Oracle® Fusion Middleware

Installing and Configuring Oracle WebCenter Portal

14c (14.1.2.0.0)

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Oracle Fusion Middleware Installing and Configuring Oracle WebCenter Portal, 14c (14.1.2.0.0)

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Preface

This document describes how to install and configure Oracle WebCenter Portal.

Audience

This guide is intended for system administrators or application developers who are installing and configuring Oracle WebCenter Portal. It is assumed that readers are familiar with web technologies and have a general understanding of Windows and UNIX platforms.

Documentation Accessibility

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Diversity and Inclusion

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

Related Documents

Refer to the Oracle Fusion Middleware Library for additional information.

- For Oracle WebCenter Portal information, see Oracle WebCenter Portal Documentation.
- For installation information, see Fusion Middleware Installation Documentation.
- For upgrade information, see Fusion Middleware Upgrade Documentation.
- For administration-related information, see Fusion Middleware Administration Documentation.
- For release-related information, see Fusion Middleware Release Notes.

Conventions

Learn about the conventions used in this document.

This document uses the following text conventions:

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

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About the Oracle WebCenter Portal Installation

The standard installation for Oracle WebCenter Portal described in this guide creates the standard topology, which represents a sample starting topology for this product.

About Oracle WebCenter Portal

Companies use Oracle WebCenter Portal to build enterprise-scale intranet and extranet portals that provide a foundation for the next-generation user experience (UX) with Oracle Fusion Middleware and Oracle Fusion Applications.

Portals built with Oracle WebCenter Portal commonly support thousands of users who create, update, and access content and data from multiple back-end sources. Oracle WebCenter Portal provides an open and extensible solution that allows users to interact directly with tools and services like instant messaging, documents, content management, discussion forums, wikis, blogs, and tagging directly from within the context of a portal. Oracle WebCenter Portal delivers intuitive user experiences by leveraging the best UX capabilities from a significant portfolio of leading portal products and related technologies. From the user's perspective, the integration is seamless.

Oracle WebCenter Portal provides an out-of-the-box enterprise-ready customizable application, with a configurable work environment that enables individuals and groups to work and collaborate more effectively to develop and use portals. Business users can easily assemble new portals or composite applications using Portal Composer and a page editor that includes a library of prebuilt reusable components. They can enhance user experience by wiring components together on the page, configuring content personalization, enabling the use of integrated social tools, and creating data visualizations. Developers can also use JDeveloper to build custom assets that can be used in portals built with Oracle WebCenter Portal.

Using the Standard Installation Topology as a Starting Point

The standard installation topology is a flexible topology that you can use as a starting point in production environments.

The information in this guide helps you to create a standard installation topology for Oracle WebCenter Portal. If required, you can later extend the standard installation topology to create a secure and highly available production environment, see Next Steps After Configuring the Domain.

The standard installation topology represents a sample topology for this product. It is not the only topology that this product supports. See About the Standard Installation Topology in *Planning an Installation of Oracle Fusion Middleware*.

About the Oracle WebCenter Portal Standard Installation Topology

This topology represents a standard WebLogic Server domain that contains an Administration Server and a cluster that contains two Managed Servers.

The following figure shows the standard installation topology for Oracle WebCenter Portal.

See Table 1-1 for information on the elements for this topology.

Figure 1-1 Business Intelligence Standard Installation Topology
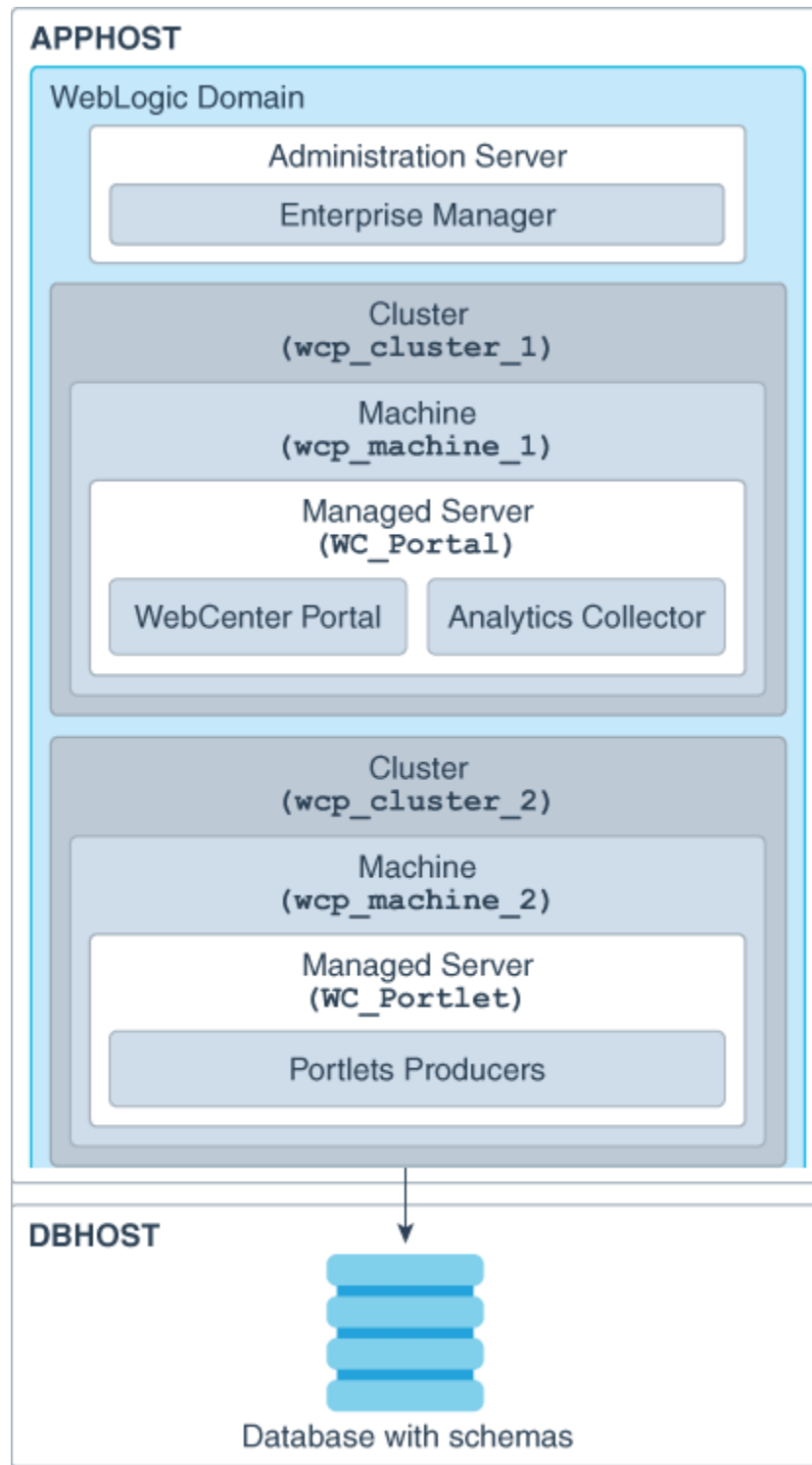
About Elements in the Standard Installation Topology Illustration

The standard installation topology typically includes common elements.

Table 1-1 describes all elements of the topology illustration:

Table 1-1   Description of Elements in Standard Installation Topologies

Element	Description and Links to Related Documentation
APPHOST	A standard term used in Oracle documentation to refer to the machine that hosts the application tier.
DBHOST	A standard term used in Oracle documentation to refer to the machine that hosts the database.
WebLogic Domain	A logically related group of Java components (in this case, the Administration Server, Managed Servers, and other related software components) and non-Java components. See What Is an Oracle WebLogic Server Domain? in *Understanding Oracle Fusion Middleware*.
Administration Server	Central control entity of a WebLogic domain. It maintains configuration objects for that domain and distributes configuration changes to Managed Servers. See What Is the Administration Server? in *Understanding Oracle Fusion Middleware*.
Enterprise Manager	The Oracle Enterprise Manager Fusion Middleware Control is a primary tool used to manage a domain. See Oracle Enterprise Manager Fusion Middleware Control in *Understanding Oracle Fusion Middleware*.
Cluster	A collection of multiple WebLogic Server instances running simultaneously and working together. See Overview of Managed Servers and Managed Server Clusters in *Understanding Oracle Fusion Middleware*.
Machine	A logical representation of the computer that hosts one or more WebLogic Server instances (servers). Machines are also the logical glue between the Managed Servers and the Node Manager. In order to start or stop the Managed Servers using the Node Manager, associate the Managed Servers with a machine.
Managed Server	A host for your applications, application components, web services, and their associated resources. See Overview of Managed Servers and Managed Server Clusters in *Understanding Oracle Fusion Middleware*.
Infrastructure	A collection of services that include the following: • Metadata repository (MDS) contains the metadata for Oracle Fusion Middleware components, such as the Oracle Application Developer Framework. See What Is the Metadata Repository? in *Understanding Oracle Fusion Middleware*. • Oracle Application Developer Framework (Oracle ADF). • Oracle Web Services Manager (OWSM).

Understanding Oracle WebCenter Portal Managed Servers

After Oracle WebCenter Portal is installed, you need to create or extend and configure a WebLogic Server domain.

The basic domain infrastructure consists of one Administration Server and various optional Managed Servers. When you configure a domain for Oracle WebCenter Portal, the WebLogic Administration Server gets created if it is a new domain. Depending on the Oracle WebCenter Portal components you choose to install, various WebLogic server instances get created, and each component is deployed to the appropriate Managed Server. Managed Servers are provisioned with Oracle system libraries (JRF libraries) and Oracle ADF libraries.

Table 1-2   Servers Created During Oracle WebCenter Portal Domain Configuration

WebLogic Server Instance	Components/Applications Hosted	Description
`AdminServer`	none	This is the WebLogic Administration Server. The Administration Server provides a central point for managing a WebLogic Server domain.
		The Administration Server hosts the Administration Console and the Oracle Enterprise Manager Fusion Middleware Control Console.
`WC_Portal`	WebCenter Portal Analytics Collector	This managed server gets created if you choose to install WebCenter Portal, the out-of-the-box portal application, while creating or extending your Oracle WebCenter Portal domain.
`WC_Portlet`	Portlets Producers	This managed server gets created if you choose to install Oracle WebCenter Portal's Portlet Producers while creating or extending your domain.

About the Oracle WebCenter Portal Standard Installation Topology shows a graphical representation of these servers and components.

Understanding Oracle WebCenter Portal Components

By default, all Oracle WebCenter Portal components are installed onto your system. Depending on the functionality required in your portals, you can choose the components that need to be configured in your domain.

Oracle WebCenter Portal includes the following components:

- **Portal Composer**

  Oracle WebCenter Portal's Portal Composer offers a single, integrated, web-based environment for assembling portals or composite applications using a library of prebuilt reusable components. Business users can wire components together on the page, configure content personalization, enable the use of integrated social tools, and create data visualizations. It provides a browser-based platform for creating enterprise portals, multiple sites, and communities. Portal Composer is also generally referred to as *WebCenter Portal*.

- **Portlet Producers**

  Oracle WebCenter Portal's Portlet Producers supports deployment and execution of both standards-based portlets (JSR 286 and WSRP 1.0 and 2.0) and traditional Oracle PDK-Java based portlets. Includes the following preconfigured portlet producers: OmniPortlet, Web Clipping, and WSRP Parameter Form Portlet.

- **Analytics Collector**

  Oracle WebCenter Portal's Analytics Collector delivers comprehensive reporting on activity and content usage within portals and composite applications.

Using This Document to Extend an Existing Domain

1-5

The procedures in this guide describe how to create a new domain. The assumption is that no other Oracle Fusion Middleware products are installed on your system.

If you have installed and configured other Oracle Fusion Middleware products on your system (for example, Fusion Middleware Infrastructure, with a domain that is up and running) and wish to extend the same domain to include Oracle WebCenter Portal, see Installing Multiple Products in the Same Domain.

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Preparing to Install and Configure Oracle WebCenter Portal

To prepare for your Oracle WebCenter Portal installation, verify that your system meets the basic requirements, then obtain the correct installation software.

Roadmap for Installing and Configuring a Standard Installation Topology

This roadmap provides the steps required to install and configure a standard Oracle WebCenter Portal installation topology.

Table 2-1 provides the high-level steps required for installing a standard installation topology.

Table 2-1   Standard Installation Roadmap

Task	Description	Documentation
Verify your system environment.	Before you begin the installation, verify that the minimum system and network requirements are met.	See Roadmap for Verifying Your System Environment.
Check for any mandatory patches that are required before the installation.	Review the Oracle Fusion Middleware Infrastructure release notes to see if there are any mandatory patches required for the software products that you are installing.	See Install and Configure in *Release Notes for Oracle Fusion Middleware Infrastructure*.
Obtain the appropriate distributions.	Obtain the Oracle Fusion Middleware Infrastructure and the Oracle WebCenter Portal installation files.	See About Product Distributions.
Determine your installation directories.	Verify that the installer can access or create the required installer directories. Also, verify that the directories exist on systems that meet the minimum requirements.	See What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*.
Install prerequisite software.		See Installing the Infrastructure Software in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.
Install the software.	Installing the software transfers the software to your system and creates the Oracle home directory.	See Installing the Oracle WebCenter Portal Software.
Select a database profile and review any required custom variables.	Before you install the required schemas in the database, review the information about any custom variables you need to set for the Oracle WebCenter Portal schemas.	See About Database Requirements for an Oracle Fusion Middleware Installation.
Create the schemas.	Run the Repository Creation Utility to create the schemas required for configuration.	See Creating the Database Schemas.

Table 2-1   (Cont.) Standard Installation Roadmap

Task	Description	Documentation
Create a WebLogic domain.	Use the Configuration Wizard/ Assistant to create and configure the WebLogic domain.	See Configuring the Domain.
Administer and prepare your domain for high availability.	Discover additional tools and resources to administer your domain and configure your domain to be highly available.	See Next Steps After Configuring the Domain.

Roadmap for Verifying Your System Environment

Before you begin the installation and configuration process, you must verify your system environment.

Table 2-2 identifies important tasks and checks to perform to ensure that your environment is prepared to install and configure Oracle WebCenter Portal.

Table 2-2   Roadmap for Verifying Your System Environment

Task	Description	Documentation
Verify certification and system requirements.	Verify that your operating system is certified and configured for installation and configuration.	See Verifying Certification, System, and Interoperability Requirements.
Identify a proper installation user.	Verify that the installation user has the required permissions to install and configure the software.	See Selecting an Installation User.
Select the installation and configuration directories on your system.	Verify that you can create the necessary directories to install and configure the software, according to the recommended directory structure.	See About the Directories for Installation and Configuration.
Install a certified JDK.	The installation program for the distribution requires a certified JDK present on your system.	See About JDK Requirements for an Oracle Fusion Middleware Installation.
Install and configure a database for mid-tier schemas.	To configure your WebLogic domain, you must have access to a certified database that is configured for the schemas required by Oracle WebCenter Portal.	See About Database Requirements for an Oracle Fusion Middleware Installation.

