component on the "Schema Passwords" screen in RCU (see Section 3.1, "Creating the Database Schemas"). |

> **Tip:** More information about the other options on this screen can be found in JDBC Component Schema in *Creating Domains Using the Configuration Wizard*.

### Task 6  Testing the JDBC Connections

Use the JDBC Component Schema Test screen to test the datasource connections you have just configured.

A green check mark in the Status column indicates a successful test. If you encounter any issues, see the error message in the Connection Result Log section of the screen, fix the problem, then try to test the connection again.

> **Tip:** More information about the other options on this screen can be found in Test Component Schema in *Creating Domains Using the Configuration Wizard*

### Task 7 Selecting Advanced Configuration

To complete domain configuration, select the following options on the Advanced Configuration screen:

- Administration Server

  This is required to properly configure the listen address of the Administration Server.

- Managed Servers, Clusters and Coherence

  This is required to configure the Managed Servers.

### Task 8 Configuring the Administration Server Listen Address

On the Administration Server screen, select the drop-down list next to Listen Address and select **All Local Addresses**.

**(Optional)** Select the Enable SSL check box to enable SSL.

### Task 9 Configuring Managed Servers

Use the Managed Servers screen to create a new Managed Servers:

1. Specify `oac_server1` in the Server name column.

2. In the Listen Address drop-down list, select **All Local Addresses**.

3. **(Optional)** Select the Enable SSL check box to enable SSL.

4. Repeat this process to create a second Managed server named `oac_server2`.

   Configuring a second Managed Server is one of the steps needed to configure the standard topology for high availability. If you are not creating a highly available environment, then this step is optional.

   For more information about the high availability standard topology, see "Understanding the Fusion Middleware Standard HA Topology" in *Oracle Fusion Middleware High Availability Guide*.

   For more information about the next steps to prepare for high availability after your domain is configured, see [[removed xref to cluster chapter]].

   > **Tip:** More information about the options on this screen can be found in Managed Servers in *Creating Domains Using the Configuration Wizard*.

### Task 10 Configuring a Cluster

There is no need to create a cluster for a single-instance installation. Click **Next**.

> **Tip:** More information about the options on this screen can be found in Clusters in *Creating Domains Using the Configuration Wizard*.

### Task 11  Creating a New Machine

You do not need to create a new machine for a single-instance installation. Click **Next**.

> **Tip:**  More information about the options on this screen can be found in Machines in *Creating Domains Using the Configuration Wizard*.

### Task 12  Reviewing Your Configuration Specifications and Configuring the Domain

The Configuration Summary screen contains the detailed configuration information for the domain you are about to create. Review the details of each item on the screen and verify that the information is correct.

You can go back to any previous screen if you need to make any changes, either by using the **Back** button or by selecting the screen in the navigation pane.

Domain creation will not begin until you click **Create**.

> **Tip:**  More information about the options on this screen can be found in Configuration Summary in *Creating Domains Using the Configuration Wizard*.

### Task 13  Writing Down Your Domain Home and Administration Server URL

The Configuration Success screen will show the following items about the domain you just configured:

- Domain Location
- Administration Server URL



```
✔   Oracle Weblogic Server Configuration Succeeded

    New Domain oac_domain Creation Successful

        Domain Location
                        /Oracle/Middleware/Oracle_Home/user_projects/domains/oac_domain

        Admin Server URL
                http://11.222.333.444:7001/console
```

This illustration shows a portion of the Configuration Success screen. The following pieces of information are shown:

- Domain Location: /Oracle/Middleware/Oracle_Home/user_projects/domains/oac_domain

- Admin Server URL: http://exampleserver:7001/console

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

You must make a note of both items as you will need them later; the domain location is needed to access the scripts used to start the Administration Server, and the URL is needed to access the Administration Server.

Click **Finish** to dismiss the configuration wizard.

## 3.3  Starting the Servers

After configuration is complete, do the following to access the tools with which you can manage your domain:

> **Note:** For more information on additional tools you can use to manage your domain, see "Overview of Oracle Fusion Middleware Administration Tools" in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.

- Section 3.3.1, "Starting the Administration Server"
- Section 3.3.2, "Starting the Managed Server"

## 3.3.1 Starting the Administration Server

To start the Administration Server, go the *DOMAIN_HOME*/bin directory.

On UNIX operating systems, run:

```
./startWebLogic.sh
```

On Windows operating systems, run:

```
startWebLogic.cmd
```

If you selected **Production Mode** on the Domain Mode and JDK screen in Task 4, you will be prompted for the login credentials of the Administrator user as provided on the Administrator Account screen in Task 3.

> **Tip:** For more information about starting the Administration Server, see "Starting and Stopping Administration Servers" in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.
>
> In production mode, a boot identity file can be created to bypass the need to provide a user name and password when starting the Administration Server. For more information, see "Creating a Boot Identity File for an Administration Server" in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

You can verify that the Administration Server is up and running by accessing the Administration Server Console. The URL is provided on the Configuration Success screen in Task 13.

> **Note:** Make sure that the database hosting your product schemas is up and running and accessible by the Administration Server.

```
http://administration_server_host:administration_server_port/console
```

The default Administration Server port number is 7001.

For more information about how to use the Administration Console, see "Getting Started Using Oracle WebLogic Server Administration Console" in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.

## 3.3.2 Starting the Managed Server

To start the Managed Server, go the *DOMAIN_HOME*/bin directory.

On UNIX operating systems, run:

```
./startManagedWebLogic.sh servername adminURL
```

On Windows operating systems, run:

```
startManagedWebLogic.cmd servername admin_URL
```

Where *servername* is the name of the managed server you created in Task 9 and *admin_URL* is the URL of the administration server (for instance, `http://example.com:7001`).

You may be prompted for the login credentials of the Administrator user as provided on the Administrator Account screen in Task 3.

It will take a few moments for the script to start the servers.

## 3.4  Next Steps

To verify that your domain is configured properly, see Chapter 6, "Post-Installation Steps". You should familiarize yourself with the tasks described in this chapter and perform them to verify that your domain is properly configured.

# 4

# Install Oracle API Catalog into a Clustered Environment

This chapter provides an overview and describes how to install Oracle API Catalog into a clustered environment

This chapter includes the following sections:

- Overview
- Step 1: Install Oracle API Catalog
- Step 2: Deploy and Validate Oracle API Catalog on One Cluster Member
- Step 3: Create the Clustered Environment
- Step 4: Move the Application Properties to the Database
- Step 5: Configure the cluster.properties File on Each Cluster Member
- Step 6: Validate the Installation
- Step 7: Clustering JVM Parameter for WebLogic Server

## 4.1  Overview

Oracle API Catalog uses a server-side cache on each application server. Cached data is used only if it is available, otherwise, the database delivers data content to the cache and to the application.

When Oracle API Catalog runs in a cluster, the cluster members must communicate with each other using HTTP. An edit that occurs on one cluster member invalidates the cached element on that cluster member, and communicates the edit to other cluster members. This is accomplished by a system property called cachesyncurl, which accepts a URL to the application as a valid value.

On start, the system writes the cachesyncurl to the database and fetches a list of other server's URLs from the database. A message is sent to all discovered URLs that announces the presence of a new member of the cluster. Each server then refreshes the server list from the database. On a clean server shutdown, the value is removed from the list and a cache-refresh notification is broadcast to the server list.

When edits invalidate an element in the local cache, a message is sent to all the other servers noting which cached elements must be invalidated. Upon receipt of the message, the designated element is removed from the cache. On subsequent data request, the cache contains no data, so it first caches and then the database delivers data to the application.

**Clustering and Installation Requirements**

- Session affinity

- Server-side HTTP cache communication

**Options**

- Failover

  Requires session management and persistent sessions

- Load Balancing

**Installing Oracle API Catalog on a Clustered Environment**

To install Oracle API Catalog on a clustered environment:

1. Install and configure Oracle API Catalog.

2. Create the clustered environment that hosts Oracle API Catalog.

3. Install and deploy the Oracle API Catalog application on one member of the clustered application servers.

4. Validate the deployment of the application on one member of the cluster.

5. Move the application properties to the database.

6. Shut down the cluster.

7. Install the application on all of the other cluster members.

8. Configure a `cluster.properties` file on each cluster member.

9. Start the cluster and all members.

10. Validate the cluster.

## 4.2 Step 1: Install Oracle API Catalog

Before planning your clustered environment, review *Administering Clusters for Oracle WebLogic Server* for important information about clustering with WebLogic server.

