Oracle® Fusion Middleware

Installation Guide for Oracle WebCenter Portal

11*g* Release 1 (11.1.1.8.3)

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Documentation for installers and system administrators that describes how to install and configure Oracle WebCenter Portal.

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Oracle Fusion Middleware Installation Guide for Oracle WebCenter Portal, 11*g* Release 1 (11.1.1.8.3)

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Preface

The *Oracle Fusion Middleware Installation Guide for Oracle WebCenter Portal* provides information and instructions for installing, configuring, and troubleshooting Oracle WebCenter Portal in a simple, non-clustered environment.

Audience

This guide is intended for users who are installing Oracle WebCenter Portal for the first time and are comfortable running some system administration operations, such as creating users and groups, adding users to groups, and installing operating system patches on the computer where your products will be installed. Users on UNIX systems who are installing need `root` access to run some scripts.

Documentation Accessibility

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Related Documents

For more information, see the following documents in the Oracle Fusion Middleware 11*g* Release 1 (11.1.1.8.3) documentation set or on Oracle Technology Network (OTN) at http://www.oracle.com/technology/index.html.

- *Oracle Fusion Middleware Installation Planning Guide*. This book contains useful information you should read before installing any Oracle Fusion Middleware product.
- *Oracle Fusion Middleware Concepts*. This book introduces the common terms and concepts in an Oracle Fusion Middleware environment.
- *Oracle Application Server Administrator's Guide*. This book contains information for managing your Oracle Fusion Middleware environment after installation and configuration is complete.

- *Oracle Fusion Middleware Interoperability and Compatibility Guide*. This book contains 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.

Conventions

The following text conventions are used in this document:

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

1 Installation Overview

This chapter provides an overview of Oracle WebCenter Portal and outlines the tasks involved in installing and configuring the software in a simple, non-cluster topology.

This chapter includes the following topics:

1.1 Introducing Oracle WebCenter Portal

Oracle WebCenter Portal, an Oracle Fusion Middleware product, is an integrated suite of components designed for creating portals, web sites, and composite applications. Oracle WebCenter Portal combines the standards-based, declarative development of Java Server Faces (JSF), the flexibility and power of portals, and a set of integrated tools and services to boost end-user productivity.

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 or an application. These tools and services empower end users and IT to build and deploy next-generation collaborative applications and portals.

1.2 Starting Points for Oracle WebCenter Portal Installation

This guide describes WebCenter Portal installation and configuration in a simple, non-cluster topology.

Refer to *Oracle WebCenter Portal Installation and Configuration Roadmap* to find instructions about how to install, upgrade, or patch Oracle WebCenter Portal based on the starting point that best describes your current environment.

If you are installing Oracle WebCenter Portal in an environment that contains other Fusion Middleware or third-party products and you intend to configure your Oracle WebCenter Portal components to be used in conjunction with these other products, refer to *Oracle Fusion Middleware Interoperability and Compatibility Guide* to verify compatibility and interoperability.

1.3 Oracle WebCenter Portal Components

Oracle WebCenter Portal provides an out-of-the-box enterprise-ready customizable application called *WebCenter Portal*, with a configurable work environment that enables individuals and groups to work and collaborate more effectively. Also, Oracle WebCenter Portal enables application developers to develop Portal Framework applications and Portlet Producer applications using an IDE like Oracle JDeveloper. WebCenter Portal can also be used with JDeveloper to build complex portals from scratch.

By default, all Oracle WebCenter Portal components are installed onto your system. Depending on the functionality required in your portals and Portal Framework applications, you can choose the components that need to be configured in your domain. For more information, see Section 3.2.2.1, "Selecting Oracle WebCenter Portal Products for Configuration".

Oracle WebCenter Portal comprises the following components:

- **WebCenter Portal**

  WebCenter Portal (previously known as Oracle WebCenter Spaces) offers a single, integrated, web-based environment for social networking, communication, and personal productivity through a robust set of tools and services. It provides a browser-based platform for creating enterprise portals, multiple sites and communities.

- **Oracle WebCenter Portal's Services Portlets**

  Oracle WebCenter Portal's Services Portlets provides a preconfigured, out-of-the-box producer that enables application developers to expose Oracle WebCenter Portal task flows as WSRP portlets or pagelets in the following applications: Oracle Portal, Oracle WebLogic Portal, and Oracle WebCenter Interaction. These portlets are not intended to be consumed in WebCenter Portal and Portal Framework applications.

- **Oracle WebCenter Portal's Pagelet Producer**

  Oracle WebCenter Portal's Pagelet Producer provides the ability to create and manage a diverse set of web resources—applications, components, and programmable functions—and blend those resources together into existing web applications or new, developer-driven mashups. It enables you to use a wide variety of web technologies, such as AJAX, REST, and JavaScript, to build pagelets.

- **Oracle WebCenter Portal's 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.

- **Oracle WebCenter Portal's Discussion Server**

  Oracle WebCenter Portal's Discussion Server supports integration of discussion forums and announcements into WebCenter Portal and Portal Framework applications.

- **Oracle WebCenter Portal's Activity Graph Engines**

  Oracle WebCenter Portal's Activity Graph Engines provides a central repository for various statistics collected by WebCenter Portal analytics. Activity Graph Engines analyze the actions of end users to improve search relevance and provide automated recommendations.

- **Oracle WebCenter Portal's Personalization**

  Oracle WebCenter Portal's Personalization provides the ability to deliver application content to targeted users based on selected criteria.

- **Oracle WebCenter Portal's Analytics Collector**

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

1.4 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 1–1 lists the servers that may get created during Oracle WebCenter Portal domain configuration.

Table 1–1 Servers Created During Oracle WebCenter Portal Domain Configuration

WebLogic Server instance	Components/Applications Hosted	Description
`AdminServer`		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_Spaces`	WebCenter Portal	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 Pagelet Producer Services Portlets	This managed server gets created if you choose to install Oracle WebCenter Portal's Pagelet Producer, Oracle WebCenter Portal's Portlet Producers, or Oracle WebCenter Portal's Services Portlets while creating or extending your domain.
`WC_Collaboration`	Discussion Server	This managed server gets created if you choose to install Oracle WebCenter Portal's Discussion Server while creating or extending your domain.
`WC_Utilities`	Analytics Collector Activity Graph Engines Personalization server	This managed server gets created if you choose to install Oracle WebCenter Portal's Analytics Collector, Activity Graph Engines, or Personalization server, while creating or extending your domain.

Portal Framework applications and Portlet Producer applications must not be deployed to any of the default servers listed in Table 1–1. To deploy these applications, you must create the following custom managed servers:

- `WC_CustomPortal`

  This is a custom portal managed server that hosts Portal Framework applications. For deploying your Portal Framework applications, you must create this custom managed server by extending your domain with the `oracle.wc_custom_portal_template_11.1.1.jar` template.

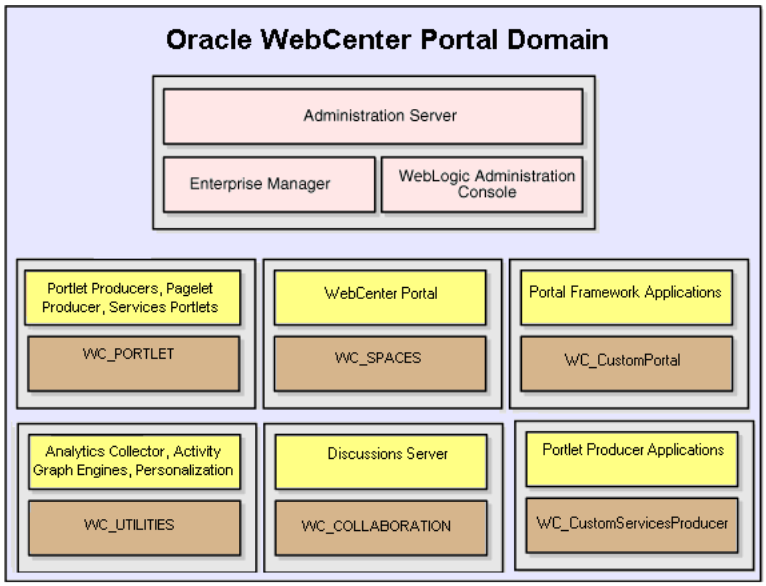
- `WC_CustomServicesProducer`

  This is a custom services producer managed server that hosts Portlet Producer applications. For deploying your Portlet Producer applications, you must create this custom managed server by extending your domain with the `oracle.wc_custom_services_producer_template_11.1.1.jar` template.

For more information, see Section 3.2.3.2, "Extending a Domain to Create Custom Managed Servers."

Figure 1–1 illustrates an Oracle WebCenter Portal domain. In the figure, the Administration Server and the applications it hosts are displayed in pink. Oracle WebCenter Portal components/applications are shown in yellow while the managed servers that host them are shown in brown.

Figure 1–1 Oracle WebCenter Portal Domain Structure



1.5 Directory Structure of an Oracle WebCenter Portal Installation

Figure 1–2 shows the directory structure of an Oracle WebCenter Portal installation on a single host.

When you install WebLogic Server, the installer creates the Middleware Home directory, and the WebLogic Server Home directory underneath. The pink boxes in Figure 1–2 represent the directories created. If you install a Node Manager, it gets installed under the WebLogic Server Home directory.

When you install Oracle WebCenter Portal, the following directories are created under the same Middleware Home directory (represented by green boxes in Figure 1–2):

- Oracle WebCenter Portal Oracle Home (`Oracle_WC1`): contains Oracle WebCenter Portal's software binaries
- Oracle Common Home (`oracle_common`): contains the binary and library files required for the Oracle Enterprise Manager Fusion Middleware Control and Java Required Files (JRF). There can be only one Oracle Common home within each Middleware home.

Both the Oracle WebCenter Portal Oracle home and Oracle Common home directories must reside inside an existing Middleware home directory.

After Oracle WebCenter Portal is installed, you use the Configuration Wizard to configure a WebLogic Server domain. Figure 1–2 shows a typical directory structure created when you configure a new domain--if you use the default values for the location of the domain home.

However, the WebCenter Portal Domain Home and Application Home directories can be created anywhere on the system. It is recommended that you create these directories outside of both the Middleware Home and Oracle WebCenter Portal Oracle Home directories so that in the event you need to patch either the Middleware Home or Oracle WebCenter Portal Oracle Home, your domain and application data would remain untouched.

Figure 1–2 Directory Structure of an Oracle WebCenter Portal Installation

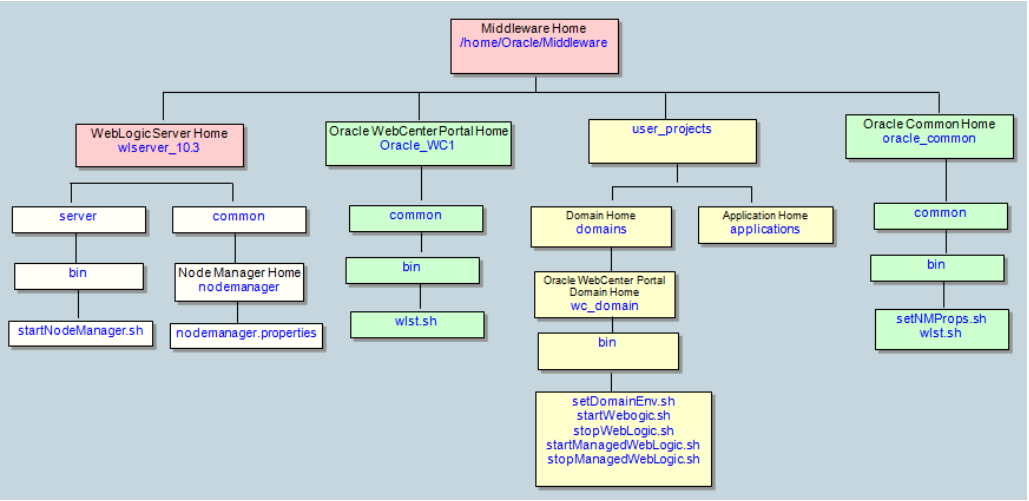


Table 1–2 provides a description of the scripts that are of particular interest for administering the WebLogic Server and the Oracle WebCenter Portal domain.

Table 1–2 Scripts for Administering WebLogic Server and the Oracle WebCenter Portal Domain

Script	Description
`startNodeManager.sh`	Starts the node manager. The Node Manager allows you to start and stop the Managed Servers remotely using the Administration Console or the command line.
`stopNodeManager.sh`	Stops the node manager.

Table 1–2 (Cont.) Scripts for Administering WebLogic Server and the Oracle WebCenter Portal Domain

Script	Description
`setDomainEnv.sh`	Sets the environment to start the WebLogic Server for the domain. By default, this script is invoked by the `startWebLogic.sh` script.
`startWebLogic.sh`	Starts the WebLogic Server for the domain.
`stopWebLogic.sh`	Stops the WebLogic Server for the domain.
`startManagedWebLogic.sh`	Starts a Managed Server for the domain.
`stopManagedWebLogic.sh`	Stops a Managed Server for the domain.
`wlst.sh`	Allows to manage Oracle Fusion Middleware components from the command line.

1.6 Oracle WebCenter Portal Installation Roadmap

Figure 1–3 shows the high-level tasks for installing and configuring Oracle WebCenter Portal. Table 1–3 describes each of these tasks, specifies whether they are mandatory or optional, and lists the documentation links you can access to get more details about each task. Click the required links in the table to navigate to the information for each task.