Verifying Certification, System, and Interoperability Requirements

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

1. **Verifying that your environment meets certification requirements:**

   Ensure that you install your product on a supported hardware and software configuration.

   Oracle has tested and verified the performance of your product on all certified systems and environments. Whenever new certifications are released, they are added to the certification document right away. New certifications can be released at any time. Therefore, the

certification documents are kept outside the documentation libraries and are available on Oracle Technology Network.

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 certification requirements are met. System requirements can change in the future. Therefore, the system requirement documents are kept outside of the documentation libraries and are available on Oracle Technology Network.

3. **Verifying interoperability among multiple products:**

To learn how to install and run multiple Fusion Middleware products from the same release or mixed releases with each other, see Oracle Fusion Middleware Interoperability and Compatibility in *Understanding Interoperability and Compatibility*.

Selecting an Installation User

The user who installs and configures your system must have the required permissions and privileges.

About User Permissions

The user who installs a Fusion Middleware product owns the files and has certain permissions on the files.

- Read and write permissions on all non-executable files (for example, `.jar`, `.properties`, or `.xml`). All other users in the same group as the file owner have read permissions only.

- Read, write, and execute permissions on all executable files (for example, `.exe`, `.sh`, or `.cmd`). All other users in the same group as the file owner have read and execute permissions only.

This means that someone other than the person who installs the software can use the installed binaries in the Oracle home directory to configure a domain or set of Fusion Middleware products.

During configuration, the files generated by the configuration process are owned by the user who ran the Configuration Wizard. This user has the same permissions as described above for the installation user. However, security-sensitive files are not created with group permissions. Only the user that created the domain has read and write permissions and can administer the domain.

Consider the following examples:

- **Example 1: A Single User Installs the Software and Configures the Domain**

  Figure 2-1 explains the file permissions where the same user installs the software and configures the domain.

  To ensure proper permissions and privileges for all files, Oracle recommends that the same owner perform both tasks: install the Oracle Fusion Middleware product and configure the WebLogic Server domain by using the Configuration Wizard.

Figure 2-1   Directory Structure *When you manage a product installation* - a Single User Installs the Software and Configures the Domain
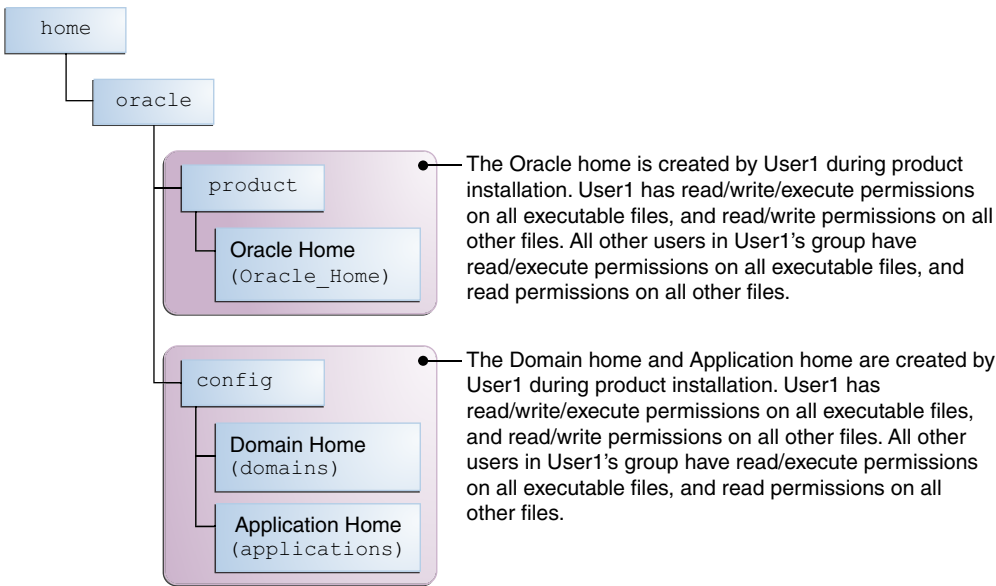
If the user who creates the domain is different than the user who installed the software, then both users must have the same privileges, as shown in the next example.

- **Example 2: The Oracle Home Directory and Domain are Created by Different Users**

  Figure 2-2 explains the file permissions where one user creates the Oracle home and another user configures the domain.

Figure 2-2   Directory Structure when Different Users Install the Software and Configure the Domain
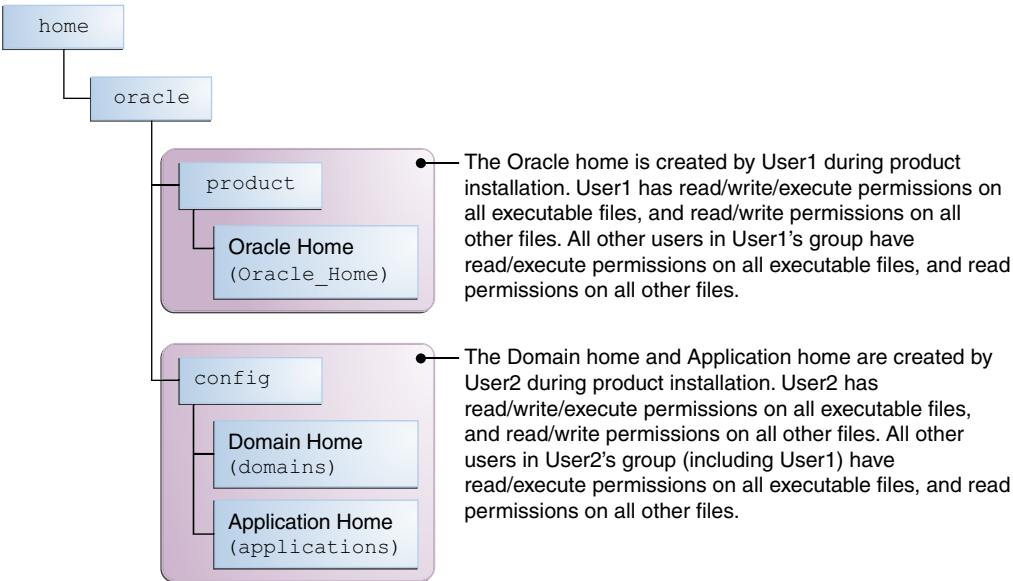
> **Note:**
>
> Certain domain files do not have group permissions. For example, `cwallet.sso`.

Consider the following points before you run the installer:

- On UNIX operating systems, Oracle recommends that you set `umask` to `027` on your system before you install the software. This ensures that the file permissions are set properly during installation. Use the following command:

  ```
  umask 027
  ```

  You must enter this command in the same terminal window from which you plan to run the product installer.

- On UNIX operating systems, do not run the installation program as a `root` user. If you run the installer as a root user, the startup validation may fail and you cannot continue the installation.

- When you manage a product installation (for example, applying patches), use the same user ID that you used to install the product.

  When you manage a domain (for example, starting managed Servers), use the same user ID that you used to create the domain.

- On Windows operating systems, you must have administrative privileges to install the product. See Verifying the Installation User has Administrator Privileges on Windows Operating Systems.

About Non-Default User Permissions on Linux or UNIX Operating Systems

Changing the default permission setting reduces the security of the installation and your system. Oracle does not recommend that you change the default permission settings.

If other users require access to a particular file or executable, use the Linux or UNIX `sudo` command or other similar commands to change the file permissions.

Refer to your Linux or UNIX operating system Administrator's Guide or contact your operating system vendor, if you need further assistance.

Verifying That the Installation User Has Administrator Privileges on Windows Operating Systems

To update the Windows Registry, you must have administrator privileges.

By default, users with the administrator privilege sign in to the system with regular privileges, but can request elevated permissions to perform administrative tasks.

To perform a task with elevated privileges:

1. Find the Command Prompt icon, either from the Start menu or the Windows icon in the lower-left corner.

2. Right-click **Command Prompt** and select **Run as administrator**.

   This opens a new command prompt window, and all actions performed in this window are done with administrator privileges.

> **✎ Note:**
>
> If you have User Access Control enabled on your system, you may see an additional window asking you to confirm this action. Confirm and continue with this procedure.

3. Perform the desired task.

   For example, to start the product installer:

   For a jar file, enter:

   ```
   java —jar distribution_name.jar
   ```

   For an executable (`.exe`, `.bin`, or `.sh` file), enter:

   ```
   distribution_name.exe
   ```

About the Directories for Installation and Configuration

During the installation and domain configuration process, you must plan on providing the locations for these directories: Oracle home, Domain home, and the Application home.

About the Recommended Directory Structure

Oracle recommends specific locations for the Oracle Home, Domain Home, and Application Home.

Oracle recommends a directory structure similar to the one shown in Figure 2-3.

Figure 2-3   Recommended Oracle Fusion Middleware Directory Structure
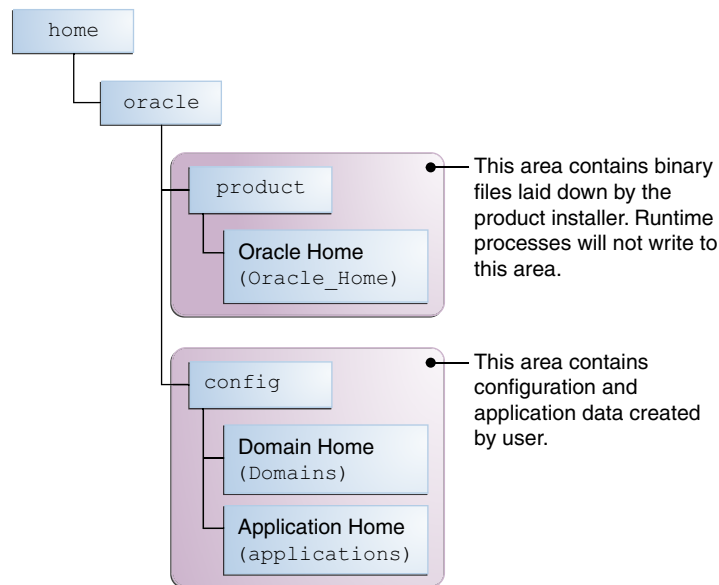
A base location (Oracle base) should be established on your system (for example, `/home/oracle`). From this base location, create two separate branches, namely, the `product` directory and the `config` directory. The `product` directory should contain the product binary files and all

the Oracle home directories. The `config` directory should contain your domain and application data.

Oracle recommends that you do not keep your configuration data in the Oracle home directory; if you upgrade your product to another major release, you are required to create an Oracle home for binary files. You must also make sure that your configuration data exists in a location where the binary files in the Oracle home have access.

The `/home/oracle/product` (for the Oracle home) and `/home/oracle/config` (for the application and configuration data) directories are used in the examples throughout the documentation; be sure to replace these directories with the actual directories on your system.

About the Oracle Home Directory

When you install any Oracle Fusion Middleware product, you must use an Oracle home directory.

This directory is a repository for common files that are used by multiple Fusion Middleware products installed on the same machine. These files ensure that Fusion Middleware operates correctly on your system. They facilitate checking of cross-product dependencies during installation. For this reason, you can consider the Oracle home directory a *central support directory* for all Oracle Fusion Middleware products installed on your system.

Fusion Middleware documentation refers to the Oracle home directory as *ORACLE_HOME*.

Oracle Home Considerations

Keep the following in mind when you create the Oracle home directory and install the Oracle Fusion Middleware products:

*   Do not include spaces in the name of your Oracle home directory; the installer displays an error message if your Oracle home directory path contains spaces.

*   You can install only one instance of each Oracle Fusion Middleware product in a single Oracle home directory. If you need to maintain separate versions of a product on the same machine, each version must be in its own Oracle home directory.

    Although you can have several different products in a single Oracle home, only one version of each product can be in the Oracle home.

Multiple Home Directories

Although in most situations, a single Oracle home directory is sufficient, it is possible to create more than one Oracle home directory. For example, you need to maintain multiple Oracle home directories in the following situations:

*   You prefer to maintain separate development and production environments, with a separate product stack for each. With two directories, you can update your development environment without modifying the production environment until you are ready to do so.

*   You want to maintain two different versions of a Fusion Middleware product at the same time. For example, you want to install a new version of a product while keeping your existing version intact. In this case, you must install each product version in its own Oracle home directory.

*   You need to install multiple products that are not compatible with each other. See Oracle Fusion Middleware Interoperability and Compatibility in *Understanding Interoperability and Compatibility* .

> **Note:**
>
> If you create more than one Oracle home directory, you must provide non-overlapping port ranges during the configuration phase for each product.

About the Domain Home Directory

The Domain home is the directory where domains that you configure are created.

The default Domain home location is `ORACLE_HOME`/user_projects/domains/`domain_name`.

> **Note:**
>
> Oracle strongly recommends that you do not use the default location. Put your Domain home *outside* of the Oracle home directory, for example, in `/home/oracle/config/domains`.

The `config` directory should contain domain and application data. Oracle recommends a separate domain directory so that new installs, patches, and other operations update the *ORACLE_HOME* only, *not* the domain configuration.

See About the Recommended Directory Structure for more on the recommended directory structure and locating your Domain home.

Fusion Middleware documentation refers to the Domain home directory as *DOMAIN_HOME* and includes all folders up to and including the domain name. For example, if you name your domain `exampledomain` and locate your domain data in the `/home/oracle/config/domains` directory, the documentation would use *DOMAIN_HOME* to refer to `/home/oracle/config/domains/exampledomain`.

About the Application Home Directory

The Application home is the directory where applications for domains you configure are created.

The default Application home location is `ORACLE_HOME`/user_projects/applications/`domain_name`. However, Oracle strongly recommends that you locate your Application home *outside* of the Oracle home directory; if you upgrade your product to another major release, you must create an Oracle home for binary files.

See About the Recommended Directory Structure for more on the recommended directory structure and locating your Application home.

Fusion Middleware documentation refers to the Application home directory as `APPLICATION_HOME` and includes all folders up to and including the domain name. For example, if you name your domain `exampledomain` and you locate your application data in the `/home/oracle/config/applications` directory, the documentation uses `APPLICATION_HOME` to refer to `/home/oracle/config/applications/exampledomain`.

Installing Multiple Products in the Same Domain

There are two methods to install and configure multiple products in one domain. This is also known as *extending* a domain.

- **Method 1.**

  Install and configure Product A, including creating the schemas and starting all servers in the domain to verify a successful domain configuration.

  This is the method used in all installation guides in the Fusion Middleware library. You can repeat this process for as many products as necessary. It allows you to validate one product at a time and add more products incrementally.

  To install Product B in the same domain as Product A:

  1. Stop all servers to prevent any updates to the domain while you add the new product.

     See Starting and Stopping Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.

  2. Follow the instructions in the installation guide for Product B, including creating the necessary schemas.

  3. Run the Configuration Wizard to configure the domain.

     During configuration, the Configuration Wizard automatically detects the components that have been installed and offers you the option to extend the existing Product A domain to include Product B.

- **Method 2.**

  Install all of the required products, then create the schemas for all of the products. After you create the schemas, configure the domain by using the necessary product templates, then start all the servers.