For information regarding the installation of Oracle API Catalog, see Chapter 2, "Installing the Oracle API Catalog Software".

## 4.3 Step 2: Deploy and Validate Oracle API Catalog on One Cluster Member

For information on how to configure and deploy Oracle API Catalog on WebLogic Server, see Chapter 3, "Configuring the Oracle API Catalog Domain".

> **Note:** Before using the Move settings to database option, you must enable `cmee.eventframework.clustering.enabled`, if JMS clustering is to be achieved.

## 4.4 Step 3: Create the Clustered Environment

Use the `pack` command to pack the contents of the managed server created in Section 4.3. Use the `unpack` command to unpack a duplicate of the domain onto any number of machines that had been configured for inclusion in the clustered

environment. See *Creating Templates and Domains using the Pack and Unpack Commands* for more information.

> **Note:** When packing the original domain, the properties files in the *<DOMAIN_HOME>*/config_oer or *<DOMAIN_HOME>*/config_oac directories are NOT included in the process. You must manually edit the properties files and configuration files on the initial machine and copy them over to the target servers manually. This procedure should be completed while the managed servers are offline.

Next, follow the instructions in Chapter 5, "Configuring the Oracle API Catalog Domain for a Clustered Environment" to complete the creation of the clustered environment.

After the domain creation is completed, you must edit the *<DOMAIN_HOME>*/config/config.xml file to point the OERDataSource and the oac_server deployments to target the cluster rather than the managed servers. You must also edit the cmee.properties file as appropriate for your deployment for the proxy server being used to access the managed servers and clustered environment.

Here is an example of an element in the config.xml file before editing:

```
<app-deployment>
   <name>oac_server</name>
   <target>oac_server1</target>
   <module-type>ear</module-type>
   <source-path>/users/oracle/Oracle/Middleware/Oracle_
Home/oer/applications/oac</source-path>
   <deployment-order>45</deployment-order>
   <security-dd-model>DDOnly</security-dd-model>
   <staging-mode>nostage</staging-mode>
</app-deployment>
```

Here is an example of the same file after editing:

```
<app-deployment>
   <name>oac_server</name>
   <target>oac_cluster1</target>
   <module-type>ear</module-type>
   <source-path>/users/oracle/Oracle/Middleware/Oracle_
Home/oer/applications/oac</source-path>
   <deployment-order>45</deployment-order>
   <security-dd-model>DDOnly</security-dd-model>
   <staging-mode>nostage</staging-mode>
</app-deployment>
```

Here is an example of a cmee.properties file before editing:

```
cmee.asset.xml.paths.out-destination-url=http\://www.example.com\:8111/oac/pdfrepo
rt/pdf/
cmee.enterprisetab.homepage=http\://www.example.com \:8111/oac/custom/home_oac.jsp
cmee.asset.pdf.xslt.default=true
cmee.server.paths.resource=http\://www.example.com \:8111/oac-web
cmee.assettab.asset-detail-page=http\://www.example.com \:8111/oac/cmee/index.jsp
cmee.server.paths.image=http\://www.example.com \:8111/oac-web/images
cmee.server.defaultencoding=UTF-8
cmee.server.paths.servlet=http\://www.example.com \:8111/oac
cmee.server.paths.jnlp-tool=http\://www.example.com \:8111/oac-web/webstart
cmee.asset.xml.paths.webapp-url=http\://www.example.com \:8111/oac/pdfreport
```

```
oracle.oer.lite.enabled=true
cmee.server.paths.jsp=http\://www.example.com \:8111/oac
cmee.asset.xml.paths.export-destination-url=http\://www.example.com
\:8111/oac/pdfreport/export/
```

Here is an example of the same file after editing:

```
cmee.enterprisetab.homepage=http\://ohs.example.com \:7777/oer/custom/home_oac.jsp
cmee.server.paths.resource=http\://ohs.example.com \:7777/oac -web
cmee.assettab.asset-detail-page=http\://ohs.example.com \:7777/oac /cmee/index.jsp
cmee.server.paths.image=http\://ohs.example.com \:7777/oac -web/images
cmee.server.defaultencoding=UTF-8
cmee.server.paths.servlet=http\://ohs.example.com \:7777/oac
cmee.server.paths.jnlp-tool=http\://ohs.example.com \:7777/oac -web/webstart
cmee.server.paths.jsp=http\://ohs.example.com \:7777/oac
```

## 4.5  Step 4: Move the Application Properties to the Database

Property files always take precedence when reading properties into the Oracle API Catalog application. The application looks for properties and their corresponding values, first within the database, and then within the property files. Any properties read from the database are overwritten by the corresponding properties in the files.

This procedure begins with deploying one application.

1.  In the Admin screen, click **System Settings** in the left pane.

2.  Scroll to the bottom and click the **Move settings to database** button.

    A confirmation message appears.

3.  Remove the properties files from the classpath.

4.  Shutdown the managed servers.

5.  Locate the configuration files folder:

    *<DOMAIN_HOME>/oac_config*

6.  Remove the property files listed below from the configuration folder:

    - enterprise.properties
    - ldap.properties
    - containerauth.properties
    - eventing.properties
    - juddi.properties
    - openapiserverlog.properties

    These properties are written to the entSettings table within the database.

7.  Modify the **cmee.properties** file. Remove all property values except those containing URL values. Update the URL references to point to the proxy server path being used to load balance access to the cluster members.

8.  Now, redeploy the application directly to the Oracle API Catalog cluster.

    > **Note:**  Any properties enabled after this procedure are written to the database, not to the properties files.

## 4.6 Step 5: Configure the cluster.properties File on Each Cluster Member

To configure the cluster.properties file on each cluster member:

1. Stop each cluster member.

2. On each cluster member create a file called cluster.properties, which resides in the same place as all other .properties files:

   *<DOMAIN_HOME>/oac_config*

   The contents of cluster.properties is based on the property cmee.server.paths.servlet in the cmee.properties file. However, the host name in the path should refer to the host name of the cluster member, not the proxy host name of the entire cluster.

```
cluster.properties
#cluster.properties
Example:
#cluster.properties
cachesyncurl=http://node1.example.com:7101/oac
# oer is the name of the Oracle API Catalog application during
# deployment
Other properties that are optional
# alias is used as an alternate/convenient name to refer
# to the server
# example: server1
# default: same value as =cachesyncurl=
alias=EclipseServer

# registrationIntervalSeconds is the number of seconds between
# attempts to update the server's registration record in the database
# default: 120
registrationIntervalSeconds=120

# registrationTimeoutSeconds is the number of seconds before a server
# is considered to be inactive/not running
# make sure this value is higher than the registrationIntervalSeconds
# default: 240
registrationTimeoutSeconds=240

# maxFailures is the number of consecutive attempts that are made
# to deliver a message to another server after which it is determined
# to be unreachable
# default: 20
maxFailures=20

# maxQueueLength is the number of messages that are queued up to
# send to another server after which server are determined to be
# unreachable
# default: 4000
maxQueueLength=5000

# email.to is the address of the email recipient for clustering status
# messages
email.to=jsmith@company.com

# email.from is the address of the sender for clustering status messages
email.from=jsmith@company.com

# email.subject is the subject line of the message for clustering status
# messages
```

```
email.subject=Oracle API Catalog Clustering communication failure

# email.message is the body of the message for clustering status messages
email.message=This is an automated message from the Oracle API
Catalog informing you of a cluster member communication failure.
```

- Example of a `cluster.properties` file

```
registrationIntervalSeconds=120
registrationTimeoutSeconds=240
maxFailures=20
maxQueueLength=5000
email.to=jsmith@example.com
email.from=jsmith@example.com
email.subject=Oracle API Catalog Clustering communication failure
email.message=This is an automated message from the Oracle API
Catalog informing you of a cluster member communication failure
```

---

**Note:**

1. The time delay should not be more than 120 seconds between the application server and the database server. Network Time Protocol is recommended to keep these servers in sync. The clustering process calculates the difference of time between messaging between the nodes of the cluster.

2. Before restarting the server, you must add `eventing.properties`, if JMS Clustering is enabled, and this should contain `cmee.eventframework.jms.producers.client.id` property with unique value on each of the cluster member. For example, `cmee.eventframework.jms.producers.client.id=OER_JmsProducer1`

3. See Section 4.8 for important information about setting the `cmee.cachesyncurl` property as a JVM property for each managed server within the cluster.

---

3. Restart each cluster member.

---

**Note:** After a cluster member is inactivated due to exceeding maxFailures, then the only way to activate is by restarting the server.

---

## 4.7 Step 6: Validate the Installation

Messages are sent to the standard out log of each cluster member.