Figure 1–3 Installing Oracle WebCenter Portal in a Simple Topology

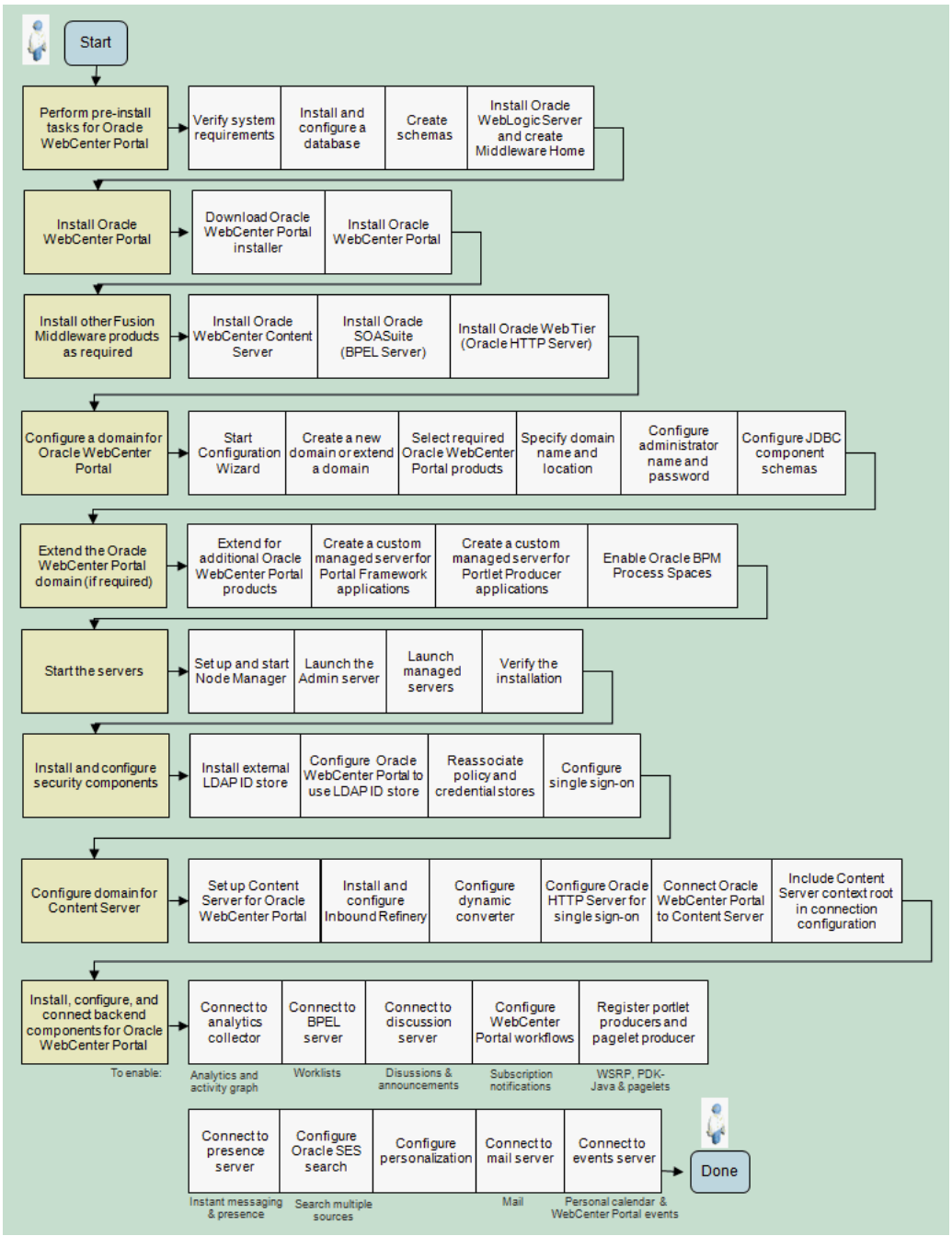


Table 1–3 Installing Oracle WebCenter Portal in a Simple Topology

Task	Description	Mandatory or Optional?	Documentation
Pre-Installation Tasks			
Verify system requirements	Ensure that your environment meets the minimum installation requirements for Oracle WebCenter Portal.	Mandatory	Refer to the following links: ■ For information about system requirements, such as hardware and software, database schema, minimum disk space and memory, and system libraries, see the Oracle Fusion Middleware System Requirements and Specifications page. ■ For certification information, see the System Requirements and Supported Platforms for Oracle Fusion Middleware 11*g*R1 link on the Oracle Fusion Middleware Supported System Configurations page. ■ For interoperability and compatibility, see *Oracle Fusion Middleware Interoperability and Compatibility Guide*.
Install and configure a database	Ensure that you have a supported database up and running. Oracle WebCenter Portal can be installed on a supported version of any of the following databases: Oracle Database, Microsoft SQL Server, and IBM DB2.	Mandatory	Refer to the following links: ■ For information about the supported versions of databases, see the System Requirements and Supported Platforms for Oracle Fusion Middleware 11*g*R1 link on the Oracle Fusion Middleware Supported System Configurations page. ■ For information about RCU requirements for supported databases, see the Oracle Fusion Middleware System Requirements and Specifications page:
Create schemas	Use the RCU to create Oracle WebCenter Portal schemas: `MDS`, `WEBCENTER`, `PORTLET`, `ACTIVITIES`, and `DISCUSSIONS`. The schemas that you need to create depend on the Oracle WebCenter Portal components you plan to install. For WebCenter Portal and each Portal Framework application, you must create a distinct `WebCenter` schema. **Note**: If you are using an IBM DB2 database, make sure you create the operating system users (one for each schema) before running the RCU.	Mandatory	Refer to the links for the following tasks: ■ Determining the schemas that you must create ■ Obtaining the RCU ■ Starting the RCU ■ Creating Schemas

Table 1–3 (Cont.) Installing Oracle WebCenter Portal in a Simple Topology

Task	Description	Mandatory or Optional?	Documentation
Install Oracle WebLogic Server	Oracle WebCenter Portal requires Oracle WebLogic Server. When you install the WebLogic server, it also creates the Middleware Home. You use this Middleware Home when you install Oracle WebCenter Portal. **Note**: If you are installing WebLogic Server on 64-bit platforms using a 64-bit JDK, then you must install the 64-bit JDK before installing WebLogic Server.	Mandatory	See the links for the following tasks: ■ Determining the Oracle WebLogic Server version required for your installation ■ Installing Oracle JRockit 64 bit JDK ■ Downloading the installer ■ Installing WebLogic Server
Installation Tasks			
Install Oracle WebCenter Portal	Download the Oracle WebCenter Portal installer. When you run the installer, it lays down the binaries for all Oracle WebCenter Portal products.	Mandatory	Install Oracle WebCenter Portal
Install other Fusion Middleware products as required	Based on your requirements, install other Fusion Middleware products like: ■ Oracle WebCenter Content Server - mandatory for Content Presenter, and recommended for documents ■ Oracle SOA Suite - mandatory for worklist and WebCenter Portal workflows ■ Oracle Web Tier (Oracle HTTP Server) - recommended for Content Server integration and for SSO (since SSO is needed to stop multiple login prompts), and is required for REST and SOA.	Optional	Refer to the links for the following tasks: ■ Install Oracle WebCenter Content Server ■ Install Oracle SOA Suite ■ Oracle Web Tier (Oracle HTTP Server)
Configure a domain for Oracle WebCenter Portal	Create a domain for Oracle WebCenter Portal and choose the components you want to install.	Mandatory	Configure Oracle WebCenter Portal
Extend an Oracle WebCenter Portal domain	While creating your Oracle WebCenter Portal domain, if you choose not to configure one or more Oracle WebCenter Portal components, you can add them later by extending your domain. If your organization plans to use Portal Framework applications and Portlet Producer applications, then you must extend the domain to create custom managed servers for deploying these applications. You can extend a domain anytime, and not necessarily immediately after configuring Oracle WebCenter Portal for the first time.	Optional	Extend a domain to: ■ Install additional WebCenter products ■ Create a custom managed server for Portal Framework applications ■ Create a custom managed server for Portlet Producer applications ■ Enable Oracle BPM Process Spaces
Post-Installation Tasks			

Table 1–3 (Cont.) Installing Oracle WebCenter Portal in a Simple Topology

Task	Description	Mandatory or Optional?	Documentation
Start the Servers	To start Oracle WebCenter Portal, you must first start the Administration Server. If a Node Manager has been configured to perform common operations for Managed Servers, start the Node Manager. To start working with any Oracle WebCenter Portal component, you must first start the managed server to which that component is deployed. You can then access the component's URL and configure the component according to your requirements.	Mandatory	Refer to the links for the following tasks: ■ Starting the Administration Server ■ Starting the Node Manager ■ Starting managed servers ■ Verifying the installation

Table 1–3 (Cont.) Installing Oracle WebCenter Portal in a Simple Topology

Task	Description	Mandatory or Optional?	Documentation
Install and configure security components	Install an external LDAP-based authentication provider, and configure Oracle WebCenter Portal to use it. By default, Oracle WebCenter Portal uses Oracle WebLogic Server's embedded LDAP identity store, which is not recommended for production environment. An external LDAP-based ID store is mandatory for Oracle WebCenter Content Server and Discussions. For integration with Oracle WebCenter Content Server, it is recommended that you configure single sign-on (SSO).	Mandatory for production environment	Refer to the following links: ■ Install an external LDAP-based ID store ■ Configure Oracle WebCenter Portal to use the external LDAP-based ID store ■ Configure the policy and credential store ■ Configure SSO
Configure the domain for Oracle WebCenter Content Server	Configure Oracle WebCenter Content Server as a content repository for Oracle WebCenter Portal. You can also choose to configure other content repositories like Oracle Portal and Microsoft SharePoint. **Note**: Oracle WebCenter Content is mandatory for Content Presenter, and recommended for documents and WebCenter Portal, the out-of-the-box application. **Note**: In this release, new installations of Oracle WebCenter Portal can be integrated with FrameworkFolders. To configure FrameworkFolders support, you need to apply various patches to your new installations of Oracle WebCenter Content 11.1.1.8.0 and Oracle WebCenter Portal 11.1.1.8.0.	Mandatory	Install the required patches if FrameworkFolders support needs to be enabled Refer to the following links for configuring a content repository: ■ Oracle WebCenter Content Server ■ Oracle Portal ■ Microsoft SharePoint
Install, configure, and connect other back-end components for Oracle WebCenter Portal tools and services	Developers and application users can integrate Oracle WebCenter Portal tools and services into Portal Framework applications and WebCenter Portal. Certain tools and services rely on back-end components, like the mail relies on a mail server like Microsoft Exchange Server. To provide for tools and service integration into portals and applications, you must install and configure the required back-end components. WebCenter Portal provides several prebuilt workflows for portal membership notifications, portal subscription requests, and so on. To enable them, you must install and configure a Business Process Execution Language (BPEL) server.	Optional	Install and configure back-end components for Oracle WebCenter Portal tools and services: ■ Connect to Analytics Collector ■ Connect to BPEL server ■ Connect to Discussions Server ■ Configure WebCenter Portal workflows ■ Register portlet producers ■ Register pagelet producer ■ Connect to presence server ■ Configure SES Search ■ Configure personalization ■ Connect to mail server ■ Connect to events server

2

Installing Oracle WebCenter Portal

This chapter provides instructions for installing Oracle WebCenter Portal.

The following topics are covered:

- Preparing to Install
- Installing Oracle WebCenter Portal
- Installing Oracle JDeveloper

2.1 Preparing to Install

Oracle WebCenter Portal requires the following software and schemas installed before the install:

- Oracle WebLogic Server
- Oracle WebCenter Portal schemas installed in the database using the Repository Creation Utility (RCU).

Before you begin, make sure you have completed pre-installation tasks listed in Table 1–3.

2.2 Installing Oracle WebCenter Portal

By default, all Oracle WebCenter Portal products (see Section 1.3, "Oracle WebCenter Portal Components" for a complete list) are installed onto your system. After the products are installed, you can run the Oracle Fusion Middleware Configuration Wizard to configure the product(s) of your choice.

This section contains the following topics:

- Section 2.2.1, "Obtaining the Software"
- Section 2.2.2, "Starting the Installer"
- Section 2.2.3, "Configuring Your Oracle Inventory (UNIX Only)"
- Section 2.2.4, "Following the Installation Screens and Instructions"

2.2.1 Obtaining the Software

Depending on your specific needs, there are multiple places where you can obtain Oracle Fusion Middleware software. For details, refer to the Oracle Fusion Middleware Download, Installation, and Configuration ReadMe Files page, where you can find the ReadMe file for your specific release.

Select one of the download locations and download "Oracle WebCenter Portal." This will be saved to your system as a `.zip` archive file.

After you download the archive file, unpack the archive file into a directory of your choice on the machine where you will be performing the installation.

2.2.2 Starting the Installer

To start the installer, go to the directory where you unpacked the archive file and switch to the `Disk1` directory.

On UNIX operating systems:

```
cd unpacked_archive_directory/Disk1
./runInstaller -jreLoc JRE_LOCATION
```

On Windows operating systems:

```
cd unpacked_archive_directory\Disk1
setup.exe -jreLoc JRE_LOCATION
```

The installer requires the full path to the location of a Java Runtime Environment (JRE) on your system, which must be specified using the `-jreLoc` parameter:

- If you installed Oracle WebLogic Server using a platform-specific `.exe` or `.bin` installer, a JRE was included with your installation in the Middleware home in the `jdk60_version` directory. You can point to this location to start the installer.
- If you installed Oracle WebLogic Server using a generic `.jar` installer, then no JRE was included with the installation. You must point to the JRE that was installed separately on your system in order to start the installer.

For information about the log files created by the installer and the contents of each file, refer to Section D.2.1, "Installation Log Files".

2.2.3 Configuring Your Oracle Inventory (UNIX Only)

If you are installing on a UNIX operating system, and if this is the first time any Oracle product is being installed on your system with the Oracle Universal Installer, you will be asked to provide the location of an inventory directory. This is where the installer will set up subdirectories and maintain inventory data for each Oracle product that is installed on this system.

Follow the instructions in Table 2–1 to configure the inventory directory information. For more details, click on the screen name in the table, or click the **Help** button in the GUI.

Table 2–1 Inventory Directory and Group Screens

Screen	Description and Action Required
Specify Inventory Directory	Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory.
Inventory Location Confirmation	Run the `createCentralInventory.sh` script as `root`.

2.2.4 Following the Installation Screens and Instructions

Table 2–2 lists the screens displayed in Oracle Universal Installer. Follow the instructions in Table 2–2 to install Oracle WebCenter Portal. For details about a screen, click the screen name in the table.

If you need additional help with any of the installation screens, refer to Appendix A, "Oracle WebCenter Portal Installation Screens" or click **Help** in the GUI to access the online help.

Table 2–2 Oracle WebCenter Portal Installation Screens

Screen	Description and Action Required
Welcome	This page introduces you to the Oracle Fusion Middleware installer.
Install Software Updates	Select the method you want to use for obtaining software updates, or select **Skip Software Updates** if you do not want to get updates. If updates are found, the installer will automatically attempt to apply them at this point; make sure that the server you are using to perform the installation is connected to the Internet. Some updates will require that the installer be restarted; if this happens, the Install Software Updates screen will not be seen the next time.
Prerequisite Checks	Verify that your system meets all necessary prerequisites.
Specify Installation Location	Specify Oracle Middleware home and Oracle home locations. The Oracle Common home (`oracle_common`) directory will automatically be created inside the Middleware home; do not use `oracle_common` as the name of your Oracle home directory.
Application Server	Select the application server and specify its location.
Installation Summary	Verify the information on this screen, then click **Install** to begin the installation.
Installation Progress	This screen shows the progress of the installation. When the progress shows 100% complete, click **Next** to continue.
Installation Complete	Click **Save** to save your configuration information to a file. This information includes port numbers, installation directories, URLs, and component names which you may need to access at a later time. After saving your configuration information, click **Finish** to dismiss the installer.

2.3 Installing Oracle JDeveloper

If you want to install Oracle JDeveloper to use in conjunction with Oracle WebCenter Portal, read the information in this section.

The following topics are covered:

- About Oracle JDeveloper
- Special Instructions When Installing Oracle JDeveloper for Portal Framework Application Development

2.3.1 About Oracle JDeveloper

Oracle JDeveloper is a free integrated development environment (IDE) for building Web service-oriented applications, including Portal Framework 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.

To install Oracle JDeveloper on your development, refer to the *Oracle Fusion Middleware Installation Guide for Oracle JDeveloper*.

2.3.2 Special Instructions When Installing Oracle JDeveloper for Portal Framework Application Development

This section provides important information to consider when you are installing Oracle JDeveloper with Oracle WebCenter Portal.

Typically, you install Oracle JDeveloper on your development machine and connect to a remote Oracle WebCenter Portal domain to deploy and test your applications.

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

Note: When you install Oracle JDeveloper on a Windows operating system, be sure that you choose a directory that does not contain spaces. For example, do not use `C:\My Home` as the installation directory for Oracle JDeveloper. Pages in Portal Framework applications are not rendered if there is a space in the path to the installation directory of Oracle JDeveloper.

To build Portal Framework applications using JDeveloper, you must install the Oracle WebCenter Portal extension bundle. This extension bundle is a JDeveloper add-in that provides the complete set of Oracle WebCenter Portal capabilities and features to the JDeveloper Studio Edition. For 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 extension bundle, see the section "Installing WebCenter Portal's Extension for Oracle JDeveloper" in *Oracle WebCenter Framework Developer's Guide*.

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 *Oracle Fusion Middleware Installation Guide for Oracle JDeveloper (Oracle Fusion Applications Edition)*.

3

Configuring Oracle WebCenter Portal

This chapter describes how to configure an Oracle WebCenter Portal domain.

This chapter includes the following topics:

- Preparing to Configure Oracle WebCenter Portal
- Configuration Instructions
- Starting the Servers
- Verifying Your Configuration
- Setting Up an External LDAP-Based Identity Store

> **Note:** In order to configure the domain, you must have successfully installed Oracle WebCenter Portal using the Oracle Universal Installer (Chapter 2, "Installing Oracle WebCenter Portal").

3.1 Preparing to Configure Oracle WebCenter Portal

You use Oracle Fusion Middleware Configuration Wizard to configure Oracle WebCenter Portal. This section lists the tasks that you must ensure before you run the wizard.

This section includes the following subsections:

- Section 3.1.1, "Using Default Port Numbers for Your Servers"
- Section 3.1.2, "Using Default Settings for Managed Servers"
- Section 3.1.3, "Shutting Down Running Managed Servers"
- Section 3.1.4, "Running the Configuration Wizard with an Oracle RAC Database"

3.1.1 Using Default Port Numbers for Your Servers

By default, the servers that are created in each domain use the same set of port numbers (for example, the Administration Server uses port 7001). If you want to use custom port numbers, you can change the port number when you run the Oracle Fusion Middleware Configuration Wizard:

- The Administration Server port number can be changed on the Configure the Administration Server Screen.
- The port number for all Managed Servers in your domain can be changed on the Configure Managed Servers Screen.

However, Oracle recommends that you use the default port numbers for all servers.

For more information about port numbers, refer to the following:

- "Port Numbers" in *Oracle Application Server Administrator's Guide*.
- "Checking Port Numbers Across Multiple Oracle Homes" in *Oracle Fusion Middleware Installation Planning Guide*.

3.1.2 Using Default Settings for Managed Servers

While configuring Oracle WebCenter Portal, you can choose the components that you want to install. Oracle Fusion Middleware Configuration Wizard automatically creates Managed Servers in the domain to host the selected Oracle WebCenter Portal components. Oracle recommends that you use the default configuration settings for these Managed Servers.