  This method of creating a multi-product domain may be slightly faster than Method 1; however, the installation guides in the Fusion Middleware library do not provide specific instructions for this method of domain creation.

> ✎ **See Also:**
>
> - To update WebLogic domains, see Updating WebLogic Domains in *Creating WebLogic Domains Using the Configuration Wizard*.
>
> - For important information regarding the ability of Oracle Fusion Middleware products to function with previous versions of other Oracle Fusion Middleware, Oracle, or third-party products, see Oracle Fusion Middleware Interoperability and Compatibility in *Understanding Interoperability and Compatibility*.

Preparing for Shared Storage

Oracle Fusion Middleware allows you to configure multiple WebLogic Server domains from a single Oracle home. This allows you to install the Oracle home in a single location on a shared volume and reuse the Oracle home for multiple host installations.

If you plan to use shared storage in your environment, see Using Shared Storage in *High Availability Guide* for more information.

About JDK Requirements for an Oracle Fusion Middleware Installation

Most Fusion Middleware products are in `.jar` file format. These distributions do not include a JDK. To run a `.jar` distribution installer, you must have a certified JDK installed on your system.

Make sure that the JDK is installed *outside* of the Oracle home. If you install the JDK under the Oracle home, you may encounter problems when you try to perform tasks in the future. Oracle Universal Installer validates that the Oracle home directory is empty; the install does not progress until you specify an empty directory. Oracle recommends that you locate your JDK installation in the `/home/oracle/products/jdk` directory.

Platform-specific distributions have a `.bin` (for Linux operating systems) or `.exe` (for Windows operating systems) installer; in these cases, a platform-specific JDK is in the distribution and you do not need to install a JDK separately. However, you may need to upgrade this JDK to a more recent version, depending on the JDK versions that are certified.

Always verify the required JDK version by reviewing the certification information on the *Oracle Fusion Middleware Supported System Configurations* page for Oracle Fusion Middleware.

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

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

About Database Requirements for an Oracle Fusion Middleware Installation

Many Oracle Fusion Middleware products require database schemas prior to 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 on *Technical Resources from Oracle*.

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

After your database is properly configured, you use the Repository Creation Utility (RCU) to create product schemas in your database. This tool is available in the Oracle home for your Oracle Fusion Middleware product. See About the Repository Creation Utility in *Creating Schemas with the Repository Creation Utility*.

About Product Distributions

You create the initial Oracle WebCenter Portal domain using the Oracle Fusion Middleware Infrastructure distribution, which contains both Oracle WebLogic Server software and Oracle Java Required Files (JRF) software.

Oracle JRF software consists of:

- Oracle Web Services Manager
- Oracle Application Development Framework (Oracle ADF)
- Oracle Enterprise Manager Fusion Middleware Control
- Repository Creation Utility (RCU)

- Other libraries and technologies required to support Oracle Fusion Middleware products

Prerequisites:

- Install Oracle Fusion Middleware Infrastructure. For more information about installing Oracle Fusion Middleware Infrastructure, see Installing the Infrastructure Software in the *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

> **✎ Note:**
>
> If you want to access public internet cloud data sources, you must have a direct network connection as connections via proxy servers are not supported.

Obtaining the Product Distribution

You can obtain the Oracle Fusion Middleware Infrastructure and Oracle WebCenter Portal distribution on *Technical Resources from Oracle*.

To prepare to install Oracle Fusion Middleware Infrastructure and Oracle WebCenter Portal:

1. Enter `java -version` on the command line to verify that a certified JDK is installed on your system. For 14c (14.1.2.0.0), the certified JDK is 17.0.12 and later.

   See About JDK Requirements for an Oracle Fusion Middleware Installation.

2. Locate and download the Oracle Fusion Middleware Infrastructure and Oracle WebCenter Portal software.

   See Obtaining Product Distributions in *Planning an Installation of Oracle Fusion Middleware*.

   To obtain the distribution for product evaluation, visit the Oracle Software Delivery Cloud page.

After preparing to install and configure the software, see Installing the Oracle WebCenter Portal Software.

Verifying Digital Signature and Integrity of Installation Archive Files

Oracle digitally signs the installation archive files with Oracle certificates to ensure the integrity of the packages before you deploy them in your environments.

Use the Java utility `jarsigner` to verify the integrity of your installation archive files. You can verify the integrity of the installation archive files before you extract the installation files.

Quick Verification

To quickly verify the installation archive files, use the `jarsigner` command with the `-verify` option:

1. Go to the directory where you have downloaded the installation archive files.

2. Run this command to check your installation archive file:

   ```
   jarsigner -verify installation_archive_file
   ```

For example, to check the Oracle Fusion Middleware Infrastructure archive:

```
jarsigner -verify fmw_14.1.2.0.0_infrastructure.jar
```

```
jar verified.
```

Detailed Certificate Information

If you want detailed certificate information, then use the `-verbose:summary` and `-certs` along with the `-verify` option.

1. Go to the directory where you have downloaded the installation archive files.

2. Run this command to check your installation archive file:

```
jarsigner -verify -verbose:summary -certs installation_archive_file
```

For example, to check the Oracle Fusion Middleware Infrastructure image:

```
jarsigner -verify -verbose:summary -certs fmw_14.1.2.0.0_infrastructure.jar
```

The output is similar to the following:

```
2237119 Fri Dec 6 07:02:30 UTC 2023 META-INF/MANIFEST.MF

      >>> Signer
      X.509, CN="Oracle America, Inc.", O="Oracle America, Inc.",
L=Redwood City, ST=California, C=US
      [
      Signature algorithm: SHA256withRSA, 3072-bit key
      [certificate is valid from 12/19/24 12:00 AM to 12/19/25 11:59 PM]
      X.509, CN=DigiCert Trusted G4 Code Signing RSA4096 SHA384 2021 CA1,
O="DigiCert, Inc.", C=US
      [
      Signature algorithm: SHA384withRSA, 4096-bit key
      [certificate is valid from 4/29/24 12:00 AM to 4/28/36 11:59 PM]
      X.509, CN=DigiCert Trusted Root G4, O=DigiCert Inc, C=US
      [
      Signature algorithm: SHA384withRSA, 4096-bit key
      [trusted certificate]
      >>> TSA
      X.509, CN=DigiCert Timestamp 2024 - 2, O=DigiCert, C=US
      [
      Signature algorithm: SHA256withRSA, 4096-bit key
      [certificate is valid from 9/21/24 12:00 AM to 11/21/33 11:59 PM]
      X.509, CN=DigiCert Trusted G4 RSA4096 SHA256 TimeStamping CA,
O="DigiCert, Inc.", C=US
      [
      Signature algorithm: SHA256withRSA, 4096-bit key
      [certificate is valid from 3/23/24 12:00 AM to 3/22/37 11:59 PM]
      X.509, CN=DigiCert Trusted Root G4, O=DigiCert Inc, C=US
      [
      Signature algorithm: SHA384withRSA, 4096-bit key
      [certificate is valid from 8/1/24 12:00 AM to 11/9/31 11:59 PM]
```

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```
       2237281 Fri Feb 17 07:02:32 UTC 2024 META-INF/ORACLE_C.SF (and 1
more)

       (Signature related entries)

             0 Fri Feb 17 05:41:24 UTC 2023 OPatch/ (and 1897 more)

       (Directory entries)

          2977 Tue Dec 20 08:02:16 UTC 2024 OPatch/README.txt (and 20199 more)


       [entry was signed on 2/17/24 7:02 AM]
       >>> Signer
       X.509, CN="Oracle America, Inc.", O="Oracle America, Inc.",
L=Redwood City, ST=California, C=US
         [
       Signature algorithm: SHA256withRSA, 3072-bit key
       [certificate is valid from 8/19/24 12:00 AM to 8/19/25 11:59 PM]
       X.509, CN=DigiCert Trusted G4 Code Signing RSA4096 SHA384 2021 CA1,
O="DigiCert, Inc.", C=US
         [
       Signature algorithm: SHA384withRSA, 4096-bit key
       [certificate is valid from 4/29/24 12:00 AM to 4/28/36 11:59 PM]
       X.509, CN=DigiCert Trusted Root G4, O=DigiCert Inc, C=US
         [
       Signature algorithm: SHA384withRSA, 4096-bit key
       [trusted certificate]
       >>> TSA
       X.509, CN=DigiCert Timestamp 2024 - 2, O=DigiCert, C=US
         [
       Signature algorithm: SHA256withRSA, 4096-bit key
       [certificate is valid from 9/21/24 12:00 AM to 11/21/33 11:59 PM]
       X.509, CN=DigiCert Trusted G4 RSA4096 SHA256 TimeStamping CA,
O="DigiCert, Inc.", C=US
         [
       Signature algorithm: SHA256withRSA, 4096-bit key
       [certificate is valid from 3/23/24 12:00 AM to 3/22/37 11:59 PM]
       X.509, CN=DigiCert Trusted Root G4, O=DigiCert Inc, C=US
         [
       Signature algorithm: SHA384withRSA, 4096-bit key
       [certificate is valid from 8/1/24 12:00 AM to 11/9/31 11:59 PM]


  s = signature was verified
  m = entry is listed in manifest
  k = at least one certificate was found in keystore
  i = at least one certificate was found in identity scope

- Signed by "CN="Oracle America, Inc.", O="Oracle America, Inc.",
L=Redwood City, ST=California, C=US"
    Digest algorithm: SHA-256
    Signature algorithm: SHA256withRSA, 3072-bit key
  Timestamped by "CN=DigiCert Timestamp 2024 - 2, O=DigiCert, C=US" on Fri
Feb 17 07:02:33 UTC 2024
    Timestamp digest algorithm: SHA-256
```

```
        Timestamp signature algorithm: SHA256withRSA, 4096-bit key

jar verified.