- "running in single server mode"

  Indicates that Oracle API Catalog clustering is not configured and the application is running in single server mode.

- "running in multi server mode with a sync-url of..."

  Indicates the Oracle API Catalog clustering is functioning and the application is running in clustered mode.

**Variables**

**cachesyncurl**

The value of the cachesyncurl in the `cluster.properties` file, which references the same URL as the individual node's instance with the path of /cachesync appended.

Most cluster configurations have a proxy server load-balancing each node within the clustered server.

Example:

```
Node1: cachesyncurl=http://node1.example.com:8111/oac
```

```
Node2: cachesyncurl=http://node1.example.com:8111/oac
```

It is also possible to validate the clustering installation by viewing the clustering diagnostic page from the Oracle API Catalog Diagnostics screen. Click **Cluster Info** on the Diagnostics screen to view the Cluster Diagnostic page. This page lists information about all servers registered in the cluster, as well as information about inter-server communications.

### Oracle HTTP Server Config File

If Oracle HTTP Server is used to route from the load balancer to the nodes, the HTTP Server Config (`httpd.conf`) file should include two entries: `/oac` and `/oac-web`. A sample httpd.conf file is shown below:

```
<VirtualHost 10.0.0.1:80>
   ServerName 10.0.0.1:80
   <IfModule mod_weblogic.c>
        SecureProxy OFF
        # TrustedCAFile /usr/local/apache2/ca.pem
        RequireSSLHostMatch false
        Debug ERR
        DebugConfigInfo ON
        ErrorPage /error.html
        WLLogFile logs/worker_matchproxy.log
        WLTempDir /tmp
        KeepAliveEnabled     ON
        KeepAliveSecs        15
        HungServerRecoverSecs 30
        MaxSkipTime   10
        ConnectRetrySecs 5
   </IfModule>
   <Location /console>
        SetHandler weblogic-handler
        WebLogicCluster 10.0.0.2:7001
   </Location>
   <Location /oac_fa_cluster>
        SetHandler weblogic-handler
        WebLogicCluster 10.0.0.3:7101,10.0.0.4:7101
   </Location>
  <Location /oac_fa_cluster-web>
        SetHandler weblogic-handler
        WebLogicCluster 10.0.0.3:7101,10.0.0.4:7101
   </Location>
</VirtualHost>
```

In this example, host 10.0.0.1 is the HTTP server proxying for the cluster machines, host 10.0.0.2 is the Admin Server, hosts 10.0.0.3 and 10.0.0.4 are the Oracle API Catalog managed servers.

See *Understanding Oracle WebLogic Server* for more information.

## 4.8 Step 7: Clustering JVM Parameter for WebLogic Server

If cluster nodes are deployed using a centralized administration console, you must apply a JVM Parameter to allow the appropriate Oracle API Catalog clustering operation in the absence of the `cluster.properties` file.

This JVM parameter should be applied statically for each member of the cluster or within the managed server startup command file. This is most easily done using a server definition in the *DOMAIN_HOME*/bin/setStartupEnv.sh or setStartupEnv.bat files. Add the following code (edited to match your environment) to the setStartupEnv.sh or .bat file:

```
case "${SERVER_NAME}" in
oac_server1)
EXTRA_JAVA_PROPERTIES="${EXTRA_JAVA_PROPERTIES}
-Dcmee.cachesyncurl=http://server1:8111/oac"
;;
oac_server2)
EXTRA_JAVA_PROPERTIES="${EXTRA_JAVA_PROPERTIES}
-Dcmee.cachesyncurl=http://server2:8111/oac"
;;
esac
```

This JVM parameter can also be set within the JAVA_OPTIONS environment variable for WebLogic Server. The JVM Parameter is as follows:

```
-Dcmee.cachesyncurl=http://<member host name>:<port>/<APP_PATH>
```

Each managed server within the cluster domain will communicate with one another directly and not through the HTTP proxy server. The `cmee.cachesyncurl` property represents the managed server hostname/IP address and port number.

> **Note:** Each managed server in the cluster must be started with one of these JVM parameters in order to coexist and cooperate within the cluster.

**5**

# Configuring the Oracle API Catalog Domain for a Clustered Environment

This chapter describes how to create and configure the WebLogic Server domain for Oracle API Catalog in a clustered environment.

> **Note:** The instructions in this chapter apply only for configuring the domain in a clustered environment. Refer to Chapter 3 if you are not configuring the domain for a clustered environment.

The following topics are covered:

- Installing Oracle HTTP Server
- Creating the Database Schemas
- Configuring Your WebLogic Domain
- Starting the Servers
- Next Steps

## 5.1  Installing Oracle HTTP Server

You must install Oracle HTTP Server to the same Oracle Home as you installed the Oracle Fusion Middleware Infrastructure (including Oracle WebLogic Server) and Oracle API Catalog on one of the machines.

See "Installing the Oracle HTTP Server Software" in *Installing and Configuring Oracle HTTP Server* for information about installing Oracle HTTP Server.

> **Note:** When running the installer for Oracle HTTP Server, select the **Colocated HTTP Server (Managed through WebLogic server)** option on the Installation Type screen referenced in "Navigating the Installation Screens".
>
> Section 5.3, "Configuring Your WebLogic Domain" includes the procedures required to configure the Oracle HTTP Server.

## 5.2  Creating the Database Schemas

Before configuring the clustered environment, you must create schemas required for the OPSS Security Store. Production WebLogic domains with several server instances (administration and managed servers) on the same host or distributed across multiple

machines, must use an OID- or an Oracle RDBMS-based OPSS security store. See Introduction to the OPSS Security Store in *Securing Applications with Oracle Platform Security Services* for more information.

Follow the instructions in this section to install these schemas:

- Section 5.2.1, "Installing and Configuring a Certified Database"
- Section 5.2.2, "Starting the Repository Creation Utility (RCU)"
- Section 5.2.3, "Navigating the RCU Screens to Create the Schemas"

## 5.2.1 Installing and Configuring a Certified Database

Make sure you have installed and configured a certified database, and that the database is up and running.

For more information, see "Installing a Database and Database Schemas" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

## 5.2.2 Starting the Repository Creation Utility (RCU)

> **Note:** Before creating product schemas, ensure that you have already applied the RCU patch as described in Section 2.4.1, "Installing the RCU Patch".

To start the Repository Creation Utility (RCU):

1. Navigate to the `ORACLE_HOME`/oracle_common/bin directory on your system.
2. Start RCU:

   On UNIX operating systems:

   ```
   ./rcu
   ```

   On Microsoft Windows operating systems:

   ```
   rcu.bat
   ```

## 5.2.3 Navigating the RCU Screens to Create the Schemas

Follow the instructions in this section to create the schemas for a clustered deployment of Oracle API Catalog:

- Task 1, "Introducing RCU"
- Task 2, "Selecting a Method of Schema Creation"
- Task 3, "Providing Database Credentials"
- Task 4, "Specifying a Custom Prefix and Selecting Schemas"
- Task 5, "Specifying Schema Passwords"
- Task 6, "Completing Schema Creation"

**Task 1  Introducing RCU**
Click **Next**.

**Task 2  Selecting a Method of Schema Creation**

Ensure that **Create Repository** is selected, and then select **System Load and Product Load** on the Create Repository screen. The procedure in this document assumes that you have the necessary privileges to perform DBA activities.

> **Tip:**   For more information about the options on this screen, see "Create repository" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

**Task 3  Providing Database Credentials**

On the Database Connection Details screen, provide the database connection details for RCU to connect to your database.

Click **Next** to proceed, then click **OK** on the dialog window confirming that connection to the database was successful.

> **Tip:**   For more information about the options on this screen, see "Database Connection Details" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

**Task 4  Specifying a Custom Prefix and Selecting Schemas**

Select the following schemas:

- *<prefix>_OPSS*

- *<prefix>_IAU*

- *<prefix>_IAU_APPEND*

- *<prefix>_IAU_VIEWER*

- *<prefix>_STB*

- *<prefix>_MDS*

- *<prefix>_OAC*

> **Note:**   You should have already created the schema for Oracle API Catalog in Chapter 3, "Configuring the Oracle API Catalog Domain". These schemas are for OPSS, which is required for production WebLogic domains with several server instances (administration and managed servers) on the same host or distributed across multiple machines See *Securing Applications with Oracle Platform Security Services* for more information.

The custom prefix is used to logically group these schemas together for use in this domain.