For a list and description of the Managed Servers created during domain configuration, see Section 1.4, "Oracle WebCenter Portal Managed Servers".

3.1.3 Shutting Down Running Managed Servers

If you are extending an existing WebLogic Server domain (Section 3.2.3, "Extending an Existing Domain"), you must shut down any servers that are currently running, including the Administration Server, before you start the Configuration Wizard. If you do not, validation of your servers will fail due to port number conflicts from the servers that are currently running.

For more information, see "Starting and Stopping Oracle Fusion Middleware" in *Oracle Application Server Administrator's Guide*.

3.1.4 Running the Configuration Wizard with an Oracle RAC Database

If you are running the Configuration Wizard with a backend Oracle RAC database, Oracle recommends that you keep all the Oracle RAC instances configured for the service to be up and running. This will ensure that JDBC validation checks are reliable and minimize the possibility of accidental mis-configuration.

For more information, refer to *Oracle Fusion Middleware High Availability Guide*.

3.2 Configuration Instructions

You use the Oracle Fusion Middleware Configuration Wizard to configure Oracle WebCenter Portal.

If this is a new installation, you may want to create a new domain for Oracle WebCenter Portal. Alternatively, you can choose to extend another existing product domain to add Oracle WebCenter Portal products. For example, if you have an existing Oracle SOA domain with Content Server, you can extend this domain to include Oracle WebCenter Portal products, in which case some configuration tasks become simpler.

If you have a situation where you may want to install multiple products but you do not want to patch them at the same time, then you should keep each product in its own separate domain.

This section contains the following subsections:

- Section 3.2.1, "Starting the Oracle Fusion Middleware Configuration Wizard"
- Section 3.2.2, "Creating a New Domain"

- Section 3.2.3, "Extending an Existing Domain"

3.2.1 Starting the Oracle Fusion Middleware Configuration Wizard

By default, both a Sun JDK and Oracle JRockit SDK are installed with your Oracle WebLogic Server installation. Depending on the mode selected on the "JDK Selection" screen during your WebLogic Server installation, the JDK that is actually used to run the Configuration Wizard will vary; if Development mode was selected, the Sun JDK will be used and if Production mode was selected, the JRockit SDK will be used.

If you want to invoke the Configuration Wizard using a specific JDK (for example, you want to use the Sun JDK), do the following prior to starting the Configuration Wizard:

1. Set the `JAVA_HOME` environment variable to the location of the Sun JDK. For example, you can set it to the Sun JDK that was installed with Oracle WebLogic Server in the *`MW_HOME`*`/jdk160_`*`version`* (on UNIX operating systems) or *`MW_HOME`*`\jdk160_`*`version`* (on Windows operating systems) directory.
2. Set the `JAVA_VENDOR` environment variable to "Sun".

To start the Configuration Wizard, run the following command:

- On UNIX operating systems:

```
cd WebCenter_ORACLE_HOME/common/bin
./config.sh
```

- On Windows operating systems:

```
cd WebCenter_ORACLE_HOME\common\bin
config.cmd
```

To create a log file for your configuration session, see Section D.2.2, "Configuration Log Files".

If this is a new installation and you need to create a new WebLogic domain, follow the instructions in Section 3.2.2, "Creating a New Domain." You can also run the Configuration Wizard to extend an existing WebLogic domain, as described in Section 3.2.3, "Extending an Existing Domain".

3.2.2 Creating a New Domain

Use the information in this section to help you create and configure a new domain for your Oracle WebCenter Portal products.

Complete domain configuration instructions are located in "Creating a WebLogic Domain" in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*. This section should be used in conjunction with "Creating a WebLogic Domain" as WebCenter-specific information is highlighted.

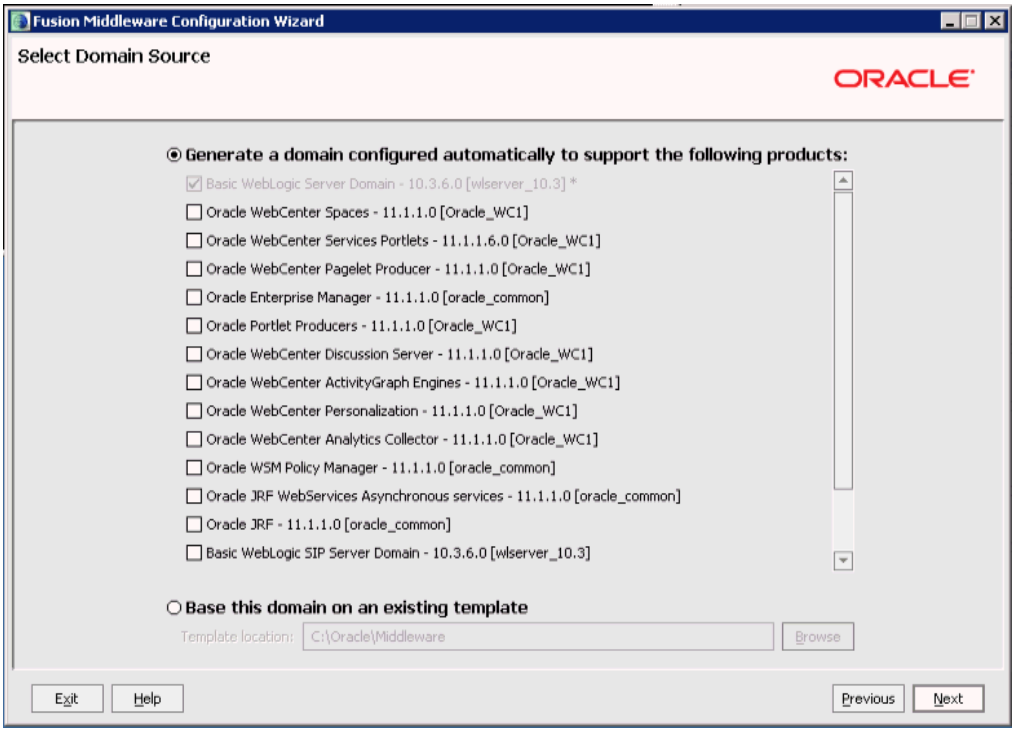
The following topics are covered in this section:

- Section 3.2.2.1, "Selecting Oracle WebCenter Portal Products for Configuration"
- Section 3.2.2.1, "Selecting Oracle WebCenter Portal Products for Configuration"
- Section 3.2.2.3, "Granting Administrator Privileges to a Non-Default User"
- Section 3.2.2.4, "Creating Machines for Your Managed Servers"

3.2.2.1 Selecting Oracle WebCenter Portal Products for Configuration

Use the Select Domain Source screen (Figure 3–1) to select the products you want to configure in your domain:

Figure 3–1 Configuration Wizard - Oracle WebCenter Portal Products



Your product templates are the ones that end with the name of your Oracle home directory (for example, "Oracle WebCenter Spaces - 11.1.1.0 [Oracle_WC1]" if "Oracle_WC1" is the name of your Oracle home). You should only select products templates that end with the name of your Oracle home directory.

The product templates ending in "oracle_common" are common templates used by all Oracle Fusion Middleware products and should not be selected manually; they are automatically selected as dependencies when needed.

Table 3–1 lists the Oracle WebCenter Portal products available for configuration, and their dependencies. Note that if you select a product that has any dependencies, the dependencies are automatically selected for you on the Select Domain Source screen.

> **Tip:** Refer to "Oracle WebCenter Portal Templates" in *Oracle Fusion Middleware Domain Template Reference* for detailed information about each product template, including dependencies.

Table 3–1 Oracle WebCenter Portal Products Available for Configuration

Product	Dependencies
WebCenter Portal (previously known as Oracle WebCenter Spaces)	Oracle Enterprise Manager Oracle WSM Policy Manager Oracle JRF

Table 3–1 (Cont.) Oracle WebCenter Portal Products Available for Configuration

Product	Dependencies
Oracle WebCenter Services Portlets	Oracle WSM Policy Manager Oracle JRF
Oracle WebCenter Pagelet Producer	Oracle WSM Policy Manager Oracle JRF
Oracle Portlet Producers	Oracle WSM Policy Manager Oracle JRF
Oracle WebCenter Discussion Server	Oracle WSM Policy Manager Oracle JRF
Oracle WebCenter ActivityGraph Engines	Oracle WebCenter Analytics Collector Oracle JRF
Oracle WebCenter Personalization	Oracle JRF
Oracle WebCenter Analytics Collector	Oracle JRF

3.2.2.2 Specifying a Domain Name

Use the Specify Domain Name and Location screen to provide a directory path and name for the domain you want to create. This is your Domain home directory (see "WebLogic Server Domain" in *Oracle Fusion Middleware Installation Planning Guide* for more information).

When creating a domain on a Windows operating system, make sure neither the directory path nor domain name contain a space character; otherwise, the domain will not be created.

3.2.2.3 Granting Administrator Privileges to a Non-Default User

Use the Configure Administrator User Name and Password screen to define the default WebLogic Administrator account for the domain.

The default domain administrator, `weblogic`, created for Oracle WebCenter Portal is also, by default, the administrator for WebCenter Portal and Oracle WebCenter Portal's Discussion Server. You can also make a non-default user the administrator. While creating a domain, if you specify any user other than the default `weblogic` user as the domain administrator, that user is granted all the domain administrative rights. However, after creating the domain, you must manually grant the administrator role to that non-default user for WebCenter Portal and Oracle WebCenter Portal's Discussion Server. For information about granting the administrator role to a non-default user for:

- WebCenter Portal, see "Granting the WebCenter Portal Administrator Role" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
- Oracle WebCenter Portal's Discussion Server, see "Granting Administrator Role on the Discussions Server" in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

3.2.2.4 Creating Machines for Your Managed Servers

If you want to be able to manage your servers using Oracle Enterprise Manager Fusion Middleware Control, you must associate the servers with a machine. In a WebLogic domain, the machine definitions identify physical units of hardware and are associated with the WebLogic Server instances that they host.

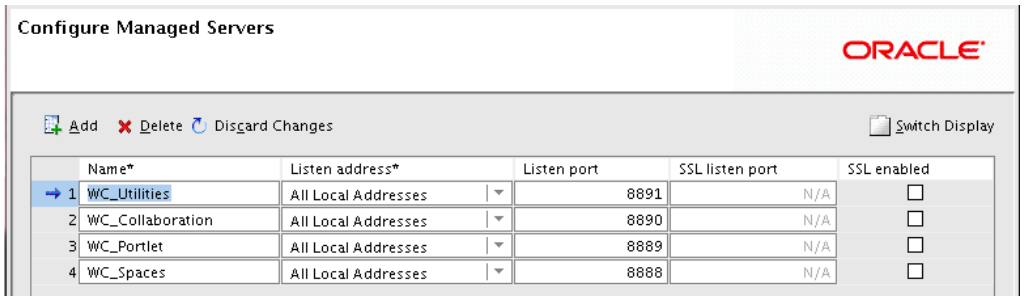
Machines can be created during the configuration process, as described below (click on the name of the screen for additional help):

- On the Select Optional Configuration screen, select **Managed Servers, Clusters and Machines**.

  This will give you some additional screens with which you can choose to create and configure your Managed Servers, clusters, and machines.

- On the Configure Managed Servers screen, create the Managed Servers you need for your domain.

  For example:

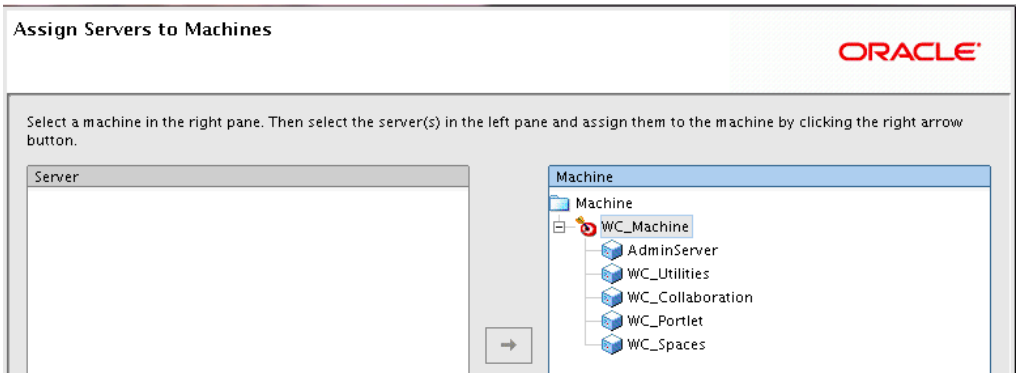


  For more information about the Oracle WebCenter Portal Managed Servers, see Section 1.4, "Oracle WebCenter Portal Managed Servers".

- On the Configure Machines screen, create a new machine.

- On the Assign Servers to Machines screen, target the servers you want to manage using Oracle Enterprise Manager Fusion Middleware Control to the new machine you just created.

  For example:



After this is done and the domain is created successfully, you can use Oracle Enterprise Manager Fusion Middleware Control to start, stop, and manage the servers associated with the machine.

For more information, see Section 3.3, "Starting the Servers".

3.2.3 Extending an Existing Domain

You can extend any Oracle Fusion Middleware product domain to add Oracle WebCenter Portal components. The Configuration Wizard will automatically detect the components that have already been installed and give you the option to add any Oracle WebCenter Portal products that do not already exist.

Note: A domain must be completely stopped before you attempt to extend it.

Before you extend a domain, be sure to refer to the *Oracle Fusion Middleware Interoperability and Compatibility Guide* 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.

This section describes the scenarios in which you may want to extend your existing domain. It includes the following subsections:

- Section 3.2.3.1, "Extending a Domain to Install Oracle WebCenter Portal Products."
- Section 3.2.3.2, "Extending a Domain to Create Custom Managed Servers."
- Section 3.2.3.3, "Extending a Domain to Enable Oracle BPM Process Spaces."

Note: Oracle WebCenter Portal relies on the `MDS` schema. Depending on the Oracle WebCenter Portal components used in WebCenter Portal and Portal Framework applications, your Oracle WebCenter Portal installation may also require the following schemas: `WEBCENTER`, `DISCUSSIONS`, `ACTIVITIES`, and `PORTLET`.

- `MDS`: WebCenter Portal and various Portal Framework applications can share the `MDS` schema. This means that multiple deployed applications can use the same `MDS` schema, each having its own partition defined in `MDS`.
- `WEBCENTER`: There must be a distinct `WEBCENTER` schema for WebCenter Portal and each Portal Framework application.
- `DISCUSSIONS`: Two Oracle WebCenter Portal applications, both using Discussions, can use a single discussions server. The discussions server is wired to a single `DISCUSSIONS` schema. The only thing that must be unique is the category ID, which is set for each application when the Discussion Forum connection is configured. For information about setting the category ID, see how to set `application.root.category.id` using `setDiscussionForumServiceProperty`, in the "WebCenter Portal Custom WLST Commands" chapter in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.
- `ACTIVITIES`: Analytics and Activity Graph can be used only by a single application within a domain, and there can only be one instance of this schema in any domain.
- `PORTLET`: Many Portlet Producer applications can be deployed to a single Custom Services Producer managed server. Portlet Producer applications can share a single `PORTLET` schema.

For information about the various schemas that your applications may require, see Table 5–1. For information about how to create schemas, refer to the "Creating Schemas" section in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

3.2.3.1 Extending a Domain to Install Oracle WebCenter Portal Products

You can extend your existing Oracle WebCenter Portal domain to install additional Oracle WebCenter Portal products listed in Table 3–1. When you run the Configuration Wizard to extend the domain, you must select **Extend my domain automatically to support the following added products** on the Select Extension Source screen, then select the product(s) you want to add to the domain.

For information about extending an existing domain, see the "Extending WebLogic Domains" chapter in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*. See also, *Oracle Fusion Middleware Interoperability and Compatibility Guide*.

Note: Before extending a domain, make sure that schemas exist in your database for the components you plan to configure. For example, if you are planning to extend the domain and configure Oracle WebCenter Portal's Discussion Server, make sure the `DISCUSSIONS` schema exists in your Oracle database before you continue.

3.2.3.2 Extending a Domain to Create Custom Managed Servers

Oracle WebCenter Portal enables developers to build Portal Framework applications and Portlet Producer applications. To enable deployment of these applications, you must extend your domain with the required domain extension templates to create custom managed servers. While extending the domain, you can also customize the JDBC connections and change the JMS file store. The Configuration Wizard uses your input to update the configuration files and all other generated components in the domain directory, as required.

For more information about Oracle WebCenter Portal custom templates, see the "Oracle WebCenter Portal Templates" section in *Oracle Fusion Middleware Domain Template Reference*.