The signer certificate will expire on 2025-12-19.
The timestamp will expire on 2031-11-09.
```

3

Installing the Oracle WebCenter Portal Software

Follow the steps in this section to install the Oracle WebCenter Portal software.
Before beginning the installation, ensure that you have verified the prerequisites and completed all steps covered in Preparing to Install and Configure Oracle WebCenter Portal.

Verifying the Installation Checklist

The installation process requires specific information.

Table 3-1 lists important items that you must know before, or decide during, Oracle WebCenter Portal installation.

Table 3-1   Installation Checklist

Information	Example Value	Description
`JAVA_HOME`	`/home/Oracle/Java/ jdk17.0.12`	Environment variable that points to the Java JDK home directory.
Database host	`examplehost.exampledomain`	Name and domain of the host where the database is running.
Database port	`1521`	Port number that the database listens on. The default Oracle database listen port is `1521`.
Database service name	`orcl.exampledomain`	Oracle databases require a unique service name. The default service name is `orcl`.
DBA username	`SYS`	Name of user with database administration privileges. The default DBA user on Oracle databases is `SYS`.
DBA password	`password`	Password of the user with database administration privileges.
`ORACLE_HOME`	`/home/Oracle/product/ ORACLE_HOME`	Directory in which you will install your software. This directory will include Oracle Fusion Middleware Infrastructure and Oracle WebCenter Portal, as needed.
WebLogic Server hostname	`examplehost.exampledomain`	Host name for Oracle WebLogic Server and Oracle WebCenter Portal consoles.

Table 3-1   (Cont.) Installation Checklist

Information	Example Value	Description
Console port	**✎ Note:** The default port values will vary depening on how you conifigured your domain. For a list of default values, see Port Numbers by Product and Component.	Port for Oracle WebCenter Portal consoles.
DOMAIN_HOME	/home/Oracle/config/domains/wcp_domain	Location in which your domain data is stored.
APPLICATION_HOME	/home/Oracle/config/applications/wcp_domain	Location in which your application data is stored.

Table 3-1   (Cont.) Installation Checklist

Information	Example Value	Description
Administrator user name for your WebLogic domain	`weblogic`	Name of the user with Oracle WebLogic Server administration privileges. The default administrator user is `weblogic`.
Administrator user password	`password`	Password of the user with Oracle WebLogic Server administration privileges.
RCU	`ORACLE_HOME/ oracle_common/bin`	Path to the Repository Creation Utility (RCU).
RCU schema prefix	`wcp`	Prefix for names of database schemas used by Oracle WebCenter Portal.
RCU schema password	`password`	Password for the database schemas used by Oracle WebCenter Portal.
Configuration utility	`ORACLE_HOME/oracle_common/ common/bin`	Path to the Configuration Wizard for domain creation and configuration.

Starting the Installation Program

Before running the installation program, you must verify the JDK and prerequisite software is installed.

To start the installation program:

1. Sign in to the host system.

2. Change to the directory where you downloaded the installation program.

3. You must have installed the Oracle Fusion Middleware Infrastructure 14c (14.1.2.0.0). For instructions, see Installing the Infrastructure Software in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

4. Start the installation program by running the `java` executable from the JDK directory.

> **✎ Note:**
>
> You can also start the installer in silent mode using a saved response file instead of launching the installer screens. For more about silent or command line installation, see Using the Oracle Universal Installer in Silent Mode in *Installing Software with the Oracle Universal Installer*.

When the installation program appears, you are ready to begin the installation.

Navigating the Installation Screens

The installer shows a series of screens where you verify or enter information.

Table 3-2 lists the order in which installer screens appear. If you need additional help with an installation screen, click **Help** in the installer.

Table 3-2   Oracle WebCenter Portal Install Screens

Screen	Description
Installation Inventory Setup	On UNIX operating systems, this screen opens 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 about the central inventory, see Understanding the Oracle Central Inventory in *Installing Software with the Oracle Universal Installer*.
	This screen does not appear on Windows operating systems.
Welcome	This screen introduces you to the product installer.
Auto Updates	Use this screen to search for the latest software updates, including important security updates, via your My Oracle Support account.
Installation Location	Use this screen to specify your Oracle home directory location. This Oracle home should already contain Oracle Fusion Middleware Infrastructure.
	You can click **View** to verify and ensure that you are installing Oracle WebCenter Portal in the correct Oracle home.
	For more about Oracle Fusion Middleware directory structure, see Understanding Directories for Installation and Configuration.
Installation Type	Use this screen to select the installation type and then products or feature sets you want to install. Select the **WebCenter Portal** install type to install the WebCenter product. Select the **WebCenter Portal SOA Composites** install type to install WebCenter Portal SOA composites into an existing SOA product home. A WebCenter Portal server can then be configured to use that SOA product home to enable the Workflow features.
Prerequisite Checks	This screen verifies that your system meets the minimum necessary requirements.
	To view the list of tasks that gets verified, select **View Successful Tasks**. To view log details, select **View Log**.
	If there are warning or error messages, see one of the documents in Roadmap for Verifying Your System Environment.
Installation Summary	Use this screen to verify installation options you selected. If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. You can use response files later if you perform a silent installation.
	All feature sets that are installed after installation is complete are listed here.
	For more about silent or command line installation, see Using the Oracle Universal Installer in Silent Mode in *Installing Software with the Oracle Universal Installer*.
	Click **Install** to begin the installation.

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Table 3-2   (Cont.) Oracle WebCenter Portal Install Screens

Screen	Description
Installation Progress	This screen shows the installation progress.
	When the progress bar reaches 100% complete, click **Finish** to dismiss the installer, or click **Next** to see a summary.
Installation Complete	Review the summary information on this screen, then click **Finish** to dismiss the installer.

Verifying the Installation

After you complete the installation, verify whether it was successful by completing a series of tasks.

Reviewing the Installation Log Files

Review the contents of the installation log files to make sure that the installer did not encounter any problems.

By default, the installer writes logs files to the `Oracle_Inventory_Location/logs` directory on Linux operating systems.

In case of Windows operating systems, the installer writes logs files to the `Oracle_Inventory_Location\logs` directory.

For a description of the log files and where to find them, see Installation Log Files in *Installing Software with the Oracle Universal Installer*.

Checking the Directory Structure

The contents of your installation vary based on the options that you selected during the installation.

See What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*.

Viewing the Contents of the Oracle Home

You can view the contents of the Oracle home directory by using the `viewInventory` script.

See Viewing the Contents of an Oracle Home in *Installing Software with the Oracle Universal Installer*.

4
Configuring Oracle WebCenter Portal Domain

After you have installed Oracle WebCenter Portal, you can configure the domain, which you can also extend for high availability.

The configuration steps presented here assume that you have completed the installation steps covered in:

- Preparing to Install and Configure Oracle WebCenter Portal
- Installing the Oracle WebCenter Portal Software

Refer to the following sections to create the database schemas, configure a WebLogic domain, and verify the configuration:

Creating the Database Schemas

Before you can configure a domain, you must install required schemas on a certified database for use with this release of Oracle Fusion Middleware.

> **Note:**
>
> As of Oracle Fusion Middleware 14c (14.1.2.0.0), new schemas are created with editions-based redefinition (EBR) views enabled by default. When EBR is enabled, the schema objects can be upgraded online to a future Fusion Middleware release without any downtime. For more information about using editions-based redefinition, see Using Edition-based Redefinition.

Installing and Configuring a Certified Database

Before you create the database schemas, you must install and configure a certified database, and verify that the database is up and running.

> **Note:**
>
> For an Autonomous Transaction Processing database (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), you must modify the wallet settings and set the environment variables as described in Settings to connect to Autonomous Transaction Processing Database, and apply patches on `ORACLE HOME` as described in Applying Patches on ORACLE HOME.

See About Database Requirements for an Oracle Fusion Middleware Installation.

Starting the Repository Creation Utility

Start the Repository Creation Utility (RCU) after you verify that a certified JDK is installed on your system.

To start the RCU:

1. Verify that a certified JDK already exists on your system by running `java -version` from the command line. For 14c (14.1.2.0.0), the certified JDK is 17.0.12 and later.

   See About JDK Requirements for an Oracle Fusion Middleware Installation.

2. Ensure that the `JAVA_HOME` environment variable is set to the location of the certified JDK.

3. Change to the following directory:

   - (UNIX) *ORACLE_HOME*`/oracle_common/bin`
   - (Windows) *ORACLE_HOME*`\oracle_common\bin`

4. Enter the following command:

   - (UNIX) `./rcu`
   - (Windows) `rcu.bat`

Navigating the Repository Creation Utility Screens to Create Schemas

Enter required information in the RCU screens to create the database schemas.

Introducing the RCU

The Welcome screen is the first screen that appears when you start the RCU.

Click **Next**.

Selecting a Method of Schema Creation

Use the Create Repository screen to select a method to create and load component schemas into the database.

On the Create Repository screen:

- If you have the necessary permissions and privileges to perform DBA activities on your database, select **System Load and Product Load**. This procedure assumes that you have SYSDBA privileges.

- If you do *not* have the necessary permissions or privileges to perform DBA activities in the database, you must select **Prepare Scripts for System Load** on this screen. This option generates a SQL script that you can give to your database administrator. See About System Load and Product Load in *Creating Schemas with the Repository Creation Utility*.

- If the DBA has already run the SQL script for System Load, select **Perform Product Load**.

> **✎ Note:**
>
> For an Autonomous Transaction Processing database (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), you must create schemas as a `Normal` user, and though, you do not have full SYS or SYSDBA privileges on the database, you must select **System Load and Product Load**.

Providing Database Connection Details

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

To provide the database connection details:

1. On the Database Connection Details screen, provide the database connection details.

   For example:

   > Database Type: `Oracle EBR Database`
   > Connection String Format: `Connection Parameters or Connection String`
   > Connection String:
   > `examplehost.exampledomain.com:1521:Orcl.exampledomain.com`
   > Host Name: `examplehost.exampledomain.com`
   > Port: `1521`
   > Service Name: `Orcl.exampledomain.com`
   > Username: `sys`
   > Password: `******`
   > Role: `SYSDBA`

2. Click **Next** to proceed, then click **OK** in the dialog window that confirms a successful database connection.

For information about specifying connection credentials when connecting to an Oracle database, see Connection Credentials for Oracle Databases and Oracle Databases with Edition-Based Redefinition.

Specifying a Custom Prefix and Selecting Schemas

Specify a custom prefix and database schema to automatically select the Common Infrastructure Services and dependent schemas.

1. Select **Create new prefix**.

2. Specify a custom prefix.

   The custom prefix is used to logically group these schemas together for use in this domain only; you must create a unique set of schemas for each domain as schema sharing across domains is not supported.

> **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. For more information about custom prefixes, see Understanding Custom Prefixes in *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 *Creating Schemas with the Repository Creation Utility*.

3. Select the **WebCenter Portal** component. This action automatically selects the schemas with dependencies.

> **Note:**
>
> If you are installing WebCenter Content alongside WebCenter Portal, you should also select the WebCenter Content schema.

4. Click **Next** to proceed, then click **OK** to confirm that prerequisite checking for schema creation was successful.

Specifying Schema Passwords

On the Schema Passwords screen, specify how you want to set the schema passwords on your database, then enter and confirm your passwords.

> **Note:**
>
> For an Autonomous Transaction Processing database (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), the schema password must be minimum 12 characters, and must contain at least one uppercase, one lower case, and one number.

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

Click **Next**.

Specifying Custom Variables

Specify the custom variables for the Oracle WebCenter Portal schema.

Oracle WebCenter Portal has one custom variable, `Analytics`. Changing the **Value** from the default of **N** to **Y** allows Oracle database partitioning to be used for this schema.

> **Note:**
>
> To enable partitioning for Analytics data, the database must have partitioning enabled.

For an enterprise deployment, Oracle recommends partitioning of the Analytics data. This partitions the analytics data by month. In a partitioned environment, the recommended method for purging data is simply to drop the month-based partitions that are no longer required.

> **See Also:**
>
> • Partitioning Oracle WebCenter Portal's Analytics Data in *Administering Oracle Fusion Middleware*
>
> • Custom Variables in *Creating Schemas with the Repository Creation Utility*

Completing Schema Creation

Navigate through the remaining RCU screens to complete schema creation.

On the Map Tablespaces screen, the Encrypt Tablespace check box appears *only* if you enabled Transparent Data Encryption (TDE) in the database (Oracle or Oracle EBR) when you start the RCU.

To complete schema creation:

1. On the Map Tablespaces screen, select **Encrypt Tablespace** if you want to encrypt all new tablespaces that the RCU creates.

2. In the Completion Summary screen, click **Close** to dismiss the RCU.

   For an Autonomous Transaction Processing Shared (ATP-S) database, in the **Map Tablespaces** screen you must override the default tablespaces and the temporary tablespaces, and also override the additional tablespaces, if applicable. See Map Tablespaces.

   If you encounter any issues when you create schemas on an Autonomous Transaction Processing database (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), see Troubleshooting Tips for Schema Creation on an Autonomous Transaction Processing Database in *Creating Schemas with the Repository Creation Utility* and Issues Related to Product Installation and Configuration on an Autonomous Database in *Release Notes for Oracle Fusion Middleware Infrastructure*.

Configuring the Domain

Use the Configuration Wizard to create and configure a domain.

For information on other methods to create domains, see Additional Tools for Creating, Extending, and Managing WebLogic Domains in *Creating WebLogic Domains Using the Configuration Wizard*.

Starting the Configuration Wizard

Start the Configuration Wizard to begin configuring a domain.

> **Note:**
>
> For an Autonomous Transaction Processing Shared (ATP-S) database, before you start the Configuration Wizard, you must set the `TNS_ADMIN` property using the following command:
>
> `export TNS_ADMIN=/<$ORACLE_HOME>/network/admin.`
>
> You must change `$ORACLE_HOME` to your Oracle Home location. For example: `export TNS_ADMIN=/users/test/network/admin`
>
> Where, `/users/test/` is the Oracle Home location.

To start the Configuration Wizard:

1. Change to the following directory:

    (UNIX) *ORACLE_HOME*/oracle_common/common/bin

    (Windows) *ORACLE_HOME*\oracle_common\common\bin

    where *ORACLE_HOME* is your 14c (14.1.2.0.0) Oracle home.

2. Enter the following command:

    (UNIX) `./config.sh`

    (Windows) `config.cmd`

Navigating the Configuration Wizard Screens to Create and Configure the Domain

Enter required information in the Configuration Wizard screens to create and configure the domain for the topology.

> **Note:**
>
> You can use this procedure to extend an existing domain. If your needs do not match the instructions in the procedure, be sure to make your selections accordingly, or see the supporting documentation for more details.

Selecting the Configuration Type and Domain Home Location

Use the Configuration Type screen to select a Domain home directory location, optimally outside the Oracle home directory.

Oracle recommends that you locate your Domain home in accordance with the directory structure in What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle*

Fusion Middleware, where the Domain home is located outside the Oracle home directory. This directory structure helps avoid issues when you need to upgrade or reinstall software.

To specify the Domain type and Domain home directory:

1. On the Configuration Type screen, select **Create a new domain**.

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

For more details about this screen, see Configuration Type in *Creating WebLogic Domains Using the Configuration Wizard*.

Selecting the Configuration Templates for Oracle WebCenter Portal

Use the Templates screen to select the templates you require.

On the Templates screen, make sure **Create Domain Using Product Templates** is selected, then select the following template:

*   Oracle WebCenter Portal - 14.1.2.0.0 [wcportal]

    Selecting this template automatically selects the following as dependencies:

    –   Oracle Enterprise Manager

    –   Oracle WSM Policy Manager

    –   Oracle JRF

    –   WebLogic Coherence Cluster Extension

You can also select any of the Oracle WebCenter Portal products listed in the following table. You do not need to select all of these templates, and you can always run the configuration wizard again to add products to your domain later.

Table 4-1   Oracle WebCenter Portal Products Available for Configuration

Product	Dependencies
Oracle WebCenter Portlet Producers	Oracle WSM Policy Manager Oracle JRF WebLogic Coherence Cluster Extension
Oracle WebCenter Analytics Collector	Oracle JRF WebLogic Coherence Cluster Extension

> **Note:**
>
> If you plan to install WebCenter Content alongside WebCenter Portal, see Selecting the Configuration Templates for Oracle WebCenter Content in *Installing and Configuring Oracle WebCenter Content* for the domain extension templates you should choose to install WebCenter Content as well.
>
> For more information about this screen, see Templates in *Creating WebLogic Domains Using the Configuration Wizard*.

Configuring High Availability Options

Use this screen to configure service migration and persistence settings that affect high availability.

This screen appears for the first time when you create a cluster that uses automatic service migration, persistent stores, or both, and all subsequent clusters that are added to the domain by using the Configuration Wizard, automatically apply the selected HA options.

Enable Automatic Service Migration

Select **Enable Automatic Service Migration** to enable pinned services to migrate automatically to a healthy Managed Server for failover. It configures migratable target definitions that are required for automatic service migration and the cluster leasing. Choose one of these cluster leasing options:

• Database Leasing - Managed Servers use a table on a valid JDBC System Resource for leasing. Requires that the Automatic Migration data source have a valid JDBC System Resource. If you select this option, the Migration Basis is configured to Database and the Data Source for Automatic Migration is also automatically configured by the Configuration Wizard. If you have a high availability database, such as Oracle RAC, to manage leasing information, configure the database for server migration according to steps in High-availability Database Leasing.

• Consensus Leasing - Managed Servers maintain leasing information in-memory. You use Node Manager to control Managed Servers in a cluster. (All servers that are migratable, or which could host a migratable target, must have a Node Manager associated with them.) If you select this option, the Migration Basis is configured to Consensus by the Configuration Wizard.

See Leasing for more information on leasing.

See Service Migration for more information on Automatic Service Migration.

JTA Transaction Log Persistence

This section has two options: **Default Persistent Store** and **JDBC TLog Store**.

• Default Persistent Store - Configures the JTA Transaction Log store of the servers in the default file store.

• JDBC TLog Store - Configures the JTA Transaction Log store of the servers in JDBC stores.

Oracle recommends that you select **JDBC TLog Store**. When you complete the configuration, you have a cluster where JDBC persistent stores are set up for Transaction logs.

For more details on persistent and TLOG stores, see the following topics in *Developing JTA Applications for Oracle WebLogic Server*:

• Using the Default Persistent Store

• Using a JDBC TLOG Store

JMS Server Persistence

A persistent **JMS store** is a physical repository for storing persistent message data and durable subscribers. It can be either a disk-based **file store** or a JDBC-accessible database. You can use a **JMS file store** for paging of messages to disk when memory is exhausted.

- JMS File Store - Configures a component to use JMS File Stores. If you select this option, you can choose the **File Store** option in the Advanced Configuration Screen to change the settings, if required. In the File Stores screen, you can set file store names, directories, and synchronous write policies.

- JMS JDBC Store - Configures a component to use JDBC stores for all its JMS servers. When you complete the configuration, you have a cluster and JDBC persistent stores are configured for the JMS servers.

Selecting the Application Home Location

Use the Application Location screen to select the location to store applications associated with your domain, also known as the *Application home* directory.

Oracle recommends that you locate your Application home in accordance with the directory structure in What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*, where the Application home is located outside the Oracle home directory. This directory structure helps avoid issues when you need to upgrade or re-install your software.

For more about the Application home directory, see About the Application Home Directory.

For more information about this screen, see Application Location in *Creating WebLogic Domains Using the Configuration Wizard*.

Configuring the Administrator Account

Use the Administrator Account screen to 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 that you enter on this screen; you need these credentials later to boot and connect to the domain's Administration Server.

Specifying the Domain Mode and JDK

Use the Domain Mode and JDK screen to specify the domain mode and Java Development Kit (JDK) for your production environment.

On the Domain Mode and JDK screen:

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

> **✎ Note:**
>
> As of WebLogic Server 14.1.2.0.0, when you select **Production** mode, WebLogic Server automatically sets some of the security configurations of **Secured Production** to more secure values. However, there are certain security configurations (such as SSL/TLS) that require manual configuration. See Using Secured Production Mode in *Administering Security for Oracle WebLogic Server*.
>
> If you want to disable the more secure default settings, then you may select **Disable Secure Mode**. This will enable the non-SSL listen ports.
>
> If you want to retain the more secure default settings of **Secured Production** mode in general, but want to change which ports (listen ports, SSL listen ports, or administration ports) will be enabled by default in your domain, then you may:
>
> – Leave **Disable Secure Mode** unselected, and
>
> – Change the default port selections under **Enable or Disable Default Ports for Your Domain**
>
> For more information, see Understand How Domain Mode Affects the Default Security Configuration in *Securing a Production Environment for Oracle WebLogic Server*.

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

For more information about this screen, see Domain Mode and JDK in *Creating WebLogic Domains Using the Configuration Wizard*.

Specifying the Database Configuration Type

Use the Database Configuration type screen to specify details about the database and database schema.

On the Database Configuration type screen, select **RCU Data**. This option instructs the Configuration Wizard to connect to the database and Service Table (STB) schema to automatically retrieve schema information for schemas needed to configure the domain.

> **✎ Note:**
>
> If you select **Manual Configuration** on this screen, you must manually fill in parameters for your schema on the next screen.
>
> For an Autonomous Transaction Processing database, (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), you must select only the **RCU Data** option.

After selecting **RCU Data**, specify details in the following fields:

Field	Description
Host Name	Enter the name of the server hosting the database.
	Example: `examplehost.exampledomain.com`

Field	Description
DBMS/Service	Enter the database DBMS name, or service name if you selected a service type driver. Example: `orcl.exampledomain.com`
Port	Enter the port number on which the database listens. Example: `1521`
Schema Owner Schema Password	Enter the username and password for connecting to the database's Service Table schema. This is the schema username and password entered for the Service Table component on the Schema Passwords screen in the RCU (see Specifying Schema Passwords). The default username is `prefix_STB`, where `prefix` is the custom prefix that you defined in the RCU.

For an Autonomous Transaction Processing database (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), specify the connection credentials using only the **Connection URL String** option, and enter the connect string in the following format described in Connection Credentials for an Autonomous Transaction Processing Database.

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

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

Successfully Done.
```

For more information about the schema installed when the RCU is run, see About the Service Table Schema in *Creating Schemas with the Repository Creation Utility*.