> **Tip:**   For more information about custom prefixes, see "Understanding Custom Prefixes" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.
>
> For more information about how to organize your schemas in a multi-domain environment, see "Planning Your Schema Creation" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

> **Tip:** You must make a note of the custom prefix you choose to enter here; you will need this later on during the domain creation process.

Click **Next** to proceed, then click **OK** on the dialog window confirming that prerequisite checking for schema creation was successful.

### Task 5  Specifying Schema Passwords

Specify how you want to set the schema passwords on your database, then specify and confirm your passwords.

> **Tip:** You must make a note of the passwords you set on this screen; you will need them later on during the domain creation process.

### Task 6  Completing Schema Creation

Navigate through the remainder of the RCU screens to complete schema creation. When you reach the Completion Summary screen, click **Close** to dismiss RCU.

For more information about RCU and its features and concepts, see *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*

## 5.3  Configuring Your WebLogic Domain

This section provides instructions for creating a WebLogic domain using the configuration wizard. For more information on other methods available for domain creation, see "Additional Tools for Creating, Extending, and Managing WebLogic Domains" in *Creating Domains Using the Configuration Wizard*.

> **Note:** Before configuring the WebLogic Domain, ensure that you have installed the WebLogic Server patch as described in Section 2.4.2, "Installing the WebLogic Server Patch".

The following topics are covered in this section:

- Section 5.3.1, "Starting the Configuration Wizard"
- Section 5.3.2, "Navigating the Configuration Wizard Screens to Configure the Domain"

### 5.3.1  Starting the Configuration Wizard

To begin domain configuration, navigate to the `ORACLE_HOME`/oracle_common/common/bin directory and start the WebLogic Server Configuration Wizard.

On UNIX operating systems:

```
./config.sh
```

On Microsoft Windows operating systems:

```
config.cmd
```

On Windows operating systems, you can also start the Configuration Wizard from the **Start** menu by selecting **All Programs**, then selecting **Oracle**, then selecting **OracleHome**, then selecting **WebLogic Server 12c (12.1.3)**, then selecting **Tools**, then selecting **Configuration Wizard**.

## 5.3.2 Navigating the Configuration Wizard Screens to Configure the Domain

Follow the instructions in this section to create and configure the domain.

> **Note:** You can use the same procedure described in this section to extend an existing domain. If your needs do not match the instructions given in the procedure, be sure to make your selections accordingly, or refer to the supporting documentation for additional details.
>
> If you need to configure multiple products in a single domain, refer to "Installing Multiple Products in the Same Domain" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware* for important information.

- Task 1, "Selecting the Domain Type and Domain Home Location"
- Task 2, "Selecting the Configuration Templates"
- Task 3, "Selecting the Application Home Location"
- Task 4, "Configuring the Administrator Account"
- Task 5, "Specifying the Domain Mode and JDK"
- Task 6, "Specifying the Datasource Configuration Type"
- Task 7, "Specifying JDBC Component Schema Information"
- Task 8, "Testing the JDBC Connections"
- Task 9, "Selecting Advanced Configuration"
- Task 10, "Configuring the Administration Server Listen Address"
- Task 11, "Configuring Node Manager"
- Task 12, "Configuring Managed Servers"
- Task 13, "Configuring a Cluster"
- Task 14, "Assigning Managed Servers to the Cluster"
- Task 15, "Configuring Coherence Clusters"
- Task 16, "Creating a New Machine"
- Task 17, "Assigning Servers to Machines"
- Task 18, "Adding System Components"
- Task 19, "Configuring the OHS Server"
- Task 20, "Configuring the Domain Frontend Host"
- Task 21, "Assign System Components to Machines"
- Task 22, "Configuring Deployments Targeting"
- Task 23, "Configuring Services Targeting"
- Task 24, "Reviewing Your Configuration Specifications and Configuring the Domain"
- Task 25, "Writing Down Your Domain Home and Administration Server URL"

**Task 1  Selecting the Domain Type and Domain Home Location**

On the Configuration Type screen, select **Create a New Domain**.

In the Domain Location field, specify your Domain home directory.

Oracle recommends that you locate your Domain home in accordance with the directory structure summarized in "What are the Key Oracle Fusion Middleware Directories?" in *Oracle Fusion Middleware Understanding Oracle Fusion Middleware*, where the Domain home is located outside the Oracle home directory. This directory structure will help you avoid issues when you need to upgrade or reinstall your software.

> **Tip:**   For more information about the Domain home directory, see "Choosing a Domain Home" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.
>
> For more information about reinstalling the software, see Section 7.10, "Reinstalling the Software".
>
> For more information about the other options on this screen, see "Configuration Type" in *Creating Domains Using the Configuration Wizard*.

**Task 2  Selecting the Configuration Templates**

On the Templates screen, make sure **Create Domain Using Product Templates** is selected, then select the Oracle API Catalog template.

- Oracle HTTP Server (Collocated)
- Oracle Enterprise Manager Plugin for WEBTIER
- Oracle Enterprise Manager
- Oracle JRF
- WebLogic Coherence Cluster Extension

> **Note:**   When installing Oracle API Catalog, select only the Oracle API Catalog template. Do not select the Oracle Enterprise Repository template. Do not select both templates simultaneously.

This image shows a portion of the Templates screen in the Configuration Wizard. The "Create Domain Using Product Template" checkbox is selected. The Template Categories drop-down list shows "All Templates."

Below that, there is a list of product templates. The following are selected:

■ Basic WebLogic Server Domain  [wlserver]

Note that this template is selected by default and is grayed out. You are not able to select or de-select this template.

■ Oracle HTTP Server (Collocated) [ohs]

■ Oracle Enterprise Manager Plugin for WEBTIER [em]

■ Oracle Enterprise Manager [em]

■ Oracle JRF [oracle_common]

■ WebLogic Coherence Cluster Extension [wlserver]

■ Oracle API Catalog [oer]

********************************************************************************************

> **Tip:** For more information about the options on this screen, see "Templates" in *Creating Domains Using the Configuration Wizard*.

### Task 3  Selecting the Application Home Location

On the Application Location screen, select the location where you want to store your applications associated with your domain. This location is also referred to as the Application home directory.

Oracle recommends that you locate your Application home in accordance with the directory structure summarized in "What are the Key Oracle Fusion Middleware Directories?" in *Oracle Fusion Middleware Understanding Oracle Fusion Middleware*, where the Application home is located outside the Oracle home directory. This

directory structure will help you avoid issues when you need to upgrade or reinstall your software.

> **Tip:** For more information about the Application home directory, see "Choosing an Application Home" in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.
>
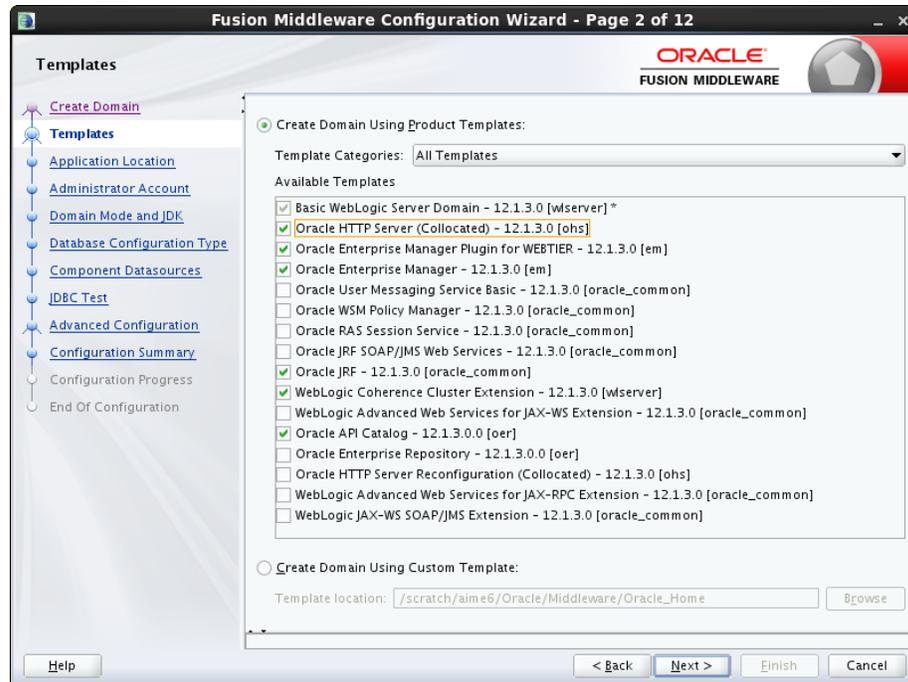> For more information about reinstalling the software, see Section 7.10, "Reinstalling the Software".
>
> For more information about the options on this screen, see "Application Location" in *Creating Domains Using the Configuration Wizard*.