This section includes the following subsections:

- Section 3.2.3.2.1, "Creating a Custom Managed Server for Portal Framework Applications"
- Section 3.2.3.2.2, "Creating a Custom Managed Server for Portlet Producer Applications"
- Section 3.2.3.2.3, "Creating Multiple Custom Managed Servers"

3.2.3.2.1 Creating a Custom Managed Server for Portal Framework Applications

If your application developers need to develop Portal Framework applications, you must create the Custom Portal managed server for deployment of these applications.

Note: Portal Framework applications can include various tools and services. Some of these tools and services require the `WebCenter` schema. There must be a distinct `WEBCENTER` schema for each Portal Framework application. Before you create the Custom Portal managed server, you must run the RCU again to create a second version of the `WebCenter` schema. Note that this schema is separate from the `WebCenter` schema used by WebCenter Portal, and therefore, make sure you use a different schema prefix.

For information about WebCenter Portal tools and services that require the `WebCenter` schema, see Table 5–1. For information about how to create schemas, refer to the "Creating Schemas" section in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

To create the Custom Portal managed server, extend the domain with the `oracle.wc_custom_portal_template_11.1.1.jar` template. On the Select Extension Source screen, select the **Extend my domain using an existing extension template** option, and click **Browse** to locate the template.

- On UNIX operating systems, the template is available here:

  WebCenter_ORACLE_HOME`/common/templates/applications/oracle.wc_custom_portal_template_11.1.1.jar`

- On Windows operating systems, the template is available here:

  WebCenter_ORACLE_HOME`\common\templates\applications\oracle.wc_custom_portal_template_11.1.1.jar`

For information about extending an existing domain, see the "Extending WebLogic Domains" chapter in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.

When you extend the Oracle WebCenter Portal domain with the custom portal template, it creates the Custom Portal managed server named `WC_CustomPortal` and targets all the necessary resources to it. It also adds the following JDBC data sources:

- `mds-CustomPortalDS` (for accessing the `MDS` schema)
- `WebCenter-CustomPortalDS` (for accessing the `WebCenter` schema)
- `Activities-CustomPortalDS` (for accessing the `Activities` schema)

If your Portal Framework applications use web services, or the tools and services use the security and policy manager, they require Oracle WSM Policy Manager. You must run the Configuration Wizard a second time to extend your domain with the Oracle WSM Policy Manager template if it is not already installed. This template is available on the Select Domain Source screen.

3.2.3.2.2 Creating a Custom Managed Server for Portlet Producer Applications

If your application developers need to build Portlet Producer applications, you must create a Custom Services Producer managed server for deployment of these applications.

Note: There must be a distinct `WEBCENTER` schema for each portlet producer application. Before you create the Custom Services Producer managed server, you must run the RCU again to create a version of the `WEBCENTER` schema for portlet producer applications. Note that this schema is separate from the WebCenter schema used by WebCenter Portal and the Custom Portal managed server, and therefore, make sure you use a different schema prefix.

For information about how to create schemas, refer to the "Creating Schemas" section in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

To create the managed server, extend the domain with the Custom Portal template, `oracle.wc_custom_services_producer_template_11.1.1.jar`. On the Select Extension Source screen, select the **Extend my domain using an existing extension template** option, and click **Browse** to locate the template at the following paths:

- On UNIX operating systems:

  WebCenter_ORACLE_HOME`/common/templates/applications/oracle.wc_custom_services_producer_template_11.1.1.jar`

- On Windows operating systems:

  WebCenter_ORACLE_HOME`\common\templates\applications\oracle.wc_custom_services_producer_template_11.1.1.jar`

When you extend the Oracle WebCenter Portal domain with the custom producer services template, it creates the Custom Services Producer managed server named `WC_CustomServicesProducer` and targets all the necessary resources to it. It also adds the following JDBC data sources:

- `mds-CustomServicesProducerDS` (for accessing the `MDS` schema)
- `WebCenter-CustomServicesProducerDS` (for accessing the `WebCenter` schema)
- `Activities-CustomServicesProducerDS` (for accessing the `Activities` schema)
- `Portlet-CustomServicesProducerDS` (for accessing the `Portlet` schema)

3.2.3.2.3 Creating Multiple Custom Managed Servers A template can be applied only once to a domain. If you want to create multiple custom Managed Servers, you must clone the existing custom Managed Server with the `cloneWebCenterManagedServer()` WLST command.

For more information, see "cloneWebCenterManagedServer" in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

3.2.3.3 Extending a Domain to Enable Oracle BPM Process Spaces

Oracle Business Process Management (Oracle BPM) Process Spaces is a workspace built on top of WebCenter Portal, the out-of-the-box application. Process Spaces provides portals designed specifically for modeling and executing business processes. These portals are Process Workspace and Modeling Space. Users can dynamically create a process instance space for a particular instance of Oracle BPM Process Spaces.

For more information about Process Spaces functionality, refer to the "Using Oracle Business Process Management Process Spaces" part in *Oracle Fusion Middleware User's Guide for Oracle Business Process Management*.

Process Spaces relies on Oracle WebCenter Content Server and Oracle WebCenter Portal's Discussion Server for collaboration purpose. To enable Process Spaces in WebCenter Portal, you need to extend your Oracle WebCenter Portal domain with the Oracle BPM Spaces template. You also need to run the `install.xml` ant script. The installation script can be used for a single-server configuration as well as a cluster configuration.

Note: To extend your Oracle WebCenter Portal 11.1.1.8.0 domain with Oracle BPM 11.1.1.7.0 Process Spaces, you may also need to apply a patch. For information, refer to the latest Oracle Fusion Middleware Release Notes on OTN here:

`http://www.oracle.com/technetwork/middleware/fusion-middleware/documentation/index.html`

Table 3–2 summarizes the main steps involved in enabling Process Spaces. For detailed steps, refer to the procedure described after this table.

Note: After you extend your domain using the Oracle BPM Spaces template, you cannot access WebCenter Portal until you complete installing Oracle BPM Process Spaces.

Table 3–2 Enabling Process Spaces

Task	Step	Mandatory/Optional
Preparing to enable Process Spaces	1. Ensure that the following are installed: ■ Oracle BPM ■ Content Server ■ Discussions Server	Mandatory
	2. Ensure the following components are enabled on Content Server: ■ DynamicConverter ■ Folders_g ■ WebCenterConfigure	Mandatory
	3. Ensure DynamicConverter is configured to support the required file formats	Optional
	4. Back up your Oracle WebCenter Portal domain	Optional
Extending your domain	1. Extend your Oracle WebCenter Portal domain with the Oracle BPM Spaces template	Mandatory
Enabling Process Spaces	1. Copy the `process_spaces` folder from the *`SOA_ORACLE_HOME`*`/bpm` directory to your Oracle WebCenter Portal system	Mandatory
	2. Update the `process-portal-install.properties` file with the required values for Oracle BPM and Oracle WebCenter Portal properties	Mandatory

Table 3–2 (Cont.) Enabling Process Spaces

Task	Step	Mandatory/Optional
	3. Ensure ant and Java JDK are installed, and `PATH` and `CLASSPATH` environment variables are set	Mandatory
	4. Run the `install.xml` ant script	Mandatory
	5. Restart `WC_Spaces`, and run the ant script again to add the templates	Mandatory if `wcConfigServices = true`
	6. Configure Trusted Domain Credentials in the Oracle BPM and Oracle WebCenter Portal domains, and restart both the servers	Mandatory if Oracle BPM and Oracle WebCenter Portal are in different domains
Verifying Process Spaces functionality	1. Log on to Oracle BPM to confirm it is up and running	Mandatory
	2. Bring the Process Workspace and Modeling Space portals online	Optional
	3. Add a valid Oracle BPM user to Process Workspace and Modeling Space	Optional
	4. Ensure Process Workspace and Modeling Space are working properly	Mandatory

To enable Process Spaces for WebCenter Portal:

1. Ensure that the following are installed:
   - Oracle BPM. For information, see *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite*.
   - Content Server. For information, see Section 5.3.1, "Oracle WebCenter Content Server Requirements."
   - Discussions Server. For information, see Section 3.2.3.1, "Extending a Domain to Install Oracle WebCenter Portal Products."

   Note: Oracle BPM must be installed and up and running before you attempt to extend your domain with the Oracle BPM Spaces template. If you install Process Spaces without first installing Oracle BPM, WebCenter Portal will stop working.

2. Ensure the following components are enabled in Content Server: DynamicConverter, Folders_g, and WebCenterConfigure. Also, ensure that DynamicConverter is configured to support all the file formats for which HTML rendition is required. For more information, see the "Enabling Mandatory Components" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
3. Back up your Oracle WebCenter Portal domain. For information, see the "Advanced Administration: Backup and Recovery" part in *Oracle Application Server Administrator's Guide*.

4. Extend your Oracle WebCenter Portal domain using the Oracle BPM Spaces template. The template is available at the following location:

   On UNIX: *WebCenter_ORACLE_HOME*/common/templates/applications/oracle.bpm.spaces_template_11.1.1.jar

   On Windows: *WebCenter_ORACLE_HOME*\common\templates\applications\oracle.bpm.spaces_template_11.1.1.jar

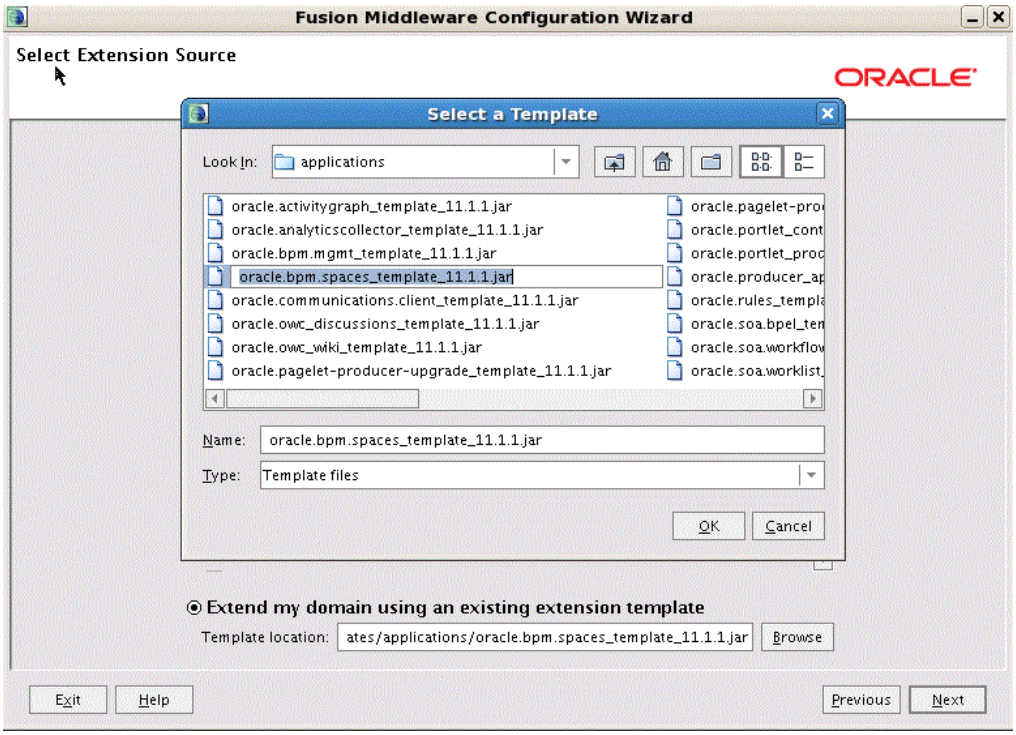
   While extending the domain, you select the Oracle BPM Spaces template in the Select Extension Source screen, as shown in Figure 3–2.

   For detailed information about how to extend a domain, see the "Extending a WebLogic Domain in Graphical Mode" section in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.

   Note: To extend your Oracle WebCenter Portal domain with Oracle BPM Process Spaces, you may need to apply a patch. For information, refer to the latest Oracle Fusion Middleware Release Notes on OTN here:

   http://www.oracle.com/technetwork/middleware/fusion-middleware/documentation/index.html

Figure 3–2 Selecting the Oracle BPM Spaces Template



5. Copy the `process_spaces` folder from the SOA Oracle home directory to any location on the system where Oracle WebCenter Portal is installed. Copy the folder from the following location:

   On UNIX: *SOA_ORACLE_HOME*/bpm/process_spaces

On Windows: *SOA_ORACLE_HOME*\bpm\process_spaces

6. Open the `process-portal-install.properties` file from the newly copied `process_spaces` folder on your Oracle WebCenter Portal system.
7. Specify the required Oracle BPM and Oracle WebCenter Portal properties as listed in Table 3–3.

> **Note:** For security purposes, you can skip specifying the passwords, and provide them later when prompted.

Table 3–3 Properties Specified in process-portal-install.properties

Property	Description
`extendSoa`	The flag to decide whether to extend the existing BPM domain or create a new one. Specify the value as `true` if Oracle WebCenter Portal and SOA are in the same domain, else `false`.
`promptForPasswords`	The flag to decide whether to prompt for passwords or read them from the `process-portal-install.properties` file while running the installer.
Domain Global Trust Details	
`wcSetDomainRealmPassword`	Flag to control whether to set the domain realm password; Set the value to **true** if `extendSoa` is `false`. **Note**: This property is for setting up Global Trust. It is recommended that you set Global Trust manually; so set this property to `false` even if `extendSoa` is `false`.
`wcDomainRealmPassword`	Password to set up trusted domains. Same password must be set on Oracle BPM domain as well. **Note**: This property is for setting up Global Trust. It is recommended that you set Global Trust manually, and not by using this property.
`wc.server.port`	Port on which `WC_Spaces` managed server is hosted
Oracle BPM Schema and MDS Details	
`bpmDBUser`	User name to connect to the database configured for Oracle BPM
`bpmDBPassword`	Password to connect to Oracle BPM's database
`bpmDBType`	Database type configured for Oracle BPM
`bpmDBDriver`	Driver used to connect to Oracle BPM's database
`bpmDBUrl`	URL of Oracle BPM's database, for example, `jdbc:oracle:thin:@host:1521:XE`
`bpmMDSUser`	User name for the MDS schema used for Oracle BPM
`bpmMDSPassword`	Password for Oracle BPM's MDS schema
Oracle BPM Runtime Details	

Table 3–3 (Cont.) Properties Specified in process-portal-install.properties

Property	Description
bpmServerURL	Oracle BPM server URL For a single BPM server: t3://<*bpmHost*>:<*bpmRuntimePort*> For example: t3://myHost:8001 For BPM cluster, specify separated list of BPM server URLs for all servers in the cluster in the following format: t3://*host1:port1,host2:port2,...* For example, t3://myHost1:8001,myHost2:8002,myHost3:8003
bpmAdminUser	Name of the user who has Administrator privileges on the Oracle BPM server
bpmAdminPassword	Password for the Oracle BPM Admin user
WebCenter Portal Installation Details	
wcOracleHome	Path to the WebCenter Portal Oracle home directory
wcDomainName	Name of the domain where Oracle WebCenter Portal is installed. If extendSoa flag is set to true, point to the BPM domain.
isWebcenterClusterConfig	Flag to specify whether Oracle WebCenter Portal installation is configured for a cluster. Set to true if it is a cluster configuration.
wcSpacesClusterName	Name of WebCenter Portal's cluster. Set this property only if isWebcenterClusterConfig is set to true.
Oracle WebCenter Portal's WebLogic Server Installation Details	
wcHost	Host name on which Oracle WebCenter Portal's Admin server is running
wcAdminPort	Port number on which Oracle WebCenter Portal's Admin server is running
wcAdminUser	Admin user for the Oracle WebCenter Portal Admin server
wcAdminPwd	Password of the Oracle WebCenter Portal Admin server
wcManagedServerName	In a single-server environment, specify the name of the managed server where WebCenter Portal is deployed. In a clustered environment, specify the name of any one of the WebCenter Portal managed servers that is part of the cluster.