See Database Configuration Type in *Creating WebLogic Domains Using the Configuration Wizard* .

Specifying JDBC Component Schema Information

Use the JDBC Component Schema screen to verify or specify details about the database schemas.

Verify that the values populated on the JDBC Component Schema screen are correct for all schemas. If you selected **RCU Data** on the previous screen, the schema table should already be populated appropriately.

For an Autonomous Transaction Processing database (both Autonomous Transaction Processing-Dedicated (ATP-D) and Autonomous Transaction Processing Shared (ATP-S)), specify the connection credentials using only the **Connection URL String** option, and enter the connect string in the following format:

```
@TNS_alias?TNS_ADMIN=<path of the wallet files, ojdbc.properties, and
tnsnames.ora>
```

In the connect string, you must pass `TNS_alias` as the database service name found in `tnsnames.ora`, and `TNS_ADMIN` property to the location of the wallet files, `ojdbc.properties`, and `tnsnames.ora`.

Example connect string for Autonomous Transaction Processing-Dedicated (ATP-D) database:

```
@dbname_tp?TNS_ADMIN=/users/test/wallet_dbname/
```

Example connect string for Autonomous Transaction Processing Shared (ATP-S) database:

```
@dbname_tp?TNS_ADMIN=/users/test/wallet_dbname/
```

For high availability environments, see the following sections in *High Availability Guide* for additional information on configuring data sources for Oracle RAC databases:

- Configuring Active GridLink Data Sources with Oracle RAC

- Configuring Multi Data Sources

See JDBC Component Schema in *Creating WebLogic Domains Using the Configuration Wizard* for more details about this screen.

Testing the JDBC Connections

Use the JDBC Component Schema Test screen to test the data source connections.

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.

By default, the schema password for each schema component is the password you specified while creating your schemas. If you want different passwords for different schema components, manually edit them in the previous screen (JDBC Component Schema) by entering the password you want in the **Schema Password** column, against each row. After specifying the passwords, select the check box corresponding to the schemas that you changed the password in and test the connection again.

For more information about this screen, see JDBC Component Schema Test in *Creating WebLogic Domains Using the Configuration Wizard*.

Selecting Advanced Configuration

Use the Advanced Configuration screen to complete the domain configuration.

On the Advanced Configuration screen, select:

- Administration Server

  Required to properly configure the listen address of the Administration Server.

- Node Manager

  Required to configure Node Manager.

- Topology

  Required to configure the Oracle WebCenter Portal Managed Server.

Optionally, select other available options as required for your desired installation environment. The steps in this guide describe a standard installation topology, but you may choose to follow a different path. If your installation requirements extend to additional options outside the scope of this guide, you may be presented with additional screens to configure those options. For information about all Configuration Wizard screens, see Configuration Wizard Screens in *Creating WebLogic Domains Using the Configuration Wizard*.

Configuring the Administration Server Listen Address

Use the Administration Server screen to select the Listen Address and configure the Administration Server ports.

> **Note:**
>
> The default port values will vary depening on how you coinfigured your domain. The Enable SSL Listen Port is enabled by default, but the default values may change. For a list of default values, see Port Numbers by Product and Component.

1. Provide a name for the Administration Server. The name field must not be null or empty and cannot contain any special characters.

2. Select the drop-down list next to **Listen Address** and select the IP address of the host where the Administration Server will reside or use the system name or DNS name that maps to a single IP address. Do *not* use `All Local Addresses`.

3. Verify the port settings. When the domain type is set to Production, then the **Enable SSL Listen Port** option is enabled by default. Do *not* specify any server groups for the Administration Server.

> **Note:**
>
> You can change the port values as needed, but **they must be unique**. If the same port numbers are used for different ports, you will not be able to navigate to the next step in the Configuration Wizard.

For more information, see Specifying the Listen Address in *Creating WebLogic Domains Using the Configuration Wizard*.

Configuring Node Manager

Use the Node Manager screen 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 Node Manager credentials.

For more information about this screen, see Node Manager in *Creating WebLogic Domains Using the Configuration Wizard*.

For more information about Node Manager types, see About Node Manager in *Administering Node Manager for Oracle WebLogic Server*.

Configuring Managed Servers for Oracle WebCenter Portal

Use the Managed Servers screen to configure Managed Servers.

On the Managed Servers screen, new Managed Servers named `WC_Collaboration`, `WC_Portlet`, and `WC_Portal` are automatically created by default.

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These Managed Server names will be referenced throughout this document; if you choose different names be sure to replace them as needed.

To configure Managed Servers for Oracle WebCenter Portal:

1. In the Listen Address drop-down list, select the IP address of the host on which the Managed Server will reside or use the system name or DNS name that maps to a single IP address. Do not use `All Local Addresses`.

2. The following Server Groups have already been selected for each server:

   • For `WC_Portlet`, WebCenter Portal Pagelet Producer Managed Server and WebCenter Portal Portlet Producer Managed Server have been selected.

   • For `WC_Portal`, WebCenter Portal Analytics Managed Server and WebCenter Portal Managed Server have been selected.

   Server groups target Fusion Middleware applications and services to one or more servers by mapping defined application service groups to each defined server group. A given application service group may be mapped to multiple server groups if needed. Any application services that are mapped to a given server group are automatically targeted to all servers that are assigned to that group. See Application Service Groups, Server Groups, and Application Service Mappings in *Domain Template Reference*.

3. If you are installing other products, you may see more Managed Servers. If needed, click **Add** to create and name a new Managed Server. See Understanding Oracle WebCenter Portal Managed Servers for information on how the Managed Servers and Oracle WebCenter Portal component correlate.

4. Click **Next**.

Configuring multiple Managed Servers is one of the steps needed to configure the standard topology for high availability. For more information about the high availability standard topology, see Understanding the Fusion Middleware Standard HA Topology in *High Availability Guide*.

For more information about the next steps to prepare for high availability after your domain is configured, see Preparing Your Environment for High Availability.

For more information about this screen, see Managed Servers in *Creating WebLogic Domains Using the Configuration Wizard*.

Configuring a Cluster for Oracle WebCenter Portal

Use the Clusters screen to create a new cluster.

On the Clusters screen:

1. Click **Add**.

2. Specify `wcp_cluster_1` in the Cluster Name field.

3. Leave the Cluster Address field blank.

4. Repeat these steps to create two more clusters: `wcp_cluster_2` and `wcp_cluster_3`.

By default, server instances in a cluster communicate with one another using unicast. If you want to change your cluster communications to use multicast, see Considerations for Choosing Unicast or Multicast in *Administering Clusters for Oracle WebLogic Server*.

You can also create clusters using Fusion Middleware Control. In this case, you can configure cluster communication (unicast or multicast) when you create the new cluster. See Create and configure clusters in *Oracle WebLogic Server Administration Console Online Help*.

For more information about this screen, see Clusters in *Creating WebLogic Domains Using the Configuration Wizard*.

Defining Server Templates

If you are creating dynamic clusters for a high availability setup, use the Server Templates screen to define one or more server templates for the domain.

To add Server Templates:

> **Note:**
>
> The default port values will vary depening on how you coinfigured your domain. The Enable SSL Listen Port is enabled by default, but the default values may change. For a list of default values, see Port Numbers by Product and Component.

1. Click **Add** to create `new_ServerTemplate_1`. The server template name will increment automatically when an additional server template is added (`new_ServerTemplate_2`).

2. For Secure Production Mode, verify that the **Enable SSL Port** option is selected. The default SSL Listen Port does not increment automatically when a new server template is added. You can change the default to Enable Listen Port, but Oracle recommends that retain the default to enable SSL. Enabling Listen Port disables SSL Listen Port.

> **Note:**
>
> You can change the port values as needed using an integer in the range of 1 and 65535, but they must be unique. If the same port numbers are used for different ports, you will receive a port conflict error and you will not be able to start the server.

3. The Administration Port does not increment when an additional server template is added.

> **Note:**
>
> If the Listen ports are disabled, then instead of seeing a number you will see `Disabled`.

For steps to create a dynamic cluster for a high availability setup, see Using Dynamic Clusters in *High Availability Guide*.

Configuring Dynamic Servers

If you are creating dynamic clusters for a high availability setup, use the Dynamic Servers screen to configure the dynamic servers.

If you are *not* configuring a dynamic cluster, click **Next** to continue configuring the domain.

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> **Note:**
>
> When you create dynamic clusters, keep in mind that after you assign the **Machine Name Match Expression**, you do not need to create machines for your dynamic cluster.

To create a dynamic cluster for a high availability setup, see Using Dynamic Clusters in *High Availability Guide*.

Assigning Oracle WebCenter Portal Managed Servers to the Cluster

Use the Assign Servers to Clusters screen to assign managed servers to the new cluster

On the Assign Servers to Clusters screen:

1. In the Clusters pane, select the cluster to which you want to assign the servers; in this case, `wcp_cluster_1`.

2. In the Servers pane, assign `WC_Portal` to `wcp_cluster_1` by doing one of the following:

   • Click once on `WC_Portal` to select it, then click on the right arrow to move it beneath the selected cluster (`wcp_cluster_1`) in the Clusters pane.

   • Double-click on `WC_Portal` to move it beneath the selected cluster (`wcp_cluster_1`) in the clusters pane.

3. Repeat to assign `WC_Portlet` to `wcp_cluster_3`

For more information about options on this screen, see Assign Servers to Clusters in *Creating WebLogic Domains Using the Configuration Wizard*.

Configuring Coherence Clusters

Use the Coherence Clusters screen to configure the Coherence cluster.

Leave the default port number as the Coherence cluster listen port. After configuration, the Coherence cluster is automatically added to the domain.

> **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 you can assign to a Managed Server port number is `60535`, instead of `65535`.

See Table 5-2 for more information and next steps for configuring Coherence.

For Coherence licensing information, see Oracle Coherence Products in *Licensing Information*.

Creating a New Oracle WebCenter Portal Machine

Use the Machines screen to create new machines in the domain. A machine is required so that Node Manager can start and stop servers.

If you plan to create a high availability environment and know the list of machines your target topology requires, you can follow the instructions in this section to create all the machines at this time. For more about scale out steps, see Optional Scale Out Procedure in *High Availability Guide*.

To create a new Oracle WebCenter Portal machine so that Node Manager can start and stop servers:

1. Select the Machine tab (for Windows) or the UNIX Machine tab (for UNIX), then click **Add** to create a new machine.

2. In the Name field, specify a machine name, such as `wcp_machine_1`.

3. In the Node Manager Listen Address field, select the IP address of the machine in which the Managed Servers are 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.

5. Repeat these steps to add more machines, if required.

> **✎ 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.

For more information about this screen, see Machines in *Creating WebLogic Domains Using the Configuration Wizard*.

Assigning Servers to Oracle WebCenter Portal Machines

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

On the Assign Servers to Machines screen:

1. In the Machines pane, select the machine to which you want to assign the servers; in this case, `wcp_machine_1`.

2. In the Servers pane, assign `AdminServer` to `wcp_machine_1` by doing one of the following:

   • Click once on `AdminServer` to select it, then click the right arrow to move it beneath the selected machine (`wcp_machine_1`) in the Machines pane.

   • Double-click on `AdminServer` to move it beneath the selected machine (`wcp_machine_1`) in the Machines pane.

3. Repeat these steps to assign all Managed Servers to their respective machines.

For more information about this screen, see Assign Servers to Machines in *Creating WebLogic Domains Using the Configuration Wizard*.

Reviewing Your Configuration Specifications and Configuring the Domain

The Configuration Summary screen shows detailed configuration information for the domain you are about to create.

Review each item on the screen and verify that the information is correct. To make any changes, go back to a screen by clicking the **Back** button or selecting the screen in the navigation pane. Domain creation does not start until you click **Create**.

For more details about options on this screen, see Configuration Summary in *Creating WebLogic Domains Using the Configuration Wizard*.

Writing Down Your Domain Home and Administration Server URL

The End of Configuration screen shows information about the domain you just configured.

Make a note of the following items because you need them later:

*   Domain Location
*   Administration Server URL

You need the domain location to access scripts that start Node Manager and Administration Server, and you need the URL to access the Administration Server.

Click **Finish** to dismiss the Configuration Wizard.

Starting the Servers

After configuration is complete, start Node Manager, then the WebLogic Administration Server and Managed Servers.

> **✎ Note:**
>
> Depending on your existing security settings, you may need to perform additional configuration before you can start and manage a domain with secured production mode enabled. Specifically, you will need to add additional parameters when starting the Administration and Managed Servers. For more information, see Using Secured Production Mode *Administering Security for Oracle WebLogic Server*.

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

Starting Node Manager

To start the per-domain Node Manager:

1. Change to the following directory:

    *   **(UNIX)** `setenv JAVA_HOME /home/Oracle/Java/jdk17.0.12`
    *   **(Windows)** `set JAVA_HOME=C:\home\Oracle\Java\jdk17.0.12`

2. Enter the following command:

- (UNIX) Using `nohup` and `nm.out` as an example output file:

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

  where `LOG_DIR` is the location of directory in which you want to store the log files.

- (Windows) `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.
>
> See Running Node Manager as a Startup Service in *Administering Node Manager for Oracle WebLogic Server*.