### Task 4  Configuring the Administrator Account

On the Administrator Account screen, specify the user name and password for the default WebLogic Administrator account for the domain.

Oracle recommends that you make a note of the user name and password specified on this screen; you will need these credentials later to boot and connect to the domain's Administration Server.

### Task 5  Specifying the Domain Mode and JDK

On the Domain Mode and JDK screen:

- Select **Production** in the Domain Mode field.

- Select the **Oracle Hotspot JDK** in the JDK field.

Selecting **Production Mode** on this screen gives your environment a higher degree of security, requiring a user name and password to deploy applications and to start the Administration Server.

> **Tip:** More information about the options on this screen, including the differences between development mode and production mode, can be found in Domain Mode and JDK in *Creating Domains Using the Configuration Wizard*.
>
> In production mode, a boot identity file can be created to bypass the need to provide a user name and password when starting the Administration Server. For more information, see "Creating a Boot Identity File for an Administration Server" in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

### Task 6  Specifying the Datasource Configuration Type

Select **RCU Data** to activate the fields on this screen. The **RCU Data** option instructs the Configuration Wizard to connect to the database and Service Table (STB) schema to automatically retrieve schema information for the schemas needed to configure the domain.

> **Note:** If you choose to select **Manual Configuration** on this screen, you will have to manually fill in the parameters for your schema on the JDBC Component Schema screen.

After selecting **RCU Data**, fill in the following fields:

| Field | Description |
|---|---|
| DBMS/Service | Enter the database DBMS name, or service name if you selected a service type driver. |
| Host Name | Enter the name of the server hosting the database. |
| Port | Enter the port number on which the database listens. |
| Schema Owner<br><br>Schema Password | Enter the user name and password for connecting to the database's Service Table schema. This is the schema user name and password that was specified for the Service Table component on the "Schema Passwords" screen in RCU (see Section 5.2, "Creating the Database Schemas").<br><br>The default user name is *prefix*_STB, where *prefix* is the custom prefix that you defined in RCU. |
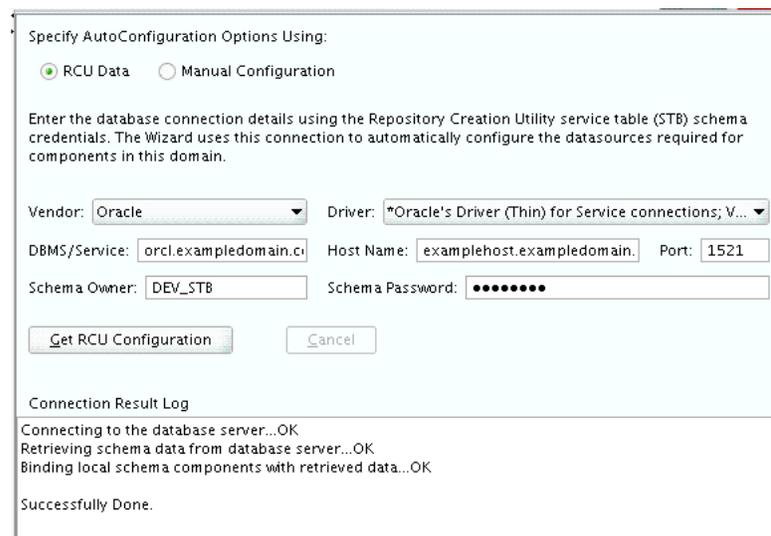


Click **Get RCU Configuration** when you are finished specifying the database connection information. The following output in the Connection Result Log indicates that the operating succeeded:

```
Connecting to the database server...OK
Retrieving schema data from database server...OK
Binding local schema components with retrieved data...OK

Successfully Done.
```

> **Tip:**  More information about the **RCU Data** option can be found in "Understanding the Service Table Schema" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.
>
> More information about the other options on this screen can be found in Datasource Defaults in *Creating Domains Using the Configuration Wizard*

**Task 7  Specifying JDBC Component Schema Information**
The JDBC component schemas associated with the products for which you are creating the domain are listed in the lower half of the screen.

Select the schemas for which you want to specify data source settings by selecting the check box adjacent to each schema name. The schemas for which you must provide information in a clustered install are shown in Figure 5–1.

*Figure 5–1   JDBC Component Schema Screen*
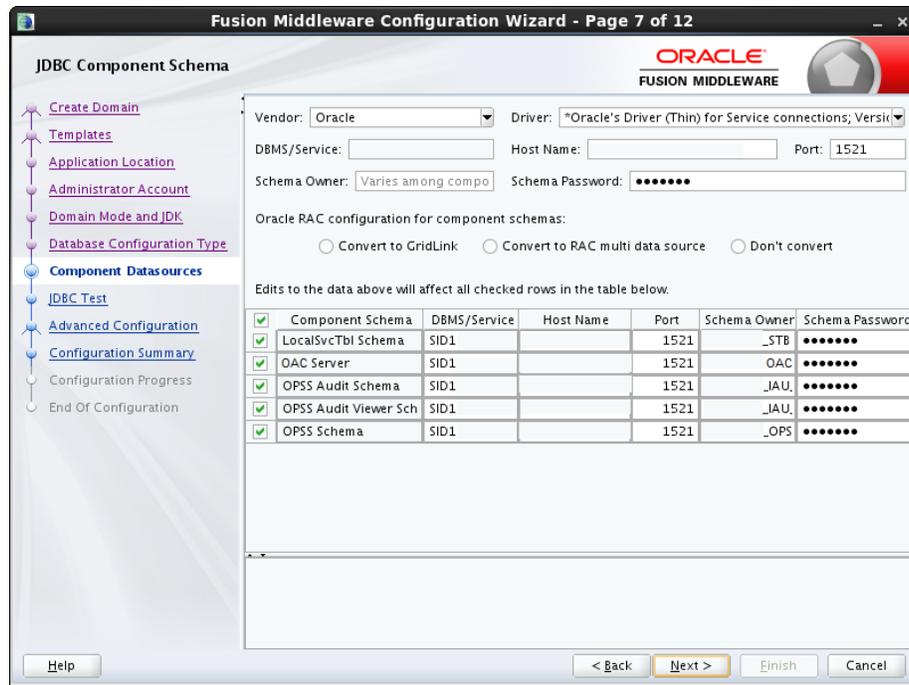


This figure displays the JDBC Component Schema screen of the Domain Configuration Wizard. The following schemas are displayed:

- LocalSvcTbl Schema
- OAC Server
- OPSS Audit Schema
- OPSS Audit Viewer Schema
- OPSS Schema

********************************************************************************************

Fill in each field at the top of the screen with information for the database schema you created in Section 5.2, "Creating the Database Schemas".

| Field | Description |
| --- | --- |
| Vendor | Select the database vendor. |
| Driver | Select the JDBC driver to use to connect to the database. The list includes common JDBC drivers for the selected database vendor. |
| DBMS/Service | Enter a database DBMS name, or service name if you selected a service type driver. |
| Host Name | Enter the name of the server hosting the database. |
| Port | Enter the port number to be used to connect to the server that hosts the database. |

| Field | Description |
| --- | --- |
| Schema Owner | Enter the user name for connecting to the database's schema. This is the schema user name that was specified on the "Schema Passwords" screen in RCU (see Section 5.2, "Creating the Database Schemas"). |
| Schema Password | Enter the password for connecting to the database's schema. This is the password that was specified for the Service Table component on the "Schema Passwords" screen in RCU (see Section 5.2, "Creating the Database Schemas"). |

> **Tip:** More information about the other options on this screen can be found in JDBC Component Schema in *Creating Domains Using the Configuration Wizard*.

**Task 8  Testing the JDBC Connections**

Use the JDBC Component Schema Test screen to test the datasource connections you have just configured.

A green check mark in the Status column indicates a successful test. If you encounter any issues, see the error message in the Connection Result Log section of the screen, fix the problem, then try to test the connection again.

> **Tip:** More information about the other options on this screen can be found in Test Component Schema in *Creating Domains Using the Configuration Wizard*

**Task 9  Selecting Advanced Configuration**

To complete domain configuration, select the following options on the Advanced Configuration screen:

- Administration Server

  This is required to properly configure the listen address of the Administration Server.

- Node Manager

- Managed Servers, Clusters and Coherence

  This is required to configure the Managed Servers and cluster, and also for configuring the machine and targeting the Managed Servers to the machine.