Table 3–3 (Cont.) Properties Specified in process-portal-install.properties

Property	Description
wcConfigServices	Flag to configure the Content Server and Discussions Server to work with Oracle WebCenter Portal. The Content Server and Discussion Server details listed later in this table must be specified only if wcConfigServices is set to true. **Note**: It is strongly recommended that instead of using the install.xml script to configure Content Server and Discussions Server by setting wcConfigServices to true, you should set wcConfigServices to false, and manually configure Content Server and Discussions Server to work with Oracle WebCenter Portal. For information, see the "Managing Content Repositories" and "Managing Announcements and Discussions" chapters in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
Content Server Details	Set these properties if wcConfigServices is set to true.
wcContentServerName	Name of the host Content Server configured for Oracle WebCenter Portal
wcContentServerPort	Port on which Content Server is running.
wcContentSpacesRoot	Name of the WebCenter Portal root folder on Content Server
wcContentAdminUser	Name of the Admin user for Content Server
Discussions Server Details	Set these properties if wcConfigServices is set to true.
wcDiscussionServerUrl	Name of the Discussion Server configured for Oracle WebCenter Portal
wcDiscussionAdminUser	Name of the Admin user for Discussion Server

8. Make sure you have ant and Java JDK installed.

   Ant is shipped with Oracle BPM. You can find the installer under the path *MW_HOME*/modules/org.apache.ant_1.7.1.

9. Ensure that the PATH and CLASSPATH environment variables are set for both ant and Java JDK.

10. Ensure that the Content Server, Admin Server, and all the managed servers, including WC_Spaces and soa_server1, are running.

11. Run the ant script, install.xml:

```
MW_HOME/modules/org.apache.ant_1.7.1/bin/ant -f install.xml
-DpromptForPasswords=true
```

    Use the -DpromptForPasswords=true argument *only if* you did not specify passwords in the process-portal-install.properties file.

12. If wcConfigServices is set to true in process-portal-install.properties, do the following:

    a. Restart WC_Spaces. Running the install.xml script shuts down the WC_Spaces managed server, therefore you must restart the server.

    b. Run the install script again to complete the post installation steps. Use the following command:

```
ant -f install.xml post-install -DpiArgs -importGSOnly
```

Note: If `wcConfigServices` is set to `false`, you do not need to run the install script again.

13. If Oracle BPM and Oracle WebCenter Portal have been configured in different domains, configure Trusted Domain Credentials in the Oracle BPM and Oracle WebCenter Portal domains. Restart the Oracle BPM Admin Server and managed server and the Oracle WebCenter Portal Admin Server and all managed servers.

    For more information, see the "Enabling Trust Between WebLogic Server Domains" section in *Oracle Fusion Middleware Securing Oracle WebLogic Server*.

14. Log on to Oracle BPM to confirm it is up and running. For information, see the "Configuring Oracle SOA Suite and Oracle Business Process Management Suite" chapter in *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite*.

    Note: Once Process Spaces is installed, Oracle BPM must *always* be running when you use WebCenter Portal. If Oracle BPM is not accessible, you may face problems accessing WebCenter Portal.

15. Log on to WebCenter Portal as an administrator, and do the following to bring the Process Workspace and Modeling Space portals online:
    a. Click the **Administration** link to open WebCenter Portal administration pages.
    b. Under the **Portals** tab, select the **Modeling Space** row.
    c. From the **Actions** menu, select **Bring Online**.
    d. Click **OK**.
    e. Repeat this procedure to bring **Process Workspace** online.
16. Add a valid Oracle BPM user to the Process Workspace and Modeling Space portals. For information, see the "Adding Members to a Portal" section in *Oracle Fusion Middleware Building Portals with Oracle WebCenter Portal*.
17. Log on to WebCenter Portal as the valid Oracle BPM user, and ensure that Process Workspace and Modeling Space are working properly.

3.3 Starting the Servers

This section includes the following topics:

3.3.1 Starting the Node Manager

The Node manager allows starting and stopping the Managed Servers remotely. Once you start the Node Manager, you can start Managed Servers using the Administration Console, the Enterprise Manager Control Console, or the command line.

To start the Node Manager:

1. On UNIX operating systems, run the *MW_HOME*/oracle_common/common/bin/setNMProps.sh script.

   On Windows operating systems, run the *MW_HOME*\oracle_common\common\bin\setNMProps.cmd script.

   This script appends the required properties to the nodemanager.properties file. These properties can also be appended manually, or provided as command-line arguments.

   Note: The StartScriptEnabled=true property is required for Managed Servers to receive proper classpath and command arguments.

   The file containing the properties is nm.required.properties.

2. On UNIX operating systems, start Node Manager by running the *WebLogic_Home*/server/bin/startNodeManager.sh script.

   On Windows operating systems, start Node Manager by running the *WebLogic_Home*\server\bin\startNodeManager.cmd script.

While use of Node Manager is optional, it provides valuable benefits if your WebLogic Server environment hosts applications with high-availability requirements. It also allows for OPatch, which is a tool used to update or patch your existing software, to be run in an automated fashion.

For additional information, see:

- "General Node Manager Configuration" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*
- "Using Node Manager" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*

3.3.2 Starting the Administration Server

The Administration Server serves as a central location from which to monitor all resources in a domain. It maintains the domain's configuration and distributes changes in the configuration to Managed Servers. There is one Administration Server for each domain.

To get your deployments up and running, you must start the Administration Server.

1. Navigate to the *DOMAIN_HOME*/bin directory.
2. Run either of the following scripts:
   - startWebLogic.sh (on UNIX)
   - startWebLogic.cmd (on Windows)

To interact with the Administration Server, you can use Oracle WebLogic Server Administration Console, Oracle Enterprise Manager Fusion Middleware Control, or Oracle WebLogic Scripting Tool (WLST). The Oracle WebLogic Server Administration Console and Fusion Middleware Control run in the Administration Server.

You can access the Administration Server console by using the following URL format:

http://*administration_server_host*:*administration_server_port*/console

For example: http://example.com:7001/console

Supply the username and password that you specified on the Configure Administrator Username and Password Screen of the Configuration Wizard.

To access the Oracle Enterprise Manager Fusion Middleware Control Console, use the following URL format:

`http://administration_server_host:administration_server_port/em`

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

3.3.3 Starting Managed Servers From Oracle Fusion Middleware Control

If you have Node Manager and the Administration Server both up and running, you can start your Managed Servers from Oracle Enterprise Manager Fusion Middleware Control.

> **Note:** WebCenter Portal supports automatic configuration of certain WebCenter Portal tools and services. For automatic configuration to work, you must first start the managed servers associated with the services, and then start the `WC_Spaces` managed server. When starting managed servers, `WC_Spaces` must be started last.

To do this:

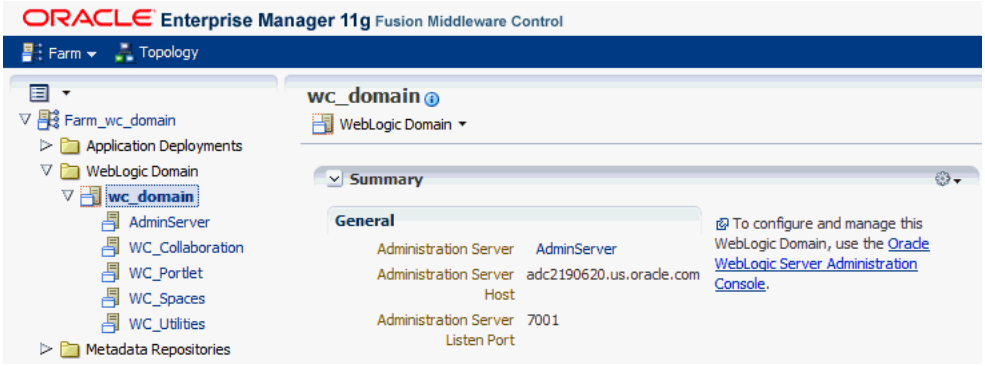
1. Log in to Enterprise Manager:

   `http://administration_server_host:administration_server_port/em`

   You will be asked to provide your Administrator credentials (the same credentials you used to log in to the Administration Console).

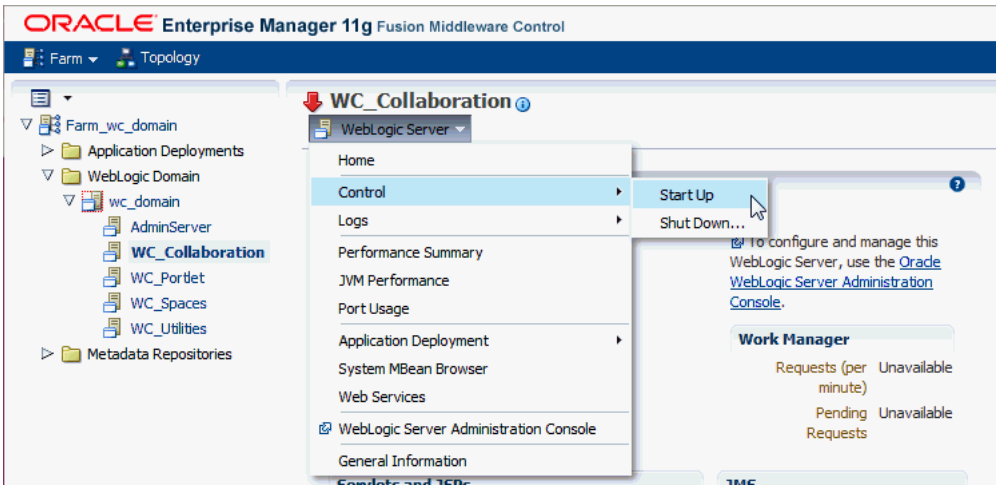
2. Answer the question in the Accessibility Preference dialog window, then click **Continue**.

3. In the navigation pane on the left side of the page, expand the WebLogic Domain node until the Administration Server and Managed Servers are visible.

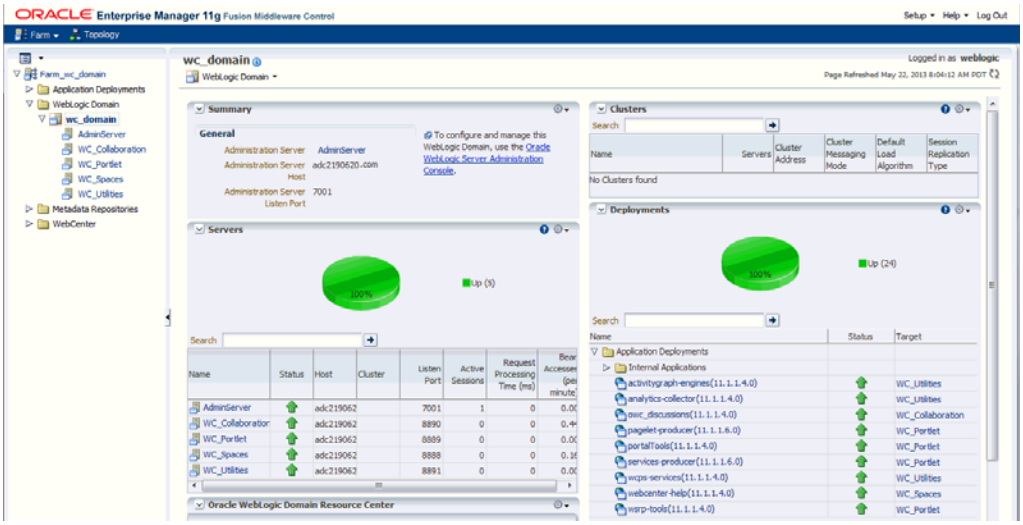


4. Select the first Managed Server in the list (`WC_Collaboration`). The main portion of the page changes to show the name of the Managed Server at the top, and a drop-down menu labeled WebLogic Server immediately beneath it.

   Form the drop-down menu, select **Control**, the select **Start Up**.



5. Repeat this step until all of the Managed Servers are up and running.
6. Select **WebLogic Domain** in the navigation pane to verify that all of the servers in the domain are up and running.



If you did not configure a machine during domain creation and want to do it now, or created a machine but did not associate your servers with that machine, follow the instructions in Section 3.3.3.1, "Creating and Associating a Machine with Oracle WebCenter Portal Managed Servers".

If you did not configure a machine or associate your servers with a machine, or do not want to use Oracle Enterprise Manager Fusion Middleware control to start your servers, you can also start your servers from the command line. To do this, follow the instructions in Section 3.3.3.2, "Starting Managed Servers with a Startup Script".

3.3.3.1 Creating and Associating a Machine with Oracle WebCenter Portal Managed Servers

You can associate Managed Servers to a machine either by using Oracle Fusion Middleware Configuration Wizard or the Administration Console.

While creating the Oracle WebCenter Portal domain you must have already created a machine and associated the same to the managed servers. In the Configuration Wizard:

- Use the Configure Machines screen to create a machine.
- Use the Assign Servers to Machines screen to associate your Managed Servers with the machine.

To create a machine and associate a managed server with it (or verify the configuration) using the Administration Console:

1. Log in to the WebLogic Administration Server Console using the following URL:

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

2. Under your Oracle WebCenter Portal domain, navigate to **Environment > Machines**.
3. Click **New**.
4. Enter a machine name (for example, `Machine-WC`).

   When creating the machine use the server name where Oracle WebCenter Portal is installed.

5. Click **Next**, and then click **Finish**.
6. Navigate to **Environment > Servers** and select the managed server with which you want to associate this machine (`Machine-WC`). Use the drop-down list to associate the managed server with the machine.

   Note: This procedure only works if the Managed Servers are shut down. If the Managed Servers are up and running, then no values will appear in the drop-down list.

7. Repeat step 6 for all the other managed servers.

   After this procedure, the Managed Server will start successfully and be accessible from the Administration Console and also Node Manager.

3.3.3.2 Starting Managed Servers with a Startup Script

After configuring your Oracle WebCenter Portal domain, you will have a start script named `startManagedWebLogic` that you can use to start Managed Servers in the domain.

- On UNIX operating systems:

  Run *`DOMAIN_HOME`*`/bin/startManagedWebLogic.sh` *`managed_server_name admin_url`*

- On Windows operating systems:

  Run *`DOMAIN_HOME`*`\bin\startManagedWebLogic.cmd` *`managed_server_name admin_url`*

Where *`managed_server_name`* specifies the name of the Managed Server that you want to start, and *`admin_url`* specifies the listen address (host name, IP address, or DNS name) and port number of the domain's Administration Server. This command also requires that you specify a server name. The servers that you may need to start are:

- `WC_Portlet` - Hosts Oracle WebCenter Portal's Portlets and Pagelet Producer

- WC_Collaboration - Hosts Oracle WebCenter Portal's Discussion Server
- WC_Utilities - Hosts Oracle WebCenter Portal's Analytics Collector, Oracle WebCenter Portal's Activity Graph Engines, and Oracle WebCenter Portal's Personalization
- WC_Spaces - Hosts WebCenter Portal

For example, use the following command to start WC_Spaces, the Managed Server for WebCenter Portal:

- On a UNIX operating system

  DOMAIN_HOME/bin/startManagedWebLogic.sh WC_Spaces http://*example.com*:7001

- On Windows operating systems

  DOMAIN_HOME\bin\startManagedWebLogic.cmd WC_Spaces http://*example.com*:7001

When you run the command, you are prompted for the WebLogic Server username and password. Supply the username and password that you specified on the Configure Administrator Username and Password Screen of the Configuration Wizard.

If you do not know the names of the managed servers that need to be started, you can view the contents of the following file:

- On UNIX operating systems

  DOMAIN_HOME/startManagedWebLogic_readme.txt

- On Windows operating systems

  DOMAIN_HOME\startManagedWebLogic_readme.txt

Or, you can access the Administration Server console at the following URL:

http://*administration_server_host*:*administration_server_port*/console

Supply the username and password that you specified on the Configure Administrator Username and Password Screen of the Configuration Wizard.

Note: When you run the command to start a managed server, wait until the output of the command shows up. Before starting WC_Spaces, wait until all other managed servers are started.

3.4 Verifying Your Configuration

You can verify that the Managed Servers for your Oracle WebCenter Portal products have started successfully by starting your browser and entering the following URLs:

- To access WebCenter Portal:

  http://*WC_Spaces_server_host*:*WC_Spaces_server_port*/webcenter

  The default port number for WebCenter Portal is 8888.

- To access Pagelet Producer:

  http://*WC_Portlet_server_host*:*WC_Portlet_server_port*/pagelets

  The default port number for Pagelet Producer is 8889.

To access the Pagelet Producer console:

`http://WC_Portlet_server_host:WC_Portlet_server_port/pagelets/admin`

- To access Oracle WebCenter Portal's Activity Graph Engines and Oracle WebCenter Personalization:

  To access Oracle WebCenter Portal's Activity Graph Engines:

  `http://WC_Utilities_server_host:WC_Utilities_server_port/activitygraph-engines/Login.jsp`

  To access Oracle WebCenter Portal's Personalization:

  `http://WC_Utilities_server_host:WC_Utilities_server_port/wcps/api/property/resourceIndex`

  The default port number for the `WC_Utilities` server is 8891.