Starting the Administration Server

The procedures in this section describe how to start the Administration Server using the WLST command line or a script. You can also use the Oracle Fusion Middleware Control and the Oracle WebLogic Server Remote Console. See Starting and Stopping Administration and Managed Servers and Node Manager in *Administering Oracle Fusion Middleware.*

To start the Administration Server:

> **Note:**
>
> When using secured production mode, you must provide additional parameters to start the Administration Server. See Connecting to the Administration Server using WLST in *Administering Security for Oracle WebLogic Server*.

1. **(Optional)** When using **Production Mode**, you can create a *boot.properties* file before starting the Administration Server and provide necessary permissions. This file can be created to bypass the need to provide a username 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*.

2. Go to the `DOMAIN_HOME/bin` directory.

3. Enter the following command:

- (UNIX)

  ```
  ./startWebLogic.sh
  ```

- (Windows)

  ```
  startWebLogic.cmd
  ```

If you selected **Production Mode** on the Domain Mode and JDK screen when you created the domain, and you did not create the optional *boot.propeties* file, you see a prompt for the Administrator user login credentials as provided on the Administrator Account screen.

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4. Open a browser and verify that the Administration Server is up and running. The default port values will vary depening on how you coinfigured your domain. The Enable SSL Listen Port is enabled by default, but the default values may change. For a list of default values, see Port Numbers by Product and Component.

```
https://<Host_Name>:<port>
```

5. Verify that all servers in the domain have unique port values. From the WebLogic Remote Console, you can review the **Local Administration Port Override** fields for each managed server and verify that each has a unique value. If one or more ports is using the same value, then you must change them before starting the managed servers. For more information about changing port values, see Connect to an Administration Server in the Oracle WebLogic Remote Console.

> **✎ Note:**
>
> The WebLogic Server Administration Console has been removed. For comparable functionality, you should use the WebLogic Remote Console. For more information, see Oracle WebLogic Remote Console.

Starting the Oracle WebCenter Portal Managed Servers

To start the Managed Servers:

> **✎ Note:**
>
> When using secured production mode, you must provide additional parameters to start the Managed Servers. See Starting Managed Servers using a Start Script in *Administering Security for Oracle WebLogic Server*.

1. Sign in to Oracle Enterprise Manager Fusion Middleware Control.

```
http://administration_server_host:administration_server_port/em
```

The Administration Server host and port number were in the URL on the Configuration Success screen (Writing Down Your Domain Home and Administration Server URL). The default Administration Server port number is `7001`.

The name of the domain that you are accessing is listed above the login prompt. Verify that you are logging into the domain you just configured for WebCenter Portal.

The login credentials were provided on the Administrator Account screen (Configuring the Administrator Account).

2. The managed servers you configured are listed on the landing page. The first time you log into Enterprise Manager, all servers except the **AdminServer** are in the **Shutdown** stage.

3. Select `WC_Portal`.

   a. Left-click to select a managed server.

   b. Hold down the `SHIFT` key to select more than one managed server.

4. Select **Control** from the ribbon menu above the list of managed servers. Then select **Start** from the drop-down menu.

5. After they start up successfully, each managed server is listed as Running.

Verifying the Configuration

After completing all configuration steps, you can perform additional steps to verify that your domain is properly configured.

To verify that the domain is configured properly, see Performing Additional Domain Configuration Tasks.

Setting Up an External LDAP-Based Identity Store

Oracle WebCenter Content Server and Oracle WebCenter Portal's Discussion Server rely on external LDAP-based identity stores. Therefore, if your portals need to include documents, discussions, or announcements, you must install and configure an external LDAP-based identity store.

When Oracle WebCenter Portal is installed, by default it is configured to use Oracle WebLogic Server's embedded LDAP identity store for storing user accounts and groups, and a database-based policy store and credential store for storing policy grants and credentials. Although secure, the embedded LDAP identity store is not a "production-class" store. You must replace it with an external LDAP-based identity store, such as Oracle Internet Directory, for enterprise production environments. Further, you must reassociate the policy store and the credential store with an external LDAP-based identity store or the default database. Do not use a file-based LDAP for high availability or production environments.

1. Install an external LDAP-based identity store, such as Oracle Internet Directory.

2. Configure Oracle WebCenter Portal to use the external LDAP-based identity store, rather than the default embedded LDAP.

   See Reassociating the Identity Store with an External LDAP Server in *Administering Oracle WebCenter Portal*.

   > **Note:**
   >
   > While creating a domain, if you specified any user other than weblogic as the domain administrator, you must manually grant the administrator role to that nondefault user for WebCenter Portal as described in Granting the WebCenter Portal Administrator Role in *Administering Oracle WebCenter Portal*.

3. Reassociate Oracle WebCenter Portal's policy store and credential store with an external LDAP server or database.

   > **Note:**
   >
   > Oracle strongly recommends using a database to store security policies.

   See Configuring the Policy and Credential Store in *Administering Oracle WebCenter Portal*.

If you configure an external LDAP-based identity store, then WebCenter Portal and all the back-end components configured for any Oracle WebCenter Portal tools and services must use the same external LDAP-based identity store. Table 4-2 describes whether additional

configuration is required for any back-end component if a shared external LDAP-based identity store is used.

For information about installing and configuring back-end components for Oracle WebCenter Portal tools and services, see Preparing Back-End Components for WebCenter Portal Tools and Services.

Table 4-2   Configuring Back-End Components for a Shared External LDAP-Based Identity Store

Back-End Component	Built-In Support	Additional Configuration Requirement
Content Server	Database	Configure Content Server to use the same external LDAP-based identity store as Oracle WebCenter Portal. For information, see Reassociating the Identity Store with an External LDAP Server in *Administering Oracle WebCenter Portal*.
Oracle SOA Suite (BPEL server)	Embedded LDAP store	Configure Oracle SOA Suite to use the same external LDAP-based identity store as Oracle WebCenter Portal. For information about: • Configuring LDAP authentication providers, see Configuring Authentication Providers in *Administering Security for Oracle WebLogic Server*. • Listing Oracle Internet Directory as the first authentication provider, see Listing Oracle Internet Directory as the First Authentication Provider in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*.

Oracle WebCenter Portal can use libOVD to allow multiple identity stores to be used with portals. Sites with multiple identity stores can use libOVD to aggregate their user profile information. For information, see Aggregating Multiple Identity Store LDAP Servers Using libOVD in *Administering Oracle WebCenter Portal*.

5
Next Steps After Configuring the Domain

After you configure a product domain, there are additional tasks that you may want to perform.

Performing Basic Administrative Tasks

After you configure your new domain, there are administration tasks that Oracle recommends you perform on the domain.

The following table lists common administration tasks to perform on your new domain.

Table 5-1   Basic Administration Tasks for a New Domain

Task	Description	More Information
Getting familiar with Fusion Middleware administration tools	Get familiar with various tools that you can use to manage your environment.	See Overview of Oracle Fusion Middleware Administration Tools in *Administering Oracle Fusion Middleware*.
Starting and stopping products and servers	Learn how to start and stop Oracle Fusion Middleware, including the Administration Server, Managed Servers, and components.	See Starting and Stopping Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.
Configuring Secure Sockets Layer (SSL)	Learn how to set up secure communications between Oracle Fusion Middleware components using SSL.	See Configuring SSL in Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.
Monitoring Oracle Fusion Middleware	Learn how to keep track of the status of Oracle Fusion Middleware components.	See Monitoring Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.
Understanding Backup and Recovery Procedures	Learn recommended backup and recovery procedures for Oracle Fusion Middleware.	See Introducing Backup and Recovery in *Administering Oracle Fusion Middleware*.

Performing Additional Domain Configuration Tasks

Review additional configuration tasks you will likely want to perform on a new domain.

Table 5-2   Additional Domain Configuration Tasks

Task	Description	More Information
Deploying Applications	Learn how to deploy your applications to Oracle Fusion Middleware.	See Deploying Applications in *Administering Oracle Fusion Middleware*.

Table 5-2   (Cont.) Additional Domain Configuration Tasks

Task	Description	More Information
Adding a Web Tier front-end to your domain	Oracle Web Tier hosts Web pages (static and dynamic), provides security and high performance along with built-in clustering, load balancing, and failover features. In particular, the Web Tier contains Oracle HTTP Server.	To install and configure Oracle HTTP Server in the WebLogic Server domain, see Configuring Oracle HTTP Server in a WebLogic Server Domain in *Installing and Configuring Oracle HTTP Server*. See also Installing Multiple Products in the Same Domain for important information.
Tuning and configuring Coherence for your topology	The standard installation topology includes a Coherence cluster that contains storage-enabled Managed Coherence Servers. This configuration is a good starting point for using Coherence, but depending upon your specific requirements, consider tuning and reconfiguring Coherence to improve performance in a production environment.	For more information about Coherence clusters, see Configuring and Managing Coherence Clusters in *Administering Clusters for Oracle WebLogic Server*. For information on tuning Coherence, see Performance Tuning in *Administering Oracle Coherence*. For information on storing HTTP session data in Coherence, see Using Coherence*Web with WebLogic Server in *Administering HTTP Session Management with Oracle Coherence*Web*. For more about creating and deploying Coherence applications, see Getting Started in *Developing Oracle Coherence Applications for Oracle WebLogic Server*.

Preparing Your Environment for High Availability

Scaling out for high availability requires additional steps.

Table 5-3 provides a list of tasks to perform if you want to scale out your standard installation environment for high availability.

Table 5-3   Tasks Required to Prepare Your Environment for High Availability

Task	Description	More Information
Scaling out to multiple host computers	To enable high availability, it is important to provide failover capabilities to another host computer. That way, if one computer goes down, your environment can continue to serve the consumers of your deployed applications.	See Scaling Out a Topology (Machine Scale Out) in the *High Availability Guide*.
Configuring high availability for your Web Tier components.	If you have added a Web tier front-end, then you must configure the Web Tier for high availability, as well as the WebLogic Server software.	See Configuring High Availability for Web Tier Components in *High Availability Guide*.
Setting up a front-end load balancer	A load balancer can be used to distribute requests across servers more evenly.	See Server Load Balancing in a High Availability Environment and Configuring Load Balancer Virtual Server Names and Ports in *High Availability Guide*.

Table 5-3   (Cont.) Tasks Required to Prepare Your Environment for High Availability

Task	Description	More Information
Configuring Node Manager	Node Manager enables you to start, shut down, and restart the Administration Server and Managed Server instances from a remote location. This document assumes you have configured a per-domain Node Manager. Review the Node Manager documentation, for information on advanced Node Manager configuration options and features.	See Advanced Node Manager Configuration in *Administering Node Manager for Oracle WebLogic Server*.

Using Oracle JDeveloper with Oracle WebCenter Portal

You can use Oracle JDeveloper to edit, deploy, and test Oracle WebCenter Portal assets and components.

About Oracle JDeveloper

Oracle JDeveloper is a free integrated development environment (IDE) for building Web service-oriented applications using industry standards for Java, XML, SQL, and Web Services. It supports the complete development life cycle with integrated features for modeling, coding, debugging, testing, profiling, tuning, and deploying applications. JDeveloper works in tandem with popular open-source frameworks and tools with built-in features for Struts, Ant, JUnit, XDoclets, and CVS, and includes an Extensions SDK that lets developers add capabilities to, and customize, the development environment.

For advanced requirements, developers can use JDeveloper to further develop and deploy portal assets and shared libraries (containing custom portal components).

To install Oracle JDeveloper, refer to *Installing Oracle JDeveloper*.

Special Instructions When Installing Oracle JDeveloper for Deploying Assets to WebCenter Portal

Typically, you install Oracle JDeveloper on your development machine and connect to a remote Oracle WebCenter Portal domain to deploy and test portal assets and components. You can also create, edit, and extend assets (such as skins or page templates) in JDeveloper, then deploy them to WebCenter Portal. Developers can deploy portal assets or extensions to WebCenter Portal directly from JDeveloper if they have the required permissions. Developers can use JDeveloper to build custom ADF library components for portals, such as managed beans, task flows, and data controls, and deploy them as shared library extensions to the portal server.

> **✎ Note:**
>
> Oracle JDeveloper and Oracle WebCenter Portal must not be installed in the same Oracle home directory. You must create a separate Oracle home for each product.

To deploy portal assets and components using JDeveloper, you must install the Oracle WebCenter Portal extensions for JDeveloper. This extension bundle is a JDeveloper add-in that provides the complete set of Oracle WebCenter Portal capabilities and features. For

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information about obtaining and installing Oracle JDeveloper, see the Oracle JDeveloper page on OTN at the following URL:

http://www.oracle.com/technetwork/developer-tools/jdev/overview/index.html

For information about installing the Oracle WebCenter Portal extensions, see Installing the WebCenter Portal Extensions for JDeveloper in *Developing for Oracle WebCenter Portal*.

> **Note:**
>
> Oracle strongly recommends that you set an environment variable for the user home directory (used by JDeveloper to store the runtime files) that is referenced by JDeveloper. By setting this variable, you can avoid receiving long path name errors that are known to occur in some circumstances. For detailed instructions on setting this variable on Windows, Linux, UNIX, and Mac OS X operating systems, see Setting the User Home Directory in *Installing Oracle JDeveloper*.

6

Getting Started with Oracle WebCenter Portal Components

This chapter describes how to configure your Oracle WebCenter Portal components to get them up and running and ready for use.

About Oracle WebCenter Portal Components and Managed Servers

When you install Oracle WebCenter Portal, the components that you choose to install are deployed to various default managed servers.

The following table lists the managed server and the port number on which Oracle WebCenter Portal components are deployed.

Table 6-1   Oracle WebCenter Portal Components and Managed Servers

Component	Managed Server	Port
WebCenter Portal (Portal Composer)	`WC_Portal`	`8888`

Working with WebCenter Portal

Oracle WebCenter Portal provides an out-of-the-box enterprise-ready customizable application called Portal Composer, also generally referred to as *WebCenter Portal*, with a configurable work environment that enables individuals and groups to work and collaborate more effectively.

To access WebCenter Portal:

1. Start the `WC_Portal` managed server.

2. Access WebCenter Portal using the following URL format: `http://`*`host`*`:`*`port`*`/webcenter`

    Where *`host:port`* refers to the host name and port number of the system where WebCenter Portal is installed. By default, WebCenter Portal is installed on port `8888`.

3. Sign in to the WebCenter Portal as an administrator.

> **Note:**
>
> If you have specified any user other than `weblogic` as the domain administrator while creating your Oracle WebCenter Portal domain, then you must manually grant the administrator role to that nondefault user for WebCenter Portal. See Granting the WebCenter Portal Administrator Role in *Administering Oracle WebCenter Portal*.

For information about getting started with WebCenter Portal, see Getting WebCenter Portal Up and Running in *Administering Oracle WebCenter Portal*.

Understanding Automatic Service Configuration for WebCenter Portal

WebCenter Portal supports automatic service configuration for certain tools and services.

Every time you start WebCenter Portal, it automatically tries to create connections for certain various tools and services, unless connections already exist. This section describes what services are automatically configured, how to verify that the automatic configuration succeeded, and how to deactivate automatic configuration if needed.