- Domain Frontend Host Capture

- Deployments and Services

**Task 10  Configuring the Administration Server Listen Address**

On the Administration Server screen, select the drop-down list next to Listen Address and select **All Local Addresses**. Select **Unspecified** from the Server Groups list.

**(Optional)** Select the Enable SSL check box to enable SSL.

**Task 11  Configuring Node Manager**

The Node Manager screen can be used to select the type of Node Manager you want to configure, along with the Node Manager credentials.

Select **Per-Domain Default Location** as the Node Manager type, then specify the Node Manager credentials.

> **Tip:** More information about the options on this screen can be found in Node Manager in *Creating Domains Using the Configuration Wizard*.
>
> More information about the types of Node Manager can be found in "Node Manager Overview" in *Administering Node Manager for Oracle WebLogic Server*.

### Task 12  Configuring Managed Servers

Use the Managed Servers screen to create a new Managed Servers:

1. Specify `oac_server1` in the Server name column.

2. In the Listen Address drop-down list, select the hostname of the server or the IP address on which the server listens for HTTP or HTTPS requests.

3. In the Server Groups drop-down list, select **Unspecified**.

4. **(Optional)** Select the Enable SSL check box to enable SSL.

5. Click the **Add** button to create a new Managed Server.

6. Repeat this process to create a second Managed server named `oac_server2`.

   Configuring a second Managed Server is one of the steps needed to configure the standard topology for high availability. If you are not creating a highly available environment, then this step is optional.

   For more information about the high availability standard topology, see "Understanding the Fusion Middleware Standard HA Topology" in *Oracle Fusion Middleware High Availability Guide*.

   > **Tip:** More information about the options on this screen can be found in Managed Servers in *Creating Domains Using the Configuration Wizard*.

### Task 13  Configuring a Cluster

Use the Clusters screen to create a new cluster:

1. Click the **Add** button.

2. Specify `oac_cluster_1` in the Cluster Name field.

3. Enter the IP Addresses or hostnames and port numbers of the managed servers cluster into the **Cluster Address** and **Frontend Host** fields.

### Task 14  Assigning Managed Servers to the Cluster

Use the Assign Servers to Clusters screen to assign `oac_server1` and `oac_server2` to the new cluster `oac_cluster_1`:

1. In the Clusters pane, select the cluster to which you want to assign the servers; in this case, `oac_cluster_1`.

2. In the Servers pane, assign `oac_server1` to `oac_cluster_1` by doing one of the following:

   - Click once on `oac_server1` to select it, then click on the right arrow to move it beneath the selected cluster (`oac_cluster_1`) in the Clusters pane.

   - Double-click on `oac_server1` to move it beneath the selected cluster (`oac_cluster_1`) in the clusters pane.

3. Repeat to assign `oac_server2` to `oac_cluster_1`.

> **Tip:**   More information about the options on this screen can be found in Assign Servers to Clusters in *Creating Domains Using the Configuration Wizard*.

### Task 15  Configuring Coherence Clusters

Use the Coherence Clusters screen to configure the Coherence cluster that is automatically added to the domain. Leave the default port number 0 as the Coherence cluster listen port.

> **Note:**   Setting the unicast listen port to 0 creates an offset for the Managed Server port numbers. The offset is 5000, meaning the maximum allowed value that can be assigned to a Managed Server port number is 60535, instead of 65535.

> **Note:**   For Coherence licensing information, refer to "Oracle Coherence" in *Licensing Information*.

### Task 16  Creating a New Machine

Use the Machines screen to create a new machine in the domain. A machine is required for the Node Manager to be able to start and stop the servers.

> **Tip:**   If you plan to create a high availability environment and know the list of machines required for your target topology, you can follow the directions in this section to create all of the machines at this time. For more information, see "Optional Scale Out Procedure" in *Oracle Fusion Middleware High Availability Guide*.

1. Click the **Add** button to create a new machine.

2. Specify `oac_machine_1` in the Name field.

3. In the **Node Manager Listen Address** field, select the IP address or hostname of the machine where the Managed Server is being configured.

   You must select a specific interface and not "localhost." This allows Coherence cluster addresses to be dynamically calculated.

4. Verify the port in the **Node Manager Listen Port** field.

> **Note:**   The default port number, `5556`, may be referenced by other examples in the documentation. Replace this port number with your own port number as needed

5. Repeat Steps 1-4 to create a second machine named `oac_machine_2`.

> **Note:**   If you are extending an existing domain, you can assign servers to any existing machine. It is not necessary to create a new machine unless your situation requires it.

### Task 17  Assigning Servers to Machines

Use the Assign Servers to Machines screen to assign the Administration Server and Managed Servers to the new machine you just created:

1. In the Machines pane, select the machine to which you want to assign the servers; in this case, `oac_machine_1`.

2. In the Servers pane, assign `oac_server1` and `AdminServer` to `oac_machine_1` by doing one of the following:

   ■ Click once on `oac_server1` to select it, then click on the right arrow to move it beneath the selected machine (`oac_machine_1`) in the Machines pane. Repeat the procedure for `AdminServer`.

   ■ Double-click on `oac_server1` to move it beneath the selected machine (`oac_machine_1`) in the Machines pane. Repeat the procedure for `AdminServer`.

3. Assign `oac_server2` to `oac_machine_2`.

> **Tip:**   More information about the options on this screen can be found in Assign Servers to Machines in *Creating Domains Using the Configuration Wizard*.

### Task 18  Adding System Components

Use the System Components screen to add the Oracle HTTP Server:

1. Click **Add** to create a new Oracle HTTP Server instance.

2. Enter `ohs_SystemComponent_1` into the System Component field.

3. Select **OHS** from the Component Type list.

4. Enter a value into the **Restart Interval Seconds** field. This value determines the number of seconds to wait before attempting a restart if an application is not responding.

5. Enter a value into the **Restart Delay Seconds** field. This value determines the number of seconds to wait between restart attempts.

### Task 19  Configuring the OHS Server

Use the OHS Server screen to configure the OHS servers in your domain.

In the Listen Address field, specify the IP address or the host name of the Oracle HTTP Server instance. Do not use "localhost". For more information, see "Specifying the Listen Address" in *Creating WebLogic Domains Using the Configuration Wizard*.

All of the remaining fields are pre-populated, but you can change the values as per your needs.

### Task 20  Configuring the Domain Frontend Host

Use this screen to configure the Domain Frontend Host:

1. Ensure that the **Configure Domain Frontend Host** check box is selected.

2. Ensure that the values in the **Plain** and **SSL** fields match the Server Name and ports for the OHS server specified in Task 19.

3. Select the appropriate radio button to make either the **Plain** or **SSL** URL the default URL for the frontend host.

For more information, see "Domain Frontend Host" in *Creating WebLogic Domains Using the Configuration Wizard*.

### Task 21  Assign System Components to Machines

Use this screen to assign system components to machines:

1. From the System Components pane, select the `ohs_SystemComponent_1` item.

2. From the Machines column, select the machine that corresponds with the information you used to configure the OHS server in Task 19 (`oer_machine_1` in this example).

3. Use the right arrow button to move the `ohs_SystemComponent_1` item to the machine you selected.

For more information, see "Assigning System Components to Machines" in *Creating WebLogic Domains Using the Configuration Wizard*.

### Task 22  Configuring Deployments Targeting

Use this screen to assign deployments to target servers or clusters:

1. From the Deployments Pane, under the Application folder, select the `oac_server` item.

2. From the Targets pane, select `oac_server1`.

3. Use the right arrow button to move `oac_server` to `oac_server1`.

4. Repeat Steps 2 and 3 to move `oac_server` to `oac_server2`.

For more information, see "Deployments Targeting" in *Creating WebLogic Domains Using the Configuration Wizard*.

### Task 23  Configuring Services Targeting

Use this screen to assign services to target servers or clusters:

1. From the Services Pane, under the JDBC System Resource folder, select the `OERDataSource` item.

2. From the Targets pane, select `oac_server1`.

3. Use the right arrow button to move `OERDataSource` to `oac_server1`.

4. Repeat Steps 2 and 3 to move `OERDataSource` to `oac_server2`.

For more information, see "Services Targeting" in *Creating WebLogic Domains Using the Configuration Wizard*.

### Task 24  Reviewing Your Configuration Specifications and Configuring the Domain

The Configuration Summary screen contains the detailed configuration information for the domain you are about to create. Review the details of each item on the screen and verify that the information is correct.

You can go back to any previous screen if you need to make any changes, either by using the **Back** button or by selecting the screen in the navigation pane.