- To access WebCenter OmniPortlet and Web Clipping portlets:

  `http://WC_Portlet_server_host:WC_Portlet_server_port/portalTools/`

  The default port number for Oracle WebCenter Portal's Portlet Producer is 8889.

- To access Oracle WebCenter Portal's Discussion Server:

  `http://WC_Collaboration_server_host:WC_Collaboration_server_port/owc_discussions`

  The default port number for Oracle WebCenter Portal's Discussion Server is 8890.

3.5 Setting Up an External LDAP-Based Identity Store

By default, WebCenter Portal and Portal Framework applications use Oracle WebLogic Server's embedded LDAP identity store for storing user accounts and groups, and an XML file-based policy store for storing policy grants. 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, the default XML file-based policy store can be used only for single-node Oracle WebCenter Portal configurations. For multi-node configurations, you must reassociate the policy store and the credential store with an external LDAP-based identity store. An external LDAP-based identity store manages identities of users across diverse servers and enables you to configure single sign-on (SSO) authentication across applications.

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.

Table 3–4 describes the tasks that you must perform to configure an external LDAP-based identity store for Oracle WebCenter Portal.

Table 3–4 Tasks for Configuring an External LDAP-Based Identity Store

Task	Description	Mandatory/Optional?
1. Install an external LDAP-based identity store	Install an external LDAP-based identity store, such as Oracle Internet Directory. For information about how to install Oracle Identity Management, see *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.	Mandatory
2. Configure Oracle WebCenter Portal to use the external LDAP-based identity store	Reassociate the identity store with an external LDAP, rather than the default embedded LDAP. For information, see the "Reassociating the Identity Store with an External LDAP Server" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*. 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 the "Granting the WebCenter Portal Administrator Role" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.	Mandatory
3. Configure the policy and credential stores	Reassociate Oracle WebCenter Portal's policy store and credential store with an external LDAP server or database. For information, see the "Configuring the Policy and Credential Store" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.	Mandatory

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 3–5 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 Chapter 5, "Preparing Back-End Components for WebCenter Portal Tools and Services."

Table 3–5 Configuring Back-End Components for a Shared External LDAP-Based Identity Store

Back-End Component	Out-Of-The-Box Support	Additional Configuration Requirement
Oracle WebCenter Portal's Discussion Server	Embedded LDAP store	No additional configuration required on Oracle WebCenter Portal's Discussion Server to use an external LDAP-based identity store.

Table 3–5 (Cont.) Configuring Back-End Components for a Shared External LDAP-Based Identity Store

Back-End Component	Out-Of-The-Box 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 the "Reassociating the Identity Store with an External LDAP Authentication Provider" section in *Oracle WebCenter Content Installation Guide*.
Oracle SES	None	Configure Oracle SES to use the same external LDAP-based identity store as Oracle WebCenter Portal. For information about configuring LDAP in Oracle SES, see the following sections depending on your Oracle SES version: ■ "Security in Oracle Secure Enterprise Search" in *Oracle Secure Enterprise Search Administrator's Guide* in the Secure Enterprise Search Online Documentation Library 11*g* Release 1 (11.1.2). ■ "Security in Oracle Secure Enterprise Search" in *Oracle Secure Enterprise Search Administrator's Guide* in the Secure Enterprise Search Online Documentation Library 11*g* Release 1 (11.1.2.2). If you have Oracle SES 11.2.2.2 installed, refer to the "Security in Oracle Secure Enterprise Search" section in *Oracle Secure Enterprise Search Administrator's Guide* in Secure Enterprise Search Online Documentation Library 11*g* Release 2 (11.2.2.2) on OTN here: `http://www.oracle.com/technetwork/search/oses/documentation/index.html`
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 the "Configuring Authentication Providers" chapter in *Oracle Fusion Middleware Securing Oracle WebLogic Server*. ■ Listing Oracle Internet Directory as the first authentication provider, see the "Listing Oracle Internet Directory as the First Authentication Provider" section in *Oracle Fusion Middleware Administrator's Guide for 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 and Portal Framework applications. Sites with multiple identity stores can use libOVD to aggregate their user profile information. For information, see the "Aggregating Multiple Identity Store LDAP Servers Using libOVD" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

4

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.

This chapter includes the following topics:

4.1 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. Table 4–1 lists the managed server and the port number on which Oracle WebCenter Portal components are deployed.

Table 4–1 Oracle WebCenter Portal Components and Managed Servers

Component	Managed Server	Port
WebCenter Portal	`WC_Spaces`	8888
Oracle WebCenter Portal's Discussion Server	`WC_Collaboration`	8890
Oracle WebCenter Portal's Portlet Producers	`WC_Portlet`	8889
Oracle WebCenter Portal's Pagelet Producer	`WC_Portlet`	8889
Oracle WebCenter Portal's Activity Graph Engines	`WC_Utilities`	8891
Oracle WebCenter Portal's Personalization	`WC_Utilities`	8891
Oracle WebCenter Portal's Analytics Collector	`WC_Utilities`	8891
Custom Portal managed server	`WC_CustomPortal`	8892

Table 4–1 (Cont.) Oracle WebCenter Portal Components and Managed Servers

Component	Managed Server	Port
Custom Services Producer managed server	WC_CustomServicesProducer	8793

4.2 Working with WebCenter Portal

Oracle WebCenter Portal provides an out-of-the-box enterprise-ready customizable application called *WebCenter Portal*, with a configurable work environment that enables individuals and groups to work and collaborate more effectively. To access WebCenter Portal, start the WC_Spaces managed server. Then, log on to WebCenter Portal as an administrator 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.

While creating your Oracle WebCenter Portal 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. For information, see the "Granting the WebCenter Portal Administrator Role" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

WebCenter Portal supports automatic service configuration for certain tools and services. Every time you start WebCenter Portal, it tries to automatically create connections for certain various tools and services, unless connections already exist. So, you do not need to manually create certain connections. Table 4–2 lists the tools and services for which automatic service configuration is implemented.

Table 4–2 Connections Automatically Configured for WebCenter Portal

Component/Tool/Service	Default Connection Name
Discussions and announcements	WebCenterSpaces-Discussions
Documents	WebCenterSpaces-ucm
Pagelet producer	WebCenterSpaces-PageletProducer
Preconfigured portlet producers	wc-OmniPortlet wc-WebClipping wc-WSRPTools
Worklists and WebCenter Portal workflows	WebCenterSpaces-Worklist

For 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 the "Configure Managed Servers" section in *Oracle Fusion Middleware Creating 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_Spaces` 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.

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). Alternatively, you can append it at the end of the script when starting up the `WC_Spaces` managed server. For example:

```
domain_home/bin/startManagedWebLogic.sh WC_Spaces
-Dwebcenter.spaces.disableAutoConfigure=true
```

For information about getting started with WebCenter Portal, see the "Getting WebCenter Portal Up and Running" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Note: You cannot directly start or stop WebCenter Portal from Oracle WebLogic Server Administrator Console. You must start or stop the `WC_Spaces` managed server on which WebCenter Portal is deployed.

4.2.1 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 Enterprise Manager Console:

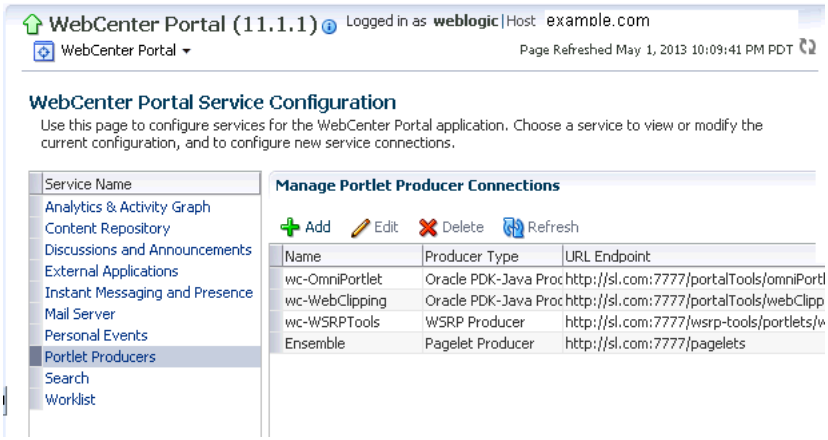
   `farm_wc_domain` > **WebCenter** > **Portal** > **Spaces** -> **WebCenter Portal**

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

4. From the **WebCenter Portal** menu, select **Settings**, and then **Service Configuration**.
5. Select the different tools and services and verify that the tools and services that support Automatic Service Configuration are configured.

   Figure 4–1 shows the portlet producer connections configured for WebCenter Portal.

Figure 4–1 Automatic Service Configuration for WebCenter Portal



4.3 Working with Oracle WebCenter Portal's Discussion Server

Oracle WebCenter Portal's Discussion Server provides the ability to integrate discussion forums and announcements into your Portal Framework applications and WebCenter Portal. It is deployed to the `WC_Collaboration` managed server. You can choose to install Oracle WebCenter Portal's Discussion Server while installing Oracle WebCenter Portal or later by extending your Oracle WebCenter Portal domain, as described in Chapter 3, "Configuring Oracle WebCenter Portal."

To access Oracle WebCenter Portal's Discussion Server:

1. Start the managed server `WC_Collaboration`.

   For information, see the "Starting and Stopping Oracle Fusion Middleware" chapter in *Oracle Application Server Administrator's Guide*.

2. Go to the following URL:

   `http://host:port/owc_discussions`

   Where, *host*:*port* refers to the host name and port number of the system where Oracle WebCenter Portal's Discussion Server is installed. By default, it is installed on port 8890.

> **Note:** You cannot directly start or stop Oracle WebCenter Portal's Discussion Server from Oracle WebLogic Server Administrator Console. If you want to start or stop the discussion server, you must start or stop the managed server, `WC_Collaboration`.

The default domain administrator created for WebCenter Portal is also the administrator for the Oracle WebCenter Portal's Discussion Server. While creating a domain, if you specify any user other than `weblogic` as the domain administrator, that user is granted all the domain administrative rights. After creating the domain, you must manually grant the administrator role to that nondefault user for the discussion server. For information, see the "Granting Administrator Role on the Discussions Server" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

To prepare Oracle WebCenter Portal's Discussion Server to work with Oracle WebCenter Portal, perform the following tasks:

1. Attach the Web service security policy configuration. For information, see the "Attaching Security Policies for WebCenter Portal and Discussions Web Service Endpoints" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
2. Enable the WS-Security trusted authentication for Oracle WebCenter Portal's Discussion Server, depending on your topology. In a simple topology, the discussions server is in the same domain as WebCenter Portal and consequently no extra keystore configuration is needed since the keystore configured for the Oracle WebCenter Portal domain is used for discussions as well. However, for production environments you must protect the discussion Web service end points with an OWSM policy and configure the discussions server connection settings.

   WS-Security establishes a trust relationship between your Portal Framework applications and Oracle WebCenter Portal's Discussions Server so that your application can pass the user identity information to the server without knowing the user's credentials. For information, see the "Discussions Server - Security Considerations" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
3. Register a connection to WebCenter Portal's discussions server.

   For information, see the "Registering Discussions Servers" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Note: For WebCenter Portal, you may not need to manually register a connection to Oracle WebCenter Portal's Discussion Server. When you start WebCenter Portal, a connection named `WebCenterSpaces-Discussions` is automatically configured and set as the default connection, unless it already exists, if the following conditions are met:

- WebCenter Portal and Oracle WebCenter Portal's Discussion Server are within the same domain.
- The `WC_Collaboration` managed server has an explicit listening address or has a system associated to it with an explicit address.
- Oracle WebCenter Portal's Discussion Server is not deployed to a cluster.
- The user granted the Administrative role exists.

For more information, refer to Section 4.2, "Working with WebCenter Portal."

4.4 Working with Oracle WebCenter Portal's Portlet Producers

Oracle WebCenter Portal's Portlet Producers provides several preconfigured portlet producers. When you install Portlet Producers, the `WC_Portlets` managed server gets created, and the following applications are deployed to the server:

- `portalTools` - Supports OmniPortlet and Web Clipping
- `wsrp-tools` - Supports WSRP Tools

To access preconfigured portlet producers, you can use the following URLs, depending on the preconfigured portlet producer you want to access:

- OmniPortlet and Web Clipping portlets

```
http://host:port/portalTools
```

- WSRP Tools

```
http://host:port/wsrp-tools/
```

Where, *host*:*port* refers to the host name and port number of the system where Portlet Producers is installed. The default port number is 8889.

To work with the preconfigured portlets available in Oracle WebCenter Portal, you must:

1. Start the `WC_Portlet` managed server.

   For information, see the "Starting and Stopping Oracle Fusion Middleware" chapter in *Oracle Application Server Administrator's Guide*.

2. Register the required preconfigured portlet producers.

   For information about portlet registration, see the "Managing Portlet Producers" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

   If you want to secure your portlet producers, refer to the "Configuring Security for Portlet Producers" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Note: For WebCenter Portal, you may not need to manually register connections to preconfigured portlet producers. When you start WebCenter Portal, a connection is automatically configured if the following conditions are met:

- WebCenter Portal and Portlet Producers are in the same domain.
- The `WC_Portlet` managed server is running.
- The `WC_Portlet` managed server has an explicit listening address or has a system associated to it with an explicit address.
- Portlet Producers is not deployed to a cluster.

For more information, refer to Section 4.2, "Working with WebCenter Portal."

After you have registered preconfigured portlet producers, application developers or WebCenter Portal users can add portlets to their portal pages.

4.5 Oracle WebCenter Portal's Pagelet Producer

Oracle WebCenter Portal's Pagelet Producer (previously called Oracle WebCenter Ensemble) provides a collection of useful tools and features that facilitate dynamic pagelet development.

Pagelet Producer is deployed to the `WC_Portlet` managed server. To access Pagelet Producer, use the following URL:

```
http://host:port/pagelets/
```

Where, *host:port* refers to the host name and port number of the system where Pagelet Producer is installed. The default context root is `pagelets`, but Pagelet Producer can be deployed to any location of your choice.

For example:

`http://myhost.com:8889/pagelets/`

To access the Pagelet Producer console, use the following URL:
`http://host:port/pagelets/admin`

All post deployment connection configuration is stored in the Oracle Metadata Services (MDS) repository. Pagelet Producer stores all configuration data on a separate partition in the MDS schema of RCU. Typically, this schema is installed as part of the Oracle WebCenter Portal installation. This configuration data does not conflict with data that belongs to other services. When you deploy the Pagelet Producer domain template, Configuration Wizard prompts for connectivity information to the database in which the schema has been created. The names that the Pagelet Producer expects are:

- Datasource Name: `mds-PageletProducerDS`
- JNDI name: `jdbc/mds/PageletProducerDS`
- MDS partition name: `pageletproducer`

To work with Pagelet Producer:

1. Start the `WC_Portlet` managed server.
2. Register the Pagelet Producer for Portal Framework applications and WebCenter Portal. For information, see the "Managing the Pagelet Producer" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

   You can also access the Pagelet Producer using the JavaScript or REST API.

Note: For WebCenter Portal, you may not need to manually register a connection. When you start WebCenter Portal, a connection named `WebCenterSpaces-PageletProducer` is automatically configured and set as the default connection, unless it already exists, if the following conditions are met:

- WebCenter Portal and Pagelet Producer are in the same domain.
- The `WC_Portlet` managed server has an explicit listening address or has a system associated to it with an explicit address.
- Pagelet Producer is not deployed to a cluster.

For more information, refer to Section 4.2, "Working with WebCenter Portal."

4.6 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 Portal Framework applications. The Analytics feature requires the Analytics schema (`ACTIVITIES`) to be installed. By default, Analytics Collector is installed on the `WC_Utilities` managed server on port 8891.

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 (or any Portal Framework application) you must register the Analytics Collector and enable event collection. If Activity Graph is installed, the `ACTIVITIES` schema cannot be shared across applications.

To work with Oracle WebCenter Portal's Analytics Collector:

1. Start the `WC_Utilities` managed server.
2. Register an Analytics Collector for your applications. For information, see the "Managing Analytics" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

4.7 Working with Oracle WebCenter Portal's Activity Graph Engines

Oracle WebCenter Portal's Activity Graph Engines enables users to analyze various statistics collected by Analytics. The output of an Activity Graph analysis is the collected scores for objects and users, which are used to give recommendations. The scores are stored in the Activity Graph database. Activity Graph Engines is installed as an application on the `WC_Utilities` managed server.

To access Activity Graph Engines, use the following URL:

`http://host:port/activitygraph-engines`

The default port number for Activity Graph is 8891.