The following table lists the tools and services for which automatic service configuration is implemented.

Table 6-2   Connections Automatically Configured for WebCenter Portal

Component/Tool/Service	Default Connection Name
Worklists and WebCenter Portal workflows	`WebCenterPortal-Worklist`

For the listed WebCenter Portal connections to be automatically configured, the following general conditions must be met:

- WebCenter Portal and the target component must be installed in the same domain.

- The managed server of the target component must have an explicit listening address. If its listening address is empty or null or `localhost`, then it must have a system associated to it that has an explicit address. For information about listening address, see Configure Managed Servers in *Creating WebLogic Domains Using the Configuration Wizard*.

- The target component must not be deployed to a cluster.

- You must start the managed servers associated with the specified tool or service first. Then start the `WC_Portal` managed server.

If the target component has already been automatically configured on application startup, it will not be configured again regardless of the result (Fail or Success). Automatic connection configuration of a service fails if the target component does not pass the target component-specific rules. If the automatic configuration fails for a specific component, then you must manually configure the service. For information, refer to the required target component-specific section in this chapter.

Verifying Automatic Connection Configuration for Tools and Services

To verify that tools and services connections are automatically configured for WebCenter Portal when you start the managed servers:

1. Access the Oracle Enterprise Manager Fusion Middleware Control Console using the following URL format: `http://host_name.domain_name:port_number/em`

   For example: `http://myhost.mycompany.com:7001/em`

2. Enter a valid administrator user name and password for the farm, and click **Login**.

3. Navigate as follows in the Oracle Enterprise Manager Fusion Middleware Control:

From the *farm_wc_domain*, click **WebCenter** and select **WebCenter Portal** from the Server tab.

The WebCenter Portal home page displays the **WebCenter Portal** menu.

4. From the **WebCenter Portal** menu, select **Settings**, then select **Service Configuration**.

5. Select the different tools and services and verify that the tools and services that support Automatic Service Configuration are configured.

Disabling Automatic Service Configuration for WebCenter Portal

If required, you can disable the auto-configuration feature by setting the following Java property: `-Dwebcenter.spaces.disableAutoConfigure=true`

You can set this Java property in two ways:

- You can add the property to `JAVA_PROPERTIES` in *DOMAIN_HOME*`/bin/setDomainEnv.sh` (on UNIX) or *DOMAIN_HOME*`\bin\setDomainEnv.cmd` (on Windows).

- You can append it at the end of the script when starting up the `WC_Portal` managed server. For example: *DOMAIN_HOME*`/bin/startManagedWebLogic.sh WC_Portal -Dwebcenter.spaces.disableAutoConfigure=true`

Working with Oracle WebCenter Portal's Analytics Collector

Oracle WebCenter Portal's Analytics Collector supports the Analytics feature that enables users to display usage and performance metrics for portals. This topic describes how to begin working with Analytics Collector.

The Analytics feature requires the Analytics schema (`ACTIVITIES`) to be installed. By default, Analytics Collector is installed on the `WC_Portal` managed server on port 8888.

Out-of-the-box, the Analytics Collector is configured to receive events using installation defaults. However, WebCenter Portal is not configured to *send events* to the Analytics Collector. If you want to collect usage and performance metrics for WebCenter Portal, you must register the Analytics Collector and enable event collection.

To work with Oracle WebCenter Portal's Analytics Collector:

1. Start the `WC_Portal` managed server.

2. Register an Analytics Collector for your applications. See Managing Analytics in *Administering Oracle WebCenter Portal*.

7

Preparing Back-End Components for WebCenter Portal Tools and Services

Portal developers can integrate Oracle WebCenter Portal tools and services into a portal. Certain tools and services rely on back-end components; for example, the mail tool relies on a mail server like Microsoft Exchange Server.

Introduction to Tools and Services

Oracle WebCenter Portal provides a set of tools and services that expose social networking and personal productivity features. To provide for tools and service integration into portals, you must install and configure the required back-end components.

All tools and services rely on a database for their functionality. To integrate any tool or service into a portal built with WebCenter Portal, you must ensure that a supported database is available with the MDS schema.

For information about:

- Supported databases, see http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html.

- Installing a database and creating schemas, see Creating the Database Schemas.

In addition to a database, certain tools and services rely on back-end components. To enable portal developers or users to integrate such tools and services into portals, you must perform the following tasks:

- Install the back-end component.

- Configure the back-end component, if required.

- Set up a connection to the back-end component.

The following table describes Oracle WebCenter Portal tools and services and lists the back-end component, if any, required for them.

Table 7-1   Back-End Requirements for Tools and Services

Tool/Service	Description	Back-End Component Required in Addition to a Supported Database with MDS Schema	Connection Configuration
Activity Stream	Provides a streaming view of the activities of user's connections, actions taken in portals, and business activities.	None.	No separate connection required.

Table 7-1   (Cont.) Back-End Requirements for Tools and Services

Tool/Service	Description	Back-End Component Required in Addition to a Supported Database with MDS Schema	Connection Configuration
Analytics	Displays usage and performance metrics	Oracle WebCenter Portal's Analytics Collector, and a supported database containing the Activities schema.	Connection required. See Working with Oracle WebCenter Portal's Analytics Collector.
Documents	Provides content management and storage capabilities, including content upload, file, folder, wiki and blog creation and management, file check out, file versioning, and so on.	Content Server content repository.	Connection required. Connection automatically configured for WebCenter Portal if conditions are met. See Back-End Requirements for Documents.
Events	Provides portal-specific calendars that users can use to schedule meetings, appointments, or any other type of team get-together.	A supported database containing the WEBCENTER schema.	No separate connection required.
Links	Provides the ability to view, access, and associate related information; for example, you can link to a solution document from a discussion thread.	A supported database containing the WEBCENTER schema.	No separate connection required.
Lists	Enables users to create, publish, and manage lists.	A supported database containing the WEBCENTER schema.	No separate connection required.
Mail	Provides easy integration with IMAP and SMTP mail servers to enable users to perform simple mail functions such as viewing, reading, creating, and deleting messages, creating messages with attachments, and replying to or forwarding existing messages.	A mail server based on IMAP4 and SMTP.	Connection must be created manually. See Back-End Requirements for Mail.

Table 7-1   (Cont.) Back-End Requirements for Tools and Services

Tool/Service	Description	Back-End Component Required in Addition to a Supported Database with MDS Schema	Connection Configuration
Notes	Provides the ability to "jot down" and retain quick bits of personally relevant information. Note: This feature is available only in WebCenter Portal.	A supported database containing the WEBCENTER schema.	No separate connection required.
People Connections	Provides online social networking tools for creating, interacting with, and tracking the activities of one's enterprise connections.	A supported database containing the WEBCENTER schema.	No separate connection required.
RSS	Provides the ability to publish content from other WebCenter Portal tools and services and external sources as news feeds in the RSS 2.0 and Atom 1.0 formats.	None.	No separate connection required.
Search	Provides the ability to search documents and pages.	No separate back-end component required for searching Oracle WebCenter Portal objects.	Connection required for Elasticsearch server.
Tags	Provides the ability to assign one or more personally relevant keywords to a given page or document, making those items more easily discoverable in search results.	A supported database containing the WEBCENTER schema.	No separate connection required.
Workflows	Provides a personal, at-a-glance view of business processes that require attention. These can include a request for document review and other types of business process that come directly from enterprise applications.	Business Process Execution Language (BPEL) server.	SOA connection required. See Back-End Requirements for WebCenter Portal Workflows.

Back-End Requirements for Documents

Oracle WebCenter Portal supports content management and storage capabilities, including file upload, file and folder creation and management, file check out, and versioning.

To provide content integration in WebCenter Portal, you must configure at least one WebCenter Content Server connection and mark it as the *default* connection (sometimes referred to as the *active* or *primary* connection).

Oracle WebCenter Content Server Requirements

This section discusses installation, configuration, and integration for Oracle WebCenter Content Server.

Content Server - Installation

Oracle WebCenter Portal supports Oracle WebCenter Content Server 14.1.2.0.0 or later as an external content repository.

Content Server is installed as a part of Oracle WebCenter Content, which is an Oracle Fusion Middleware component.

While installing Content Server, it is recommended that you also install Oracle WebCenter Content: Inbound Refinery. Inbound Refinery is a conversion server that manages file conversions. It also provides thumbnail functionality for documents and images and storyboarding for video. You can use Inbound Refinery to convert content items stored in Content Server. If Inbound Refinery is not installed, thumbnails or renditions do not display in portals and applications.

For information about how to install Content Server and Inbound Refinery, see *Installing and Configuring Oracle WebCenter Content*.

(Optional) Use sections to add and organize related content if another section heading is needed.

> 📝 **Note:**
>
> Content Server and Inbound Refinery must be installed in the same domain. Oracle recommends that you install Content Server and Inbound Refinery in the same domain as Oracle WebCenter Portal. When they are installed in the same domain, no additional configuration is required to use an external LDAP authentication provider.

> **Note:**
>
> If WebCenter Portal and WebCenter Content are installed in separate Fusion Middleware Home, you must perform the following steps to complete Content Manager Task Flow:
>
> 1. Install the WebCenter Content Binaries to the Fusion Middleware for WebCenter Portal.
>
> 2. Apply the latest recommended patches for WebCenter Content to the Fusion Middleware Home for WebCenter Portal.

Content Server - Configuration

To use Content Server as an external content repository, you must configure it to work with Oracle WebCenter Portal. For information about the mandatory and optional tasks involved in configuring Content Server, see Managing Connections to Oracle WebCenter Content Server in *Administering Oracle WebCenter Portal*. To get an overview of the tasks required to get Content Server working for WebCenter Portal, refer to the flowchart given in Configuration Roadmap for Oracle WebCenter Content Server of *Administering Oracle WebCenter Portal*.

Content Server - Integration

To use Content Server as a content repository, you must create a repository connection.

For information about how to register content repositories and manage repository connections, see Registering the Default Oracle WebCenter Content Server Repository in *Administering Oracle WebCenter Portal*.

Back-End Requirements for Mail

To enable users to access mail within Oracle WebCenter Portal, you must install a mail server, such as Microsoft Exchange Server, that supports IMAP4 and SMTP protocols.

To install a mail server, refer to the documentation of the mail server you wish to use. The users created on the mail server must correspond with the users created in the identity store used by Oracle WebCenter Portal.

To integrate mail in WebCenter Portal, you must configure a connection to your mail server. See Managing Mail in *Administering Oracle WebCenter Portal*

Back-End Requirements for WebCenter Portal Workflows

WebCenter Portal provides several prebuilt workflows that handle portal membership notifications, portal subscription requests, and so on. WebCenter Portal workflows rely on the BPEL server, which is a component of Oracle SOA Suite.

Table 7-2 describes the tasks that you must perform to enable the WebCenter Portal workflow functionality in WebCenter Portal.

Table 7-2   Tasks for Enabling WebCenter Portal Workflows

Task	Mandatory/Optional	Documentation
1. Install Oracle SOA Suite	Mandatory	See Oracle SOA Suite - Installation.
2. Install WebCenter Portal SOA Composites	Mandatory	See Oracle WebCenter Portal SOA Composites - Installation.
3. Extend the SOA server domain	Mandatory	See Oracle SOA Server - Extending the Domain.
3. Configure WS-Security to secure Web service calls between Oracle SOA Suite and WebCenter Portal	Mandatory	See Oracle SOA and WebCenter Portal - WS-Security Configuration.
4. Register a connection with the BPEL server	Mandatory	See Oracle WebCenter Portal - Configuring the BPEL Server Connection.

> **Note:**
>
> For WebCenter Portal users to be able store and retrieve tasks from a BPEL server, it is essential that their user names exist in the identity stores used by WebCenter Portal and Oracle SOA Suite. You can achieve this by creating identical user names in both the identity stores or by using a shared LDAP-based identity store for Single Sign-On (SSO) authentication. For information about setting up an external shared LDAP-based server, see Setting Up an External LDAP-Based Identity Store.

Oracle SOA Suite - Installation

To support workflows, WebCenter Portal relies on the BPEL server, which is included with Oracle SOA Suite.

For information about installing Oracle SOA Suite, see About Oracle SOA Suite and Oracle Business Process Management Installation in *Installing and Configuring Oracle SOA Suite and Business Process Management*.

Oracle WebCenter Portal SOA Composites - Installation

To use workflows in WebCenter Portal, you must install WebCenter Portal SOA Composites in the SOA Oracle home.

To install WebCenter Portal SOA Composites:

1. During WebCenter Portal installation (see Starting the Installation Program), select an **Installation Type** of **WebCenter Portal SOA Composites**.

2. Verify that the `wcportal` folder was created in the SOA Oracle home.

Oracle SOA Server - Extending the Domain

WebCenter Portal workflows are deployed to an Oracle SOA server.

To prepare a SOA server for workflows, you must extend the domain in which Oracle SOA is installed by using the template `oracle.wc_composite_template.jar`.

Prerequisite: WebCenter Portal must be installed in the SOA Oracle home with the installation type **WebCenter Portal SOA Composites**.

To extend the SOA server domain:

1. Run `ORACLE_HOME/oracle_common/common/bin/config.sh`.

2. Select **Update an existing domain**, then select **SOA Domain**.

3. On the Templates screen, select the template in either of the following ways:

    *   Select **Update Domain Using Product Templates**, then select `Oracle Webcenter Portal Composites - 14.1.2.0.0 [wcportal]`.

    *   Or, select **Update Domain Using Custom Template**, and specify the following path in the **Template location** field: `ORACLE_HOME/wcportal/common/templates/wls/oracle.wc_composite_template.jar`

    The `oracle.wc_composite_template.jar` template automatically deploys:

    *   `WebCenterWorklistDetailApp.ear`, the ADF application that displays invitations and messages.

    *   `sca_CommunityWorkflows.jar`, the BPEL composite that manages the WebCenter Portal membership mechanism.

4. Restart the Oracle SOA server.

5. Verify that `WebCenterWorklistDetailApp.ear` and `sca_CommunityWorkflows.jar` deployed successfully. If one or both did not deploy, you can manually deploy them using Enterprise Manager:

    *   `WebCenterWorklistDetailApp.ear` is located at `ORACLE_HOME/wcportal/webcenter/applications` when WebCenter Portal is installed in the SOA Oracle home with the installation type **WebCenter Portal SOA Composites**.

    *   `sca_CommunityWorkflows.jar` is located at `ORACLE_HOME/wcportal/common/soa-composite/wcp/sca_CommunityWorkflows.jar`.

> ✎ **See Also:**
>
> *   Configuration Roadmap for WebCenter Portal Workflows in *Administering Oracle WebCenter Portal*
>
> *   Extending WebLogic Domains in *Creating WebLogic Domains Using the Configuration Wizard*

Oracle SOA and WebCenter Portal - WS-Security Configuration

WebCenter Portal Web services, deployed to Oracle WebCenter Portal, facilitate communication between WebCenter Portal and the SOA server.