Domain creation will not begin until you click **Create**.

> **Tip:** More information about the options on this screen can be found in Configuration Summary in *Creating Domains Using the Configuration Wizard*.

**Task 25  Writing Down Your Domain Home and Administration Server URL**

The Configuration Success screen will show the following items about the domain you just configured:

- Domain Location
- Administration Server URL

You must make a note of both items as you will need them later; the domain location is needed to access the scripts used to start the Node Manager and Administration Server, and the URL is needed to access the Administration Server.

Click **Finish** to dismiss the configuration wizard.

## 5.4 Starting the Servers

After configuration is complete, do the following to access the tools with which you can manage your domain:

> **Note:**  For more information on additional tools you can use to manage your domain, see "Overview of Oracle Fusion Middleware Administration Tools" in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.

- Section 5.4.1, "Starting the Node Manager"
- Section 5.4.2, "Starting the Administration Server"
- Section 5.4.3, "Starting the Managed Server"

### 5.4.1 Starting the Node Manager

To start your per-domain Node Manager, go to the `DOMAIN_HOME`/bin directory.

On UNIX operating systems, start the Node Manager as shown below, using `nohup` and `nm.out` as an example output file:

```
nohup ./startNodeManager.sh > nm.out&
```

On Windows operating systems, run:

```
startNodeManager.cmd
```

> **Note:**  On Windows operating systems, Oracle recommends that you configure Node Manager to run as a startup service. This allows Node Manager to start up automatically each time the system is restarted.
>
> For more information, see "Running Node Manager as a Startup Service" in *Administering Node Manager for Oracle WebLogic Server*.

For more information about additional Node Manager configuration options, see *Administering Node Manager for Oracle WebLogic Server*.

### 5.4.2 Starting the Administration Server

To start the Administration Server, go the `DOMAIN_HOME`/bin directory.

On UNIX operating systems, run:

```
./startWebLogic.sh
```

On Windows operating systems, run:

```
startWebLogic.cmd
```

If you selected **Production Mode** on the Domain Mode and JDK screen in Task 5, you will be prompted for the login credentials of the Administrator user as provided on the Administrator Account screen in Task 4.

> **Tip:** For more information about starting the Administration Server, see "Starting and Stopping Administration Servers" in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.
>
> In production mode, a boot identity file can be created to bypass the need to provide a user name and password when starting the Administration Server. For more information, see "Creating a Boot Identity File for an Administration Server" in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

You can verify that the Administration Server is up and running by accessing the Administration Server Console. The URL is provided on the Configuration Success screen in Task 25.

> **Note:** Make sure that the database hosting your product schemas is up and running and accessible by the Administration Server.

```
http://administration_server_host:administration_server_port/console
```

The default Administration Server port number is 7001.

For more information about how to use the Administration Console, see "Getting Started Using Oracle WebLogic Server Administration Console" in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.

### 5.4.3 Starting the Managed Server

To start the Managed Server, go the `DOMAIN_HOME`/bin directory.

On UNIX operating systems, run:

```
./startManagedWebLogic.sh servername adminURL
```

On Windows operating systems, run:

```
startManagedWebLogic.cmd servername admin_URL
```

Where `servername` is the name of the managed server you created in Task 12 and `admin_URL` is the URL of the administration server (for instance, `http://example.com:7001`).

You may be prompted for the login credentials of the Administrator user as provided on the Administrator Account screen in Task 4.

It will take a few moments for the script to start the servers.

### 5.4.4 Starting the Oracle HTTP Server Instance

See "Starting the Oracle HTTP Server Instance" in *Installing and Configuring Oracle HTTP Server in a WebLogic Domain* for more information.

## 5.5 Next Steps

Return to Section 4.4, "Step 3: Create the Clustered Environment" and complete the remaining steps for a clustered install.

To verify that your domain is configured properly, see Chapter 6, "Post-Installation Steps". You should familiarize yourself with the tasks described in this chapter and perform them to verify that your domain is properly configured.

# 6

# Post-Installation Steps

This chapter describes the post-installation steps that you must perform after installing Oracle API Catalog.

This chapter includes the following sections:

- Start the Administration Server and Log Into the Oracle API Catalog Web-based Console
- Use the Oracle API Catalog Diagnostics Testing Tool
- Next Steps

## 6.1 Start the Administration Server and Log Into the Oracle API Catalog Web-based Console

After configuring your application server, follow these steps to start your application server and log in to the Oracle API Catalog web-based console.

1. Start the Administration Server. See Section 3.3.1, "Starting the Administration Server".

2. Start the Oracle API Catalog managed server. See Section 3.3.2, "Starting the Managed Server".

3. Point your browser to the Oracle API Catalog application.

   For example: *http://myserver.domainname.com:8111/oac/*

4. On the login screen, enter `admin` for the Username and `weblogic1` for the Password. This is the default administrative account installed with Oracle API Catalog. You are forced to change the default Administrator password on the first successful login to the Oracle API Catalog web application. You can change the default password through the User menu, accessible by clicking the name of the currently signed-on user, in Oracle API Catalog at a later time.

5. Click **Login**.

   The Login Stats dialog displays a welcome message that includes the date and time of your login.

6. Click **Close**.

   For more information about using the Oracle API Catalog console, see the *Oracle Fusion Middleware Developer's Guide for Oracle API Catalog*.

## 6.2 Use the Oracle API Catalog Diagnostics Testing Tool

The Diagnostics tool allows testing and troubleshooting of certain aspects of Oracle API Catalog, including testing for:

- Checking Product Version Information
- Servlet Functionality
- Required Libraries
- Database Connectivity
- List System Paths
- Run Pre-Compile Servlet

The Oracle API Catalog diagnostic tools are available only when using an application server JVM parameter for security reasons. To enable the Oracle API Catalog diagnostics features, use the following parameter:

```
-DdiagPagesEnabled=true
```

This parameter can be added to the application server's environment in various ways. For WebLogic Server, edit the *ORACLE_HOME*/user_projects/domains/*DOMAIN_NAME*/bin/setStartupEnv.sh or *.cmd file and add -DdiagPagesEnabled=true to the EXTRA_JAVA_PROPERITES="${EXTRA_JAVA_PROPERTIES} line in this file. Restart the Oracle API Catalog managed server.

To launch the Diagnostics tool, navigate to the *http://host_name/oac/diag/index.jsp* page of the Oracle API Catalog console. For more information, see "Password Encryption" in the *Oracle Fusion Middleware Administrator's Guide for Oracle API Catalog*.

## 6.3 Next Steps

Refer to the following documents for information about Using Oracle API Catalog:

Refer to the following documents for more information about using Oracle API Catalog:

- *Oracle Fusion Middleware Concepts Guide for Oracle API Catalog*
- *Oracle Fusion Middleware Administrator's Guide for Oracle API Catalog*
- *Oracle Fusion Middleware Developer's Guide for Oracle API Catalog*

# 7

# Deinstalling Oracle API Catalog

This chapter describes how to deinstall or reinstall Oracle API Catalog.

You should always use the instructions provided in this chapter for removing the software. If you try to remove the software manually, you may experience problems when you try to reinstall the software again at a later time. Following the procedures in this chapter will ensure that the software is properly removed.

This chapter includes the following sections:

- Understanding Product Deinstallation
- Stop and Remove the Application
- Stop and Delete the Managed Server
- Removing Your Database Schemas
- Remove the Oracle API Catalog Data Source
- Roll Back Patches that You Have Applied
- Deinstalling the Software
- Removing the Program Shortcuts on Windows Operating Systems
- Removing Your Domain and Application Data
- Reinstalling the Software

## 7.1  Understanding Product Deinstallation

The Oracle Fusion Middleware deinstaller removes the software from the Oracle home directory from which it is started. Table 7–1 summarizes the procedure and provides links to supporting documentation.