When the Activity Graph Engines template is deployed, the Configuration Wizard prompts for connectivity information to the database in which the schema has been created. The names that the Activity Graph Engines expects are:

- Datasource Name: `ActivitiesDS`
- JNDI name: `jdbc/ActivitiesDS`

To work with Oracle WebCenter Portal's Activity Graph Engines:

1. Start the `WC_Utilities` managed server.
2. Register an Analytics Collector for WebCenter Portal and Portal Framework applications. For information, see the "Registering an Analytics Collector for Your Application" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

For more information, refer to the "Managing Activity Graph" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Note: Analytics and Activity Graph can be used only by a single application within a domain, whether it is in WebCenter Portal or a Portal Framework application. If Activity Graph is not installed, the `ACTIVITIES` schema may be shared across applications. However, if Activity Graph is installed, the `ACTIVITIES` schema cannot be shared.

4.8 Working with Oracle WebCenter Portal's Personalization

Oracle WebCenter Portal's Personalization enables you to deliver application content to targeted users based on selected criteria. It is installed as an application on the `WC_Utilities` managed server, on port 8891.

Client applications access Personalization remotely over HTTP using RESTful services. Oracle WebCenter Portal's Personalization contains the Conductor and Property Service.

To access Personalization server's Property Service, use the following URL:

`http://host:port/wcps/api/property/resourceIndex`

Where, *host:port* refers to the host name and port number of the system where Oracle WebCenter Portal's Personalization is installed.

To access Personalization server's Conductor, use the following URL:

`http://host:port/wcps/api/conductor/resourceIndex`

To work with Oracle WebCenter Portal's Personalization:

1. Start the `WC_Utilities` managed server.
2. Register a connection to Oracle WebCenter Portal's Personalization. This involves registering the Conductor and Properties connections. For information, see the "Managing Personalization" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

> **Note:** For WebCenter Portal, you may not need to manually register a connection. When you start WebCenter Portal, the following Conductor and Properties connections are automatically configured if they do not exist already: `Conductor-WCPSSpaces` and `Properties-WCPSSpaces`. These connections are created if the following conditions are met:
>
> - WebCenter Portal and Oracle WebCenter Portal's Personalization are in the same domain.
> - The `WC_Utilities` managed server has an explicit listening address or has a system associated to it with an explicit address.
> - Oracle WebCenter Portal's Personalization is not deployed to a cluster.
>
> For more information, refer to Section 4.2, "Working with WebCenter Portal."

4.9 Working with Custom Managed Servers

Application developers can use Oracle JDeveloper to develop Portal Framework applications and Portlet Producer applications. To enable deployment of these applications, you must create custom managed servers as described in Section 3.2.3.2, "Extending a Domain to Create Custom Managed Servers." No additional configuration is required to work with these custom managed servers.

> **Note:** Oracle does not recommend deploying Portal Framework applications or Portlet Producer applications to the Administration Server or any of the default managed servers created during the installation of Oracle WebCenter Portal.

For Portal Framework applications and Portlet Producer applications, you must run the RCU to create the `WebCenter` schema. Note that this schema is separate from the `WebCenter` schema used by WebCenter Portal. For information about Oracle WebCenter Portal tools and services that require the `WebCenter` schema, see Table 5–1. For information about how to create schemas, refer to the "Creating Schemas" section in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

4.10 Working with Oracle WebCenter Portal's Services Portlets

Oracle WebCenter Portal's Services Portlets is a preconfigured, out-of-the-box producer that enables application developers to expose tools and services task flows as WSRP portlets or pagelets in the following applications: Oracle Portal, Oracle WebLogic Portal, and Oracle WebCenter Interaction.

Services Portlets provides the following tools and services task flows as portlets: Document Manager, Content Presenter, Blogs, Discussion Forums, Announcements, Lists, Polls Manager, Take Polls, and Worklist. Most of the tools and services require connections to back-end servers to be fully functional. For example, the documents feature requires a connection to Oracle WebCenter Content.

To work with Services Portlets:

1. Start the `WC_Portlet` managed server.

   For information, see the "Starting and Stopping Oracle Fusion Middleware" chapter in *Oracle Application Server Administrator's Guide*.

2. Ensure the required back-end components are installed. Configure connections to these back-end components for the required tools and services.

   For information, see Chapter 5, "Preparing Back-End Components for WebCenter Portal Tools and Services."

3. Configure security for Services Portlets. For information, see the "Securing a WSRP Producer" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

For more information about configuring Services Portlets, see the "Configuring WebCenter Services Portlets" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*. For information about consuming Services Portlets in other applications, see the "Consuming WebCenter Services Portlets" section in *Oracle WebCenter Framework Developer's Guide*.

5

Preparing Back-End Components for WebCenter Portal Tools and Services

This chapter describes how to install back-end components for Oracle WebCenter Portal tools and services, such as documents, worklist, and search.

This chapter includes the following topics:

5.1 Introduction to Tools and Services

Oracle WebCenter Portal provides a set of tools and services that expose social networking and personal productivity features. These tools and services can be integrated into the out-of-the-box *WebCenter Portal* application and your own Portal Framework applications.

All tools and services rely on a database for their functionality. To integrate any tool or service into WebCenter Portal and Portal Framework applications, you must ensure that a supported database is available with the `MDS` schema. For information about:

- Supported databases, refer to the following link:

  `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`

- Installing a database and creating schemas, see Chapter 2, "Installing Oracle WebCenter Portal."

In addition to a database, certain tools and services rely on a back-end component. To enable portal developers or users to integrate such tools and services into WebCenter Portal and Portal Framework applications, 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

Table 5–1 describes Oracle WebCenter Portal tools and services and lists the back-end component, if any, required for them.

For information about the third party products that can be used with Oracle WebCenter Portal, see the "Third-Party Product Support" appendix in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Table 5–1 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 Graph	Provides suggestions of people that users may be interested in connecting with, based on their existing connections and shared interaction with objects within the portal or application.	Oracle WebCenter Portal's Activity Graph Engines, Analytics Collector, and a supported database containing the `Activities` schema	Connection required. Connection automatically configured for WebCenter Portal if conditions are met. For information, see Section 4.7, "Working with Oracle WebCenter Portal's Activity Graph Engines."
Analytics	Displays usage and performance metrics	Oracle WebCenter Portal's Analytics Collector, and a supported database containing the `Activities` schema	Connection required.
Announcements	Enables users to post, personalize, and manage announcements.	Oracle WebCenter Portal's Discussion Server, and a supported database containing the `Discussions` schema	Connection required. Connection automatically configured for WebCenter Portal if conditions are met. For information, see Section 4.3, "Working with Oracle WebCenter Portal's Discussion Server."

Table 5–1 (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
Discussions	Provides the ability to create and participate in threaded discussions.	Oracle WebCenter Portal's Discussion Server, and a supported database containing the `Discussions` schema	Connection required. Connection automatically configured for WebCenter Portal if conditions are met. For information, see Section 4.3, "Working with Oracle WebCenter Portal's Discussion Server."
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.	A content repository such as Content Server	Connection required. Connection automatically configured for WebCenter Portal if conditions are met. For information, see Section 5.3.1.4, "Content Server - Integration."
Events	Provides personal and 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 For personal events, Microsoft Exchange Server 2003 or Microsoft Exchange Server 2007	Connection required for personal calendars, but not for portal calendars.
Instant Messaging and Presence (IMP)	Provides the ability to observe the online presence status of other authenticated users (whether online, offline, busy, or idle), and to contact them instantly.	A supported communication server like Microsoft Live Communication Server 2005	Connection must be created manually.
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.

Table 5–1 (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
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, such as Microsoft Exchange Server 2003	Connection must be created manually.
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.
Personalization	Delivers targeted content based on both user and application context.	Oracle WebCenter Portal's Personalization Server	Connection required. Connection automatically configured for WebCenter Portal if conditions met. For information, see Section 4.8, "Working with Oracle WebCenter Portal's Personalization."

Table 5–1 (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
Polls	Enables users to create, edit, and take online polls. With polls, users can survey their audience (such as their opinions and their experience level), check whether they can recall important information, and gather feedback on the efficacy of presentations.	A supported database containing the `WEBCENTER` schema	No separate connection required.
Recent Activities	Provides a summary view of recent changes to documents, discussions, and announcements.	None	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. RSS news feeds are available from WebCenter Portal only. The RSS Viewer task flow is available in both WebCenter Portal and Portal Framework applications.	None	No separate connection required.
Search	Provides the ability to search tags, documents, and pages. Oracle recommends Oracle SES for best search performance and scalability.	No separate back-end component required for searching Oracle WebCenter Portal objects. To search external repositories outside of Oracle WebCenter Portal, Oracle SES 11*g* updated with latest patches is required.	No separate connection required if you choose to use WebCenter Portal's live search adapter. Connection required for Oracle SES.
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.

Table 5–1 (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
Worklist	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	Connection required. Connection automatically configured for WebCenter Portal if conditions listed in Section 4.2, "Working with WebCenter Portal" are met.

5.2 Back-End Requirements for Instant Messaging and Presence (IMP)

Instant messaging and presence (IMP) relies on a back-end communication server. You can configure any of the following servers as the communication server for IMP:

- Microsoft Live Communications Server (LCS) 2005
- Microsoft Office Communications Server (OCS) 2007
- Microsoft Lync 2010

This section includes the following subsections:

- Section 5.2.1, "Communication Server - Installation"
- Section 5.2.2, "Communication Server - Configuration and Integration"

5.2.1 Communication Server - Installation

For information about installing Microsoft Live Communications Server 2005, Microsoft Office Communications Server 2007, or Microsoft Lync, refer to the relevant Microsoft documentation.

5.2.2 Communication Server - Configuration and Integration

Consider the following for configuring a communication server for IMP:

- To use Microsoft OCS 2007, you must install the Microsoft Unified Communications Managed API (UCMA) 2.0 SDK, and the Oracle RTC Web service for Microsoft OCS 2007. For information, see the "Microsoft OCS - Configuration" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
- To use Microsoft Live Communications Server 2005, you must install and configure Microsoft RTC API v1.3, and the Oracle RTC Web service for Microsoft LCS 2005. For information, see the "Microsoft LCS - Configuration" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

- For information about configuring Microsoft Lync, see the "Microsoft Lync - Configuration" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

After installing and configuring your communication server, you must set up connections to the communication server to enable integration of IMP with WebCenter Portal and Portal Framework applications. For information about setting up IMP connections, see the "Registering Instant Messaging and Presence Servers" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Ensure that Oracle WebCenter Portal and your communication server are configured to use the same external LDAP-based identity store. If not, you must manually synchronize user entries between Oracle WebCenter Portal and communication server environments.

5.3 Back-End Requirements for Documents

Oracle WebCenter Portal supports content management and storage capabilities for WebCenter Portal and Portal Framework applications. To integrate content, you must have a content repository at the back end that contains the documents you want to manage. Oracle WebCenter Portal supports content integration with the following external repositories:

- Oracle WebCenter Content Server
- Oracle Portal 11*g*
- Microsoft Office SharePoint Server (MOSS) 2007 Service Pack 2
- Microsoft Windows SharePoint Services (WSS) version 3 Service Pack 2

Note: Oracle WebCenter Portal can use either Content Server or Oracle Portal as its external content repository. However, you must set Content Server 11*g* as the default content repository for WebCenter Portal if you want to enable portal and Home portal document content and the wiki and blog functionality.

This section includes the following subsections:

5.3.1 Oracle WebCenter Content Server Requirements

This section includes the following subsections:

5.3.1.1 Content Server - Installation

Oracle WebCenter Portal supports Oracle WebCenter Content Server 11.1.1.8.0 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 *Oracle WebCenter Content Installation Guide*.

> **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.

5.3.1.2 Preparing Oracle WebCenter Portal for FrameworkFolders Support

Content Server offers two folder solutions: Folders_g and FrameworkFolders. In release 11.1.1.8.3, new installations of Oracle WebCenter Portal can be integrated with FrameworkFolders. Previously, Oracle WebCenter Portal only supported Folders_g.

This section includes the following subsections:

- Section 5.3.1.2.1, "Considerations for Enabling FrameworkFolders"
- Section 5.3.1.2.2, "Applying Patches for FrameworkFolders Support"

5.3.1.2.1 Considerations for Enabling FrameworkFolders

For an Oracle WebCenter Portal instance patched from an earlier release, you must continue to use Folders_g. For new installations of Oracle WebCenter Portal, it is recommended that you enable the FrameworkFolders component on Content Server for better performance and so as to be able to use any new Content Server features.

The FrameworkFolders component can be enabled only for the installations that meet the following criteria:

- You must have a *new* Oracle WebCenter Portal 11.1.1.8.0 installation. Oracle WebCenter Portal must not have been patched from a previous release, that is, it should be a completely fresh instance.
- You must have a *new* installation of Oracle WebCenter Content 11.1.1.8.0, with the FrameworkFolders component enabled. Oracle WebCenter Content must not have been patched from a previous release, that is, it should be a completely fresh instance.
- Content Server should never have been configured to run with the Folders_g component. You must not enable FrameworkFolders if Folders_g was previously enabled.

5.3.1.2.2 Applying Patches for FrameworkFolders Support To configure FrameworkFolders support for Oracle WebCenter Portal, you need to apply various patches to your new installations of Oracle WebCenter Content 11.1.1.8.0 and Oracle WebCenter Portal 11.1.1.8.0.

To prepare Oracle WebCenter Portal for FrameworkFolders support:

1. Ensure your Oracle WebCenter Portal and Oracle WebCenter Content installations meet the criteria specified in Section 5.3.1.2.1, "Considerations for Enabling FrameworkFolders."
2. Ensure there is no content within Oracle WebCenter Content and Oracle WebCenter Portal.
3. Download and apply the WebCenter Content MLR03 patch 18088049 from `http://support.oracle.com`.
4. Download and apply the WebCenter Portal BP3 patch 18085041 from `http://support.oracle.com`.
5. Download and apply the WebCenterConfigure component patch 18387955 from `http://support.oracle.com`.

   Before applying this patch on Content Server ensure that WebCenter Content MLR03 patch 18088049 has already been applied.

> **Note:** For more information about the patches and for installation instructions, refer to the readme file provided with each patch.

5.3.1.3 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 the "Configuring a Content Server Repository" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*. To get an overview of tasks required to get Oracle SES working for Portal Framework applications and WebCenter Portal, see the flowchart given in the "Configuration Roadmap for Content Server" section of the guide.

> **Note:** By default, Oracle WebCenter Content uses Oracle WebLogic Server's embedded Lightweight Directory Application Protocol (LDAP) server. In a production system, Oracle WebCenter Content applications must use an external LDAP authentication provider rather than the default embedded LDAP server. Therefore, you must reassociate your Content Server's identity store with an external LDAP-based identity store.
>
> If Oracle WebCenter Portal and Content Server are installed in the same domain, no additional configuration is required for using an external LDAP authentication provider. Authentication provider configuration is applicable to an entire domain.
>
> If Oracle WebCenter Portal and Content Server are installed in separate domains, they must be configured to use the *same* external LDAP authentication provider. Hence, ensure that you reassociate Content Server with the same identity store LDAP server as Oracle WebCenter Portal.

5.3.1.4 Content Server - Integration

To use Content Server as a content repository, you must create a repository connection. For WebCenter Portal, a repository connection is automatically configured and set as the default connection, if it does not already exist. The connection is configured at application startup if the general conditions specified in Section 4.2, "Working with WebCenter Portal" are met. However, the connection is not configured if the Server Socket port or the user granted the administrator role cannot be found.

For information about how to register content repositories and manage repository connections, see the "Registering Content Repositories" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

5.3.2 Oracle Portal Requirements

Oracle Portal offers a complete and integrated framework for building, deploying, and managing enterprise portals.

This section includes the following subsections:

- Section 5.3.2.1, "Oracle Portal - Installation"
- Section 5.3.2.2, "Oracle Portal - Configuration"
- Section 5.3.2.3, "Oracle Portal - Integration"

5.3.2.1 Oracle Portal - Installation

To use Oracle Portal 11*g* as a content repository for WebCenter Portal and Portal Framework applications, you must install it. For information, see *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.

5.3.2.2 Oracle Portal - Configuration

Oracle Portal must be up-to-date with all the latest patches. For additional information about patches, see the product release notes. See also *Oracle Fusion Middleware Administrator's Guide for Oracle Portal*.