To secure these Web service calls, you must set up WS-Security on the SOA server and WebCenter Portal.
To ensure a secure Web service connection between the Oracle SOA server and WebCenter Portal:

1. Check the alias in the keystore file on the Oracle SOA server.

For example, use the following command to list the content of the keystore file on the Oracle SOA server:

```
keytool -list -v -keystore bpel.jks -storepass password
```

There should be an entry with:

```
Alias name: webcenter_spaces_ws
```

2. Verify that the credential stores for both WebCenter Portal and Oracle SOA server are configured correctly.

   See Updating the Credential Store in *Administering Oracle WebCenter Portal*.

3. Check that keystores exist at both ends of the connection, for example:

   – `webcenter.jks` (copied to WebCenter Portal server end)

   – `bpel.jks` (copied to Oracle SOA server end)

   See Creating the SOA Domain Keystore in *Administering Oracle WebCenter Portal*.

4. Configure role members for the `BPMWorkflowAdmin` application role on Oracle SOA server (`soa-infra`).

   When associating the domain with an identity store that does not contain the user `weblogic`, you must assign some other valid user to the application role `BPMWorkflowAdmin`. Use WLST commands to do this from the SOA Oracle home. For example, to assign a user named `monty` that exists in LDAP:

```
cd $SOA_ORACLE_HOME/common/bin/
wlst.sh

connect('<admin username>','<admin password>',
'mysoahost.xmlns.oracle.com:7001')
revokeAppRole(appStripe="soa-infra", appRoleName="BPMWorkflowAdmin",
principalClass="oracle.security.jps.service.policystore.ApplicationRole",
principalName="SOAAdmin")
grantAppRole(appStripe="soa-infra", appRoleName="BPMWorkflowAdmin",
principalClass="weblogic.security.principal.WLSUserImpl",
principalName="monty")
```

   See Security Commands in *WLST Command Reference for Oracle WebLogic Server*.

See Configuring Web Services Security in *Administering Oracle WebCenter Portal*.

Oracle WebCenter Portal - Configuring the BPEL Server Connection

The WebCenterPortal-Worklist BPEL connection is configured to be shared by worklists and WebCenter Portal workflows. This enables users to see the assigned membership-related workflow items and notification subscriptions in their worklist component.

Configure a BPEL server connection manually. As a best practice, for WebCenter Portal workflows, you must use the same BPEL connection that has been set as the active connection for worklists.

To configure a BPEL server connection for WebCenter Portal workflows, see Configuration Roadmap for WebCenter Portal Workflows in *Administering Oracle WebCenter Portal*.

8

Uninstalling or Reinstalling Oracle WebCenter Portal

Follow the instructions in this section to uninstall or reinstall Oracle WebCenter Portal.

Oracle recommends that you always use the instructions in this section to remove the software. If you try to remove the software manually, you may encounter problems when you try to reinstall the software again at a later time. Following the procedures in this section ensures that the software is properly removed.

About Product Uninstallation

The Oracle Fusion Middleware uninstaller removes the software from the Oracle home directory.

The following table summarizes the tasks to uninstall Fusion Middleware products.

Table 8-1   Roadmap for Product Uninstallation

Task	Description	Documentation
Stop Oracle Fusion Middleware	All servers and processes in your domain should be stopped before running the uninstaller.	See Stopping Oracle Fusion Middleware.
Remove your database schemas	Run Repository Creation Utility to remove your database schemas.	See Removing Your Database Schemas.
Remove the software	Run the product uninstaller to remove Oracle Fusion Middleware Infrastructure. Note that if your Oracle home contains multiple products, you must run the uninstaller multiple times, once for each product.	See Uninstalling the Software.
Remove the Oracle home directory	The uninstaller does not remove all files and folders from the Oracle home directory. After the uninstaller is finished, you must manually remove the Oracle home to complete your product removal.	See Removing the Oracle Home Directory Manually.
Remove your domain and application data	The uninstaller does not remove data contained in your Domain home or Application home directories, even if they are located inside the Oracle home. You must remove these directories manually.	See Removing the Domain and Application Data.

Stopping Oracle Fusion Middleware

Before running the Uninstall Wizard, Oracle recommends that you stop all servers and processes associated with the Oracle home you are going to remove.

See Stopping an Oracle Fusion Middleware Environment in *Administering Oracle Fusion Middleware*.

Removing Your Database Schemas

Before you remove the Oracle home, Oracle recommends that you run the Repository Creation Utility (RCU) to remove database schemas associated with this domain.

Each domain has its own set of schemas, uniquely identified by a custom prefix. For more information about custom prefixes, see About Custom Prefixes in *Creating Schemas with the Repository Creation Utility*. This set of schemas cannot be shared with any other domain. For more information about creating schemas with the RCU, see Planning Your Schema Creation in *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 that you are removing.

For schema removal steps, see Dropping Schemas in *Creating Schemas with the Repository Creation Utility*.

Uninstalling the Software

Follow the instructions in this section to start the Uninstall Wizard and remove the software.

If you want to uninstall the product in a silent (command-line) mode, see Running the Oracle Universal Installer for Silent Uninstallation in *Installing Software with the Oracle Universal Installer*.

Starting the Uninstall Wizard

To start the Uninstall Wizard:

1. Change to the following directory:

    (UNIX) `ORACLE_HOME/oui/bin`

    (Windows) `ORACLE_HOME\oui\bin`

2. Enter the following command:

    (UNIX) `./deinstall.sh`

    (Windows) `deinstall.cmd`

Selecting the Product to Uninstall

Because multiple products exist in the Oracle home, ensure that you are uninstalling the correct product.

After you run the Uninstall Wizard, the Distribution to Uninstall screen opens. From the dropdown menu, select the product you want to remove and click **Uninstall**. The uninstallation program shows the screens listed in Navigating the Uninstall Wizard Screens.

> **Note:**
>
> You can uninstall Oracle Fusion Middleware Infrastructure after you uninstall Oracle WebCenter Portal software by running the Uninstall Wizard again. Before doing so, make sure that there are no other products using the Infrastructure; those products will no longer function once the Infrastructure is removed. You will not encounter the Distribution to Uninstall screen if no other software depends on Oracle Fusion Middleware Infrastructure. See Uninstalling Oracle Fusion Middleware Infrastructure in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

Navigating the Uninstall Wizard Screens

The Uninstall Wizard shows a series of screens to confirm the removal of the software.

If you need help on screen listed in Table 8-2, click **Help** on the screen.

Table 8-2   Uninstall Wizard Screens and Descriptions

Screen	Description
Welcome	Introduces you to the product Uninstall Wizard.
Uninstall Summary	Shows the Oracle home directory and its contents that are uninstalled. Verify that this is the correct directory.
	If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. You can use the response file later to uninstall the product in silent (command-line) mode. See Running the Oracle Universal Installer for Silent Uninstall in *Installing Software with the Oracle Universal Installer*.
	Click **Deinstall**, to begin removing the software.
Uninstall Progress	Shows the uninstallation progress.
Uninstall Complete	Appears when the uninstallation is complete. Review the information on this screen, then click **Finish** to close the Uninstall Wizard.

Removing the Oracle Home Directory Manually

After you uninstall the software, you must manually remove your Oracle home directory and any existing subdirectories that the Uninstall Wizard did not remove.

For example, if your Oracle home directory is `/home/Oracle/product/`*ORACLE_HOME* on a UNIX operating system, enter the following commands:

```
cd /home/Oracle/product
rm -rf ORACLE_HOME
```

On a Windows operating system, if your Oracle home directory is `C:\Oracle\Product\ORACLE_HOME`, use a file manager window and navigate to the `C:\Oracle\Product` directory. Right-click on the *ORACLE_HOME* folder and select **Delete**.

Removing the Program Shortcuts on Windows Operating Systems

On Windows operating systems, you must also manually remove the program shortcuts; the Deinstallation Wizard does not remove them for you.

To remove the program shortcuts on Windows:

1. Change to the following directory: `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Oracle\`*`ORACLE_HOME`*`\`*`Product`*

2. If you only have one product installed in your Oracle home, delete the *ORACLE_HOME* directory. If you have multiple products installed in your Oracle home, delete all products before you delete the *ORACLE_HOME* directory.

Removing the Domain and Application Data

After you uninstall the software, you must remove the domain and application data.

To remove the domain and application data:

1. Manually remove your Domain home directory. For example:

   On Linux operating systems, if your Domain home directory is `/home/Oracle/config/domains/wcp_domain`, enter the following command:

   `cd /home/Oracle/config/domains`

   `rm -rf wcp_domain`

   On Windows operating systems, if your Domain home directory is `C:\Oracle\Config\domains\wcp_domain`, use a file manager window and navigate to the `C:\Oracle\Config\domains` directory. Right-click on the `wcp_domain` folder and select **Delete**.

2. Manually remove your Application home directory. For example:

   On Linux operating systems, if your Application home directory is `/home/Oracle/config/applications/wcp_domain`, enter the following commands:

   `cd /home/Oracle/config/applications`

   `rm -rf wcp_domain`

   On Windows operating systems, if your Application home directory is `C:\Oracle\Config\applications\wcp_domain`, use a file manager window and navigate to the `C:\Oracle\Config\applications` directory. Right-click on the `wcp_domain` folder and select **Delete**.

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

   `<domain location="/home/Oracle/config/domains/wcp_domain"/>`

   Save and exit the file when you are finished.

Reinstalling the Software

You can reinstall your software into the same Oracle home as a previous installation only if you uninstalled the software by following the instructions in this section, 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 warns you that the Oracle home that you specified during installation already contains the same software you are trying to install.

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

  For example, suppose you chose to create your Domain home or Application home somewhere inside your existing Oracle home. This data is not removed when you uninstall a product, so if you try to reinstall into the same Oracle home, the installer does not allow it. Your options are:

  – Uninstall your software from the Oracle home (as this section describes) and then remove the Oracle home directory. After you uninstall the software and remove the Oracle home directory, you can reinstall and reuse the same Oracle home location. Any domain or application data that was in the Oracle home must be re-created.

  – Select a different Oracle home directory.

A

Updating the JDK After Installing and Configuring an Oracle Fusion Middleware Product

Consider that you have an unsupported JDK version installed on your machine. When you install and configure an Oracle Fusion Middleware product, the utilities, such as Configuration Wizard (`config.sh|exe`), OPatch, or RCU point to a default JDK. The supported JDK version for this release is jdk17.0.12 and it carries security enhancements and bug fixes. You can upgrade the existing JDK to a newer version, and can have the complete product stack point to the newer version of the JDK.

You can maintain multiple versions of JDK and switch to the required version on need basis.

About Updating the JDK Location After Installing an Oracle Fusion Middleware Product

The binaries and other metadata and utility scripts in the Oracle home and Domain home, such as RCU or Configuration Wizard, use a JDK version that was used while installing the software and continue to refer to the same version of the JDK. The JDK path is stored in a variable called JAVA_HOME which is centrally located in .globalEnv.properties file inside the `ORACLE_HOME`/oui directory.

The utility scripts such as config.sh|cmd, launch.sh, or opatch reside in the *ORACLE_HOME*, and when you invoke them, they refer to the JAVA_HOME variable located in .globalEnv.properties file. To point these scripts and utilities to the newer version of JDK, you must update the value of the JAVA_HOME variable in the .globalEnv.properties file by following the directions listed in Updating the JDK Location in an Existing Oracle Home .

To make the scripts and files in your Domain home directory point to the newer version of the JDK, you can follow one of the following approaches:

- Specify the path to the newer JDK on the Domain Mode and JDK screen while running the Configuration Wizard.

  For example, consider that you installed Oracle Fusion Middleware Infrastructure with the JDK version 8u121. So while configuring the WebLogic domain with the Configuration Assistant, you can select the path to the newer JDK on the Domain Mode and JDK screen of the Configuration Wizard. Example: `/scratch/jdk/jdk1.8.0_131`.

- Manually locate the files that have references to the JDK using `grep` (UNIX) or `findstr` (Windows) commands and update each reference. See Updating the JDK Location in an Existing Domain Home.

> ✏️ **Note:**
>
> If you install the newer version of the JDK in the same location as the existing JDK by overwriting the files, then you don't need to take any action.

Updating the JDK Location in an Existing Oracle Home

The `getProperty.sh|cmd` script displays the value of a variable, such as JAVA_HOME, from the .globalEnv.properties file. The `setProperty.sh|cmd` script is used to set the value of variables, such as OLD_JAVA_HOME or JAVA_HOME that contain the locations of old and new JDKs in the .globalEnv.properties file.

The `getProperty.sh|cmd` and `setProperty.sh|cmd` scripts are located in the following location:

(Linux) *ORACLE_HOME*`/oui/bin`

(Windows) *ORACLE_HOME*`\oui\bin`

Where, *ORACLE_HOME* is the directory that contains the products using the current version of the JDK, such as jdk17.0.12.

To update the JDK location in the .globalEnv.properties file:

1. Use the `getProperty.sh|cmd` script to display the path of the current JDK from the JAVA_HOME variable. For example:

   (Linux) *ORACLE_HOME*`/oui/bin/getProperty.sh JAVA_HOME`

   (Windows) *ORACLE_HOME*`\oui\bin\getProperty.cmd JAVA_HOME`

   `echo JAVA_HOME`

   Where JAVA_HOME is the variable in the .globalEnv.properties file that contains the location of the JDK.

2. Back up the path of the current JDK to another variable such as OLD_JAVA_HOME in the .globalEnv.properties file by entering the following commands:

   (Linux) *ORACLE_HOME*`/oui/bin/setProperty.sh -name OLD_JAVA_HOME -value` *specify_the_path_of_current_JDK*

   (Windows) *ORACLE_HOME*`\oui\bin\setProperty.cmd -name OLD_JAVA_HOME -value` *specify_the_path_of_current_JDK*

   This command creates a new variable called OLD_JAVA_HOME in the .globalEnv.properties file, with a value that you have specified.

3. Set the new location of the JDK in the JAVA_HOME variable of the .globalEnv.properties file, by entering the following commands:

   (Linux) *ORACLE_HOME*`/oui/bin/setProperty.sh -name JAVA_HOME -value` *specify_the_location_of_new_JDK*

   (Windows) *ORACLE_HOME*`\oui\bin\setProperty.cmd -name JAVA_HOME -value` *specify_the_location_of_new_JDK*

   After you run this command, the JAVA_HOME variable in the .globalEnv.properties file now contains the path to the new JDK, such as jdk17.0.12.

Updating the JDK Location in an Existing Domain Home

You must search the references to the current JDK, for example 1.8.0_191 manually, and replace those instances with the location of the new JDK.

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You can use the `grep` or `findstr` commands to search for the JDK-related references.

You'll likely be required to update the location of JDK in the following three files:

(Linux) *DOMAIN_HOME*/bin/setNMJavaHome.sh

(Windows) *DOMAIN_HOME*\bin\setNMJavaHome.cmd

(Linux) *DOMAIN_HOME*/nodemanager/nodemanager.properties

(Windows)*DOMAIN_HOME*\nodemanager\nodemanager.properties

(Linux) Start `bash` and then run *DOMAIN_HOME*/bin>source setDomainEnv.sh

(Windows)*DOMAIN_HOME*\bin\setDomainEnv.cmd