*Table 7–1    Roadmap for Deinstalling Oracle Fusion Middleware Infrastructure*

| Task | Description | Documentation |
|---|---|---|
| Stop and Remove the Application | Stop and remove the Oracle API Catalog Application | See Section 7.2. |
| Stop and Delete the Managed Server | Stop and delete the Oracle API Catalog Managed Server | See Section 7.3. |
| Remove your database schemas. | Run Repository Creation Utility to remove your database schemas. | See Section 7.4. |
| Remove the Oracle API Catalog Data Source | Remove the data source connection | See Section 7.4. |

*Table 7–1 (Cont.) Roadmap for Deinstalling Oracle Fusion Middleware Infrastructure*

| Task | Description | Documentation |
|------|-------------|---------------|
| Roll Back Patches that You Have Applied | Roll back any patches that you have applied to Oracle API Catalog | See Section 7.6. |
| Deinstalling the Software. | Run the product deinstaller to remove Oracle Fusion Middleware Infrastructure. | See Section 7.7. |
| Remove the program shortcuts on Windows operating systems. | The deinstaller does not remove the program shortcuts on your Windows operating system. | See Section 7.8. |
| Remove your domain and application data. | The deinstaller does not remove data contained in your Domain home or Application home directories, even if they are located inside the Oracle home. If necessary, you must remove these directories manually. | See Section 7.9. |

## 7.2 Stop and Remove the Application

Before running the deinstaller, you should stop and delete the application, which also removes the deployment.

To stop and delete the application deployment:

1. Navigate to the WebLogic Server Administration console. From the Domain Structure panel, select **Deployments** to open the Deployments page.

2. Select the check box next to oac_server, and then click the **Stop** button. Select the **Force Stop** option.

3. Attempt to access the application. It should be unavailable.

    > **Tip:** You may see a cached version of the application home page. Click the Refresh button in your browser to bypass the cached page.

4. Return to the Deployments page on the WebLogic Server Administration console.

5. From the Change Center, click **Lock and Edit**.

    > **Note:** This step is not necessary if configuration editing is enabled.

6. Select the check box next to the oac_server, and then click the **Delete** button.

7. From the Change Center, click **Activate Changes**.

    > **Note:** This step is not necessary if configuration editing is enabled.

## 7.3 Stop and Delete the Managed Server

Before running the deinstaller, you should stop and delete the Managed server(s).

To delete the managed server(s):

1. Navigate to the WebLogic Server Administration console. From the Domain Structure panel, expand **Environment**, and then select **Servers** to open the servers page.

2. From the Control tab, select the check box next to `oac_server1`, and then click the **Shutdown** button. Select the **Force Shutdown Now** option. Repeat this step for any additional managed servers deployed (such as in a clustered environment).

3. From the Change Center on the Configuration tab, click **Lock and Edit**.

> **Note:** This step is not necessary if configuration editing is enabled.

4. From the Configuration tab, select the check box next to `oac_server1`, and then click the **Delete** button. Repeat this step for any additional managed servers deployed (such as in a clustered environment).

5. From the Change Center, click **Activate Changes**.

> **Note:** This step is not necessary if configuration editing is enabled.

## 7.4 Removing Your Database Schemas

Before your Oracle home is removed, you should run Repository Creation Utility to remove the database schemas associated with this domain. Each domain has its own set of schemas, uniquely identified by a custom prefix (see "Understanding Custom Prefixes" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*). This set of schemas cannot be shared with any other domain (see "Planning Your Schema Creation" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*).

If there are multiple sets of schemas on your database, be sure to identify the schema prefix associated with the domain you are removing.

For schema removal instructions, see "Dropping Schemas" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

## 7.5 Remove the Oracle API Catalog Data Source

You must remove the Oracle API Catalog Data Source connection as a part of the deinstallation process.

To remove the Oracle API Catalog Data Source:

1. Navigate to the WebLogic Server Administration console. From the Domain Structure panel, expand **Services**, and then select **Data Sources** to open the Data Sources page.

2. From the Change Center, click **Lock and Edit**.

> **Note:** This step is not necessary if configuration editing is enabled.

3. Select the check box next to `OERDataSource`, and then click the **Delete** button.

4. From the Change Center, click **Activate Changes**.

> **Note:** This step is not necessary if configuration editing is enabled.

## 7.6 Roll Back Patches that You Have Applied

Before you continue the deinstallation process, you must roll back any patches that you have applied to the Oracle API Catalog installation.

> **Note:** Failing to roll back patches they you have applied may prevent you from applying the same patches if you decide to reinstall the software.

See "Rolling Back a Patch You Have Applied" in *Patching with OPatch* for information about rolling back patches applied with OPatch.

## 7.7 Deinstalling the Software

Follow the instructions in this section to start the product deinstaller and remove the software.

- Section 7.7.1, "Starting the Deinstallation Program"
- Section 7.7.2, "Navigating the Deinstallation Screens"

If you want to perform a silent (command-line) deinstallation, see "Running the Oracle Universal Installer for Silent Deinstallation" in *Oracle Fusion Middleware Installing Software with the Oracle Universal Installer*.

### 7.7.1 Starting the Deinstallation Program

To start the deinstaller on a Windows operating system, do one of the following:

- Use a file manager window to go to the *ORACLE_HOME*\oui\bin directory and double click on deinstall.cmd.

- From the command line, go to the *ORACLE_HOME*\oui\bin and enter the following command:

  deinstall.cmd

- From the **Start** menu, select **All Programs**, then select **Oracle**, then select **OracleHome**, then select **Uninstall Oracle Middleware**.

To start the deinstaller on a UNIX operating system, go to the *ORACLE_HOME*/oui/bin directory and enter the following command:

  ./deinstall.sh

### 7.7.2 Navigating the Deinstallation Screens

The deinstallation program displays a series of screens, in the order listed in Table 7–2.

If you need additional help with any of the deinstallation screens, click the screen name.

*Table 7–2    Deinstall Screens and Descriptions*

| Screen | Description |
| --- | --- |
| Welcome | This screen introduces you to the product deinstaller. |

*Table 7–2   (Cont.)  Deinstall Screens and Descriptions*

| Screen | Description |
| --- | --- |
| Deinstallation Summary | This screen shows the Oracle home directory and its contents that will be deinstalled. Verify that this is the correct directory.<br><br>Click **Deinstall** to begin removing the software. |
| Deinstallation Progress | This screen shows the progress of the deinstallation. |
| Deinstallation Complete | This screen appears when the deinstallation is complete. Review the information on this screen, then click **Finish** to dismiss the deinstaller. |

## 7.8  Removing the Program Shortcuts on Windows Operating Systems

On Windows operating systems, you must also manually remove the program short cuts; the deinstaller does not remove them for you.

## 7.9  Removing Your Domain and Application Data

If you are no longer going to use the domain and application files, use the following procedure to remove them.

To remove your domain and application data:

1.  Manually remove your Domain home directory.

    For example, if your Domain home directory was `/home/Oracle_Home/user_projects/domains/oac` on a UNIX operating system:

    ```
    > cd /home/Oracle_Home/user_projects/domains
    > rm -rf oac
    ```

    On a Windows operating system, if your Domain home directory was `C:\Oracle_Home\user_projects\domains\oac`, use a file manager window and navigate to the `C:\Oracle\Config\domains` directory, then right-click on the `oac` folder and select **Delete**.

2.  Manually remove your Application home directory.

    For example, if your Application home directory was `/home/Oracle_Home/oac` on a UNIX operating system:

    ```
    > cd /home/Oracle_Home/
    > rm -rf oac
    ```

    On a Windows operating system, if your Application home directory was `C:\Oracle_Home\oac`, use a file manager window and navigate to the `C:\Oracle_Home` directory, then right-click on the `oac` folder and select **Delete**.

3.  Backup the `domain_registry.xml` file in your Oracle home, then edit the file and remove the line associated with the domain you are removing. For example, to remove the `oac_domain`, find the following line and remove it:

    ```
    <domain location="/home/Oracle_Home/user_projects/domains/oac"/>
    ```

    Save and exit the file when you are finished.

## 7.10  Reinstalling the Software

You can reinstall your software into the same Oracle home as a previous installation only if you have deinstalled the software according to the instructions in this chapter, including manually removing the Oracle home directory. When you reinstall, you can then specify the same Oracle home as your previous installation.

Consider the following cases where the Oracle home is not empty:

- Installing in an existing Oracle home that contains the same feature sets.

  The installer will warn you that the Oracle home you specified during the installation already contains the same software you are trying to install. Your options are to:

  a.  Select a different installation type. In this case, only the feature sets that do not already exist in the Oracle home directory will be installed.

  b.  Select a different Oracle home directory.

- Installing in an existing, non-empty Oracle home.

  For example, suppose that you have chosen to create your Domain home or Application home somewhere inside your existing Oracle home. This data is not removed during the deinstallation process, so if you attempt to reinstall into the same Oracle home, the installer will not allow it. Your options are to:

  a.  Deinstall your software from the Oracle home as described in this chapter, and then remove the Oracle home directory. After this is complete, you can reinstall and reuse the same Oracle home location, using the instructions in Chapter 2. Any domain or application data that was in the Oracle home will have to be re-created.

  b.  Select a different Oracle home directory.