5.3.2.3 Oracle Portal - Integration

To integrate Oracle Portal content into WebCenter Portal and Portal Framework applications, you must set up content repository connections to Oracle Portal. For information about how you can register content repositories and manage connections, see the "Managing Content Repositories" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

5.3.3 Microsoft SharePoint Requirements

You can install and configure Microsoft SharePoint as an external content repository for Oracle WebCenter Portal. This section describes the installation and integration requirements for using Microsoft SharePoint. It contains the following subsections:

- Section 5.3.3.1, "Microsoft SharePoint - Installation"
- Section 5.3.3.2, "Microsoft SharePoint - Integration"

Note: WebCenter Portal does not support Microsoft SharePoint as the primary document store, and therefore, you must use Content Server instead.

5.3.3.1 Microsoft SharePoint - Installation

Oracle WebCenter Portal supports the following Microsoft SharePoint versions:

- Microsoft Office SharePoint Server (MOSS) 2007 Service Pack 2
- Microsoft Windows SharePoint Services (WSS) version 3 Service Pack 2

Refer to the appropriate Microsoft SharePoint documentation for installation information.

5.3.3.2 Microsoft SharePoint - Integration

To support Microsoft SharePoint as a content repository for Oracle WebCenter Portal, the following tasks are involved:

- On the server side: Install Oracle WebCenter Adapter for Microsoft SharePoint on the target managed server to which you plan to deploy your applications. For information, refer to the "Installing Oracle WebCenter Adapter for Microsoft SharePoint" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
- On the development side: In a development environment, to be able to create a Portal Framework application that uses Microsoft SharePoint as a content repository, developers must first install Oracle WebCenter Adapter for Microsoft SharePoint into JDeveloper. Then they must register a connection to the Microsoft SharePoint server for their Portal Framework application. For information, see the "Installing Oracle WebCenter Adapter for Microsoft SharePoint" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*, and the "Creating a Content Repository Connection Based on the Oracle WebCenter Adapter for SharePoint" section in *Oracle WebCenter Framework Developer's Guide*.

Post application deployment, you can manage Microsoft SharePoint connections by using WLST commands. To manage these connections, you must install WLST command scripts. For information, see the "Installing WLST Command Scripts for Managing Microsoft SharePoint Connections" and "Managing Microsoft SharePoint Connections Using WLST" sections in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

Note: To enable Microsoft SharePoint connections in WebCenter Portal, refer to the "Integrating the SharePoint 2007 Adapter with WebCenter Spaces" whitepaper available on Oracle Technology Network here:
http://www.oracle.com/technetwork/middleware/webcenter/overview/index.html

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5.4 Back-End Requirements for Calendar Events

WebCenter Portal supports portal calendars and personal calendars. In Portal Framework applications, support for only personal Microsoft Exchange calendars is available. For the portal calendar functionality, no separate back-end component is required. For events to work for personal calendars, you must install either Microsoft Exchange Server 2003 or Microsoft Exchange Server 2007. For information about Microsoft Exchange Server installation, refer to its product documentation.

You must configure Microsoft Exchange Server, and create a connection to the mail server. For information, see the "Managing Calendar Events" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

5.5 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 2003, that supports IMAP4 and SMTP protocols. To install a mail server, refer to the documentation of the mail server you wish to use.

It is essential that users created on the mail server correspond with the users created in the identity store used by Oracle WebCenter Portal.

To integrate mail in WebCenter Portal and your Portal Framework applications, you must configure a connection to your mail server. For information, see the "Managing Mail" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

5.6 Back-End Requirements for Search

Oracle WebCenter Portal provides two ways of searching your applications: Oracle WebCenter Portal live (delegated) search and Oracle Secure Enterprise Search (SES) adapter. To search for the content created by tools and services within WebCenter Portal and Portal Framework applications, no separate back-end component is required. However, for better scalability and performance than Oracle WebCenter Portal's live search and to extend searches to include external content repositories, Oracle recommends Oracle SES. Oracle SES provides a crawler-based service that can search a multitude of sources, structured and unstructured, in a variety of file formats, indexed or real-time.

This section includes the following subsections:

- Section 5.6.1, "Oracle SES - Installation"
- Section 5.6.2, "Oracle SES - Configuration"

5.6.1 Oracle SES - Installation

Supported Oracle SES versions include 11.1.2, 11.1.2.2, and 11.2.2.2.

Note: Oracle recommends using Oracle SES release 11.2.2.2 for best performance and the latest search features.

Installing Oracle SES 11.2.2.2 or other supported versions in the same Fusion Middleware home as Oracle WebCenter Portal is not supported. The recommended and supported topology is to install Oracle SES in a separate Fusion Middleware home. That is, treat Oracle SES as a remote service for Oracle WebCenter Portal.

This section includes the following subsections:

- Section 5.6.1.1, "Installing Oracle SES 11.1.2"
- Section 5.6.1.2, "Installing Oracle SES 11.1.2.2"
- Section 5.6.1.3, "Installing Oracle SES 11.2.2.2"

5.6.1.1 Installing Oracle SES 11.1.2

To install Oracle SES 11.1.2 for Oracle WebCenter Portal:

1. Install Oracle SES 11.1.2.

For information, refer to the Oracle Secure Enterprise Search Online Documentation Library 11*g* Release 1 (11.1.2) available here on OTN:

http://www.oracle.com/technetwork/search/oses/documentation/index.html

2. Install the patch for Oracle Connector resource bundle 11.1.2.0.1. For this, download patch 10085593.

   Note: You can download patches from http://support.oracle.com.

3. Install the patch for Oracle XML connector 11.1.2.0.2. For this, download patch 10070215.
4. Install the patch for Oracle Database connector 11.1.2.0.2. For this, download patch 10070226.
5. To set up Oracle WebCenter Portal for Oracle SES search, get `webcenter_search_ses_plugins.zip` from the *`WCP_ORACLE_HOME`*`/ses` directory on the Oracle WebCenter Portal instance, and put it in the *`SES_Oracle_Home`* directory on the Oracle SES instance.

   Note: *`WCP_ORACLE_HOME`* refers to the Oracle WebCenter Portal home directory. *`SES_Oracle_Home`* represents the software location that you specified at the time of installing Oracle SES.

   The Oracle WebCenter Portal instance and the Oracle SES instance might be on different computers.

6. Navigate to the Oracle SES home directory. For example:

   ```
   cd $SES_Oracle_Home
   ```

7. Delete the file `./search/lib/plugins/webcenter/search-crawl-ucm.jar`.
8. Run the following command to install necessary Oracle WebCenter Portal plug-ins:

   ```
   unzip webcenter_search_ses_plugins.zip
   ```

   This adds the following Oracle WebCenter Portal JAR files to an Oracle SES installation:

   - *`SES_Oracle_Home`*`/search/lib/plugins/webcenter/search-auth-share.jar`
   - *`SES_Oracle_Home`*`/search/lib/plugins/webcenter/search-auth-plugin.jar`
   - *`SES_Oracle_Home`*`/search/lib/plugins/doc/search-crawl-ucm.jar`

   Note: For information about the other Oracle SES patches that you may need to install, refer to the latest Release Notes.

5.6.1.2 Installing Oracle SES 11.1.2.2

For information about installing Oracle SES 11.1.2.2, refer to the Oracle SES Online Documentation Library 11*g* Release 1 (11.1.2.2) available here on OTN:

http://www.oracle.com/technetwork/search/oses/documentation/index.html

You can download Oracle SES from http://www.oracle.com/technetwork/search/oses/downloads/index.html. No additional Oracle patches are required with Oracle SES release 11.1.2.2.

5.6.1.3 Installing Oracle SES 11.2.2.2

Oracle SES release 11.2.2.2 is recommended for use with Oracle WebCenter Portal.

> **Note:** Installing Oracle SES 11.2.2.2 or other supported versions in the same Fusion Middleware home as Oracle WebCenter Portal is not supported. The recommended and supported topology is to install Oracle SES in a separate Fusion Middleware home. That is, treat Oracle SES as a remote service for Oracle WebCenter Portal.

Download Oracle SES from http://www.oracle.com/technetwork/search/oses/downloads/index.html

For information about installing Oracle SES 11.2.2.2, refer to the Oracle SES Online Documentation Library 11*g* Release 2 (11.2.2.2) available here on OTN:

http://www.oracle.com/technetwork/search/oses/documentation/index.html

After installing Oracle SES release 11.2.2.2, perform the following steps to prepare Oracle SES to work with Oracle WebCenter Portal:

1. Install the new version of Oracle WebCenter Portal's Document Service Manager on Oracle SES:
   a. Get `webcenter_doc_pipeline_plugin.zip` from the *`WCP_ORACLE_HOME`*`/ses` directory on the Oracle WebCenter Portal instance, where *`WCP_ORACLE_HOME`* refers to the Oracle WebCenter Portal home directory. Copy the file to the Oracle SES home directory on the Oracle SES instance.
   b. Navigate to the Oracle SES home directory.
   c. Delete the file *`./search/lib/plugins/webcenter/search-crawl-ucm.jar`*.
   d. Unzip the `webcenter_doc_pipeline_plugin.zip` file.

      This adds the following Oracle WebCenter Portal JAR file to an Oracle SES installation:

      `SES_Oracle_Home``/search/lib/plugins/doc/search-crawl-ucm.jar`

   e. Restart the Oracle SES server. For information, see the "Starting and Stopping Oracle SES Instance" chapter in *Oracle Secure Enterprise Search Administrator's Guide* in Secure Enterprise Search Online Documentation Library 11*g* Release 2 (11.2.2.2) on OTN.

      http://www.oracle.com/technetwork/search/oses/documentation/index.html
2. Configure Oracle SES facets and sorting attributes for Oracle WebCenter Portal:
   a. Get `webcenter_portal_ses_admin.zip` from the *`WCP_ORACLE_HOME`*`/ses` directory on the Oracle WebCenter Portal instance, and copy it to the Oracle SES home directory.
   b. Navigate to the Oracle SES home directory.
   c. Unzip the `webcenter_portal_ses_admin.zip` file and follow the instructions in the `readme.txt` file.

5.6.2 Oracle SES - Configuration

For information about configuring Oracle SES for Oracle WebCenter Portal, see the "Managing Oracle Secure Enterprise Search in WebCenter Portal" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

5.7 Back-End Requirements for Worklist

Installation

Worklists rely on the Business Process Execution Language (BPEL) server, which is a component of Oracle SOA Suite. To use worklist in Oracle WebCenter Portal, you must install Oracle SOA Suite. For information, see *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite*.

Configuration

To enable integration of worklist in WebCenter Portal and Portal Framework applications, you must register a connection to the BPEL server. For WebCenter Portal, a connection named `WebCenterSpaces-Worklist` is automatically configured on application startup if the conditions described in Section 4.2, "Working with WebCenter Portal" are met.

For information about configuring worklists, refer to the "Managing Worklists" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*. The flowcharts in the chapter provide a pictorial overview of the prerequisites and tasks required to get worklists working in WebCenter Portal and Portal Framework applications.

Note: For Oracle 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 Oracle WebCenter Portal and Oracle SOA Suite. You can achieve this by creating identical user names in both the identity stores or by using a common LDAP-based identity store for Single Sign-On (SSO) authentication. SSO authentication enables users to log in once and seamlessly navigate between WebCenter Portal or Portal Framework applications and BPEL applications without having to log in to each application separately. For information about setting up an external, shared LDAP-based server, see Section 3.5, "Setting Up an External LDAP-Based Identity Store."

5.8 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 5–2 describes the tasks that you must perform to enable the WebCenter Portal workflow functionality in WebCenter Portal.

Table 5–2 Tasks for Enabling WebCenter Portal Workflows

Task	Mandatory/Optional?	Documentation
1. Install Oracle SOA Suite	Mandatory	For information, see Section 5.8.1, "Oracle SOA Suite - Installation"

Table 5–2 (Cont.) Tasks for Enabling WebCenter Portal Workflows

Task	Mandatory/Optional?	Documentation
2. Extend the SOA server domain with the `oracle.wc_composite_template_11.1.1.jar` template	Mandatory	For information, see Section 5.8.2, "Oracle SOA Server - Extending the Domain"
3. Configure WS-Security to secure Web service calls between Oracle SOA Suite and WebCenter Portal	Mandatory	For information, see Section 5.8.3, "Oracle SOA and WebCenter Portal - WS-Security Configuration"
4. Register a connection with the BPEL server	Mandatory, if not automatically configured	For information, see Section 5.8.4, "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 Section 3.5, "Setting Up an External LDAP-Based Identity Store."

5.8.1 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 *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite*.

5.8.2 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_11.1.1.jar`. The template is located at the following path in your Oracle SOA installation:

ORACLE_SOA_HOME`/common/templates/applications/oracle.wc_composite_template_11.1.1.jar`

The `oracle.wc_composite_template_11.1.1.jar` template deploys `WebCenterWorklistDetailApp.ear` (which is the ADF application that displays invitations and messages) and `sca_CommunityWorkflows.jar` (which is the BPEL composite that manages the WebCenter Portal membership mechanism).

For information about how to extend a domain, see the "Extending WebLogic Domains" section in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard* guide.

5.8.3 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. You must secure these Web service calls. To do this, 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.

   For information, see the "Updating the Credential Store" section in *Oracle Fusion Middleware Administrator's Guide for 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)

   For information, see the "Creating the SOA Domain Keystore" section in *Oracle Fusion Middleware Administrator's Guide for 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")
   ```

   For information, see the "Security Commands" section in *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

For more information, see the "Configuring WS-Security" chapter in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

5.8.4 WebCenter Portal - Configuring the BPEL Server Connection

When you start WebCenter Portal, a BPEL server connection named `WebCenterSpaces-Worklist` is automatically configured, if it does not already exist. However, automatic configuration takes place only if the conditions specified in Section 4.2, "Working with WebCenter Portal" are fulfilled.

The `WebCenterSpaces-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.

If a BPEL connection is not configured automatically, you must create it 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:

1. Register a BPEL server connection with the SOA server instance on which WebCenter Portal workflows are deployed. For information, see the "Registering Worklist Connections" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.
2. Ensure that this BPEL connection is set as the active connection for worklists. For information, see the "Activating a Worklist Connection" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

   It is recommended that worklists and WebCenter Portal workflows use the same BPEL connection.
3. Set the BPEL connection for WebCenter Portal workflows. For information, see the "Specifying the BPEL Server Hosting WebCenter Portal Workflows" section in *Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal*.

6

Deinstalling Oracle WebCenter Portal

This chapter describes how to remove Oracle WebCenter Portal and related products from your system.

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

The following topics are covered:

- Deinstalling Oracle WebCenter Portal
- Reinstalling Oracle WebCenter Portal

6.1 Deinstalling Oracle WebCenter Portal

The deinstaller will attempt to remove the Oracle home from which it was started. Before you choose to remove your Oracle home, make sure that it is not in use by an existing domain, and also make sure you stop all running processes that use this Oracle home.

This procedure will not remove any WebLogic domains that you have created - it only removes the software in the Oracle home.

Properly removing Oracle WebCenter Portal from your system involves the following tasks:

- Stopping Oracle Fusion Middleware
- Removing Oracle WebCenter Portal Schemas
- Removing Oracle Universal Content Management
- Removing Oracle WebCenter Portal
- Removing Oracle WebLogic Server
- Removing Oracle JDeveloper
- Removing the Program Groups (Windows Only)
- Rebooting Your System (Windows Only)

6.1.1 Stopping Oracle Fusion Middleware

Before deinstalling Oracle Fusion Middleware software components, you should stop all servers and processes.

For instructions, refer to "Starting and Stopping Oracle Fusion Middleware" in *Oracle Application Server Administrator's Guide*.

To stop Node Manager, see the instructions in "Stopping Node Manager" in *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

6.1.2 Removing Oracle WebCenter Portal Schemas

Run the Repository Creation Utility (RCU) to drop the WebCenter Portal schemas from your database.

For instructions, refer to "Dropping Schemas" in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

6.1.3 Removing Oracle Universal Content Management

If you installed Oracle UCM separately from the Oracle WebCenter Portal installation, you must first remove this software separately from the Oracle WebCenter Portal software before you remove Oracle WebCenter Portal.

To remove Oracle UCM 11*g* from your system, refer to "Deinstalling Oracle WebCenter Content" in *Oracle WebCenter Content Installation Guide*.

To remove earlier versions of Oracle UCM, refer to *Content Server Installation Guide for Microsoft Windows* and *Content Server Installation Guide for UNIX* at the following URL:

`http://download.oracle.com/docs/cd/E10316_01/owc.htm`

After you remove Oracle UCM, you can then proceed with the deinstallation of Oracle WebCenter Portal.

6.1.4 Removing Oracle WebCenter Portal

Deinstalling Oracle WebCenter Portal involves removing the WebCenter Portal Oracle home and the Oracle Common home directories.

The deinstaller will attempt to remove the Oracle home from which it was started. This procedure will not remove any WebLogic domains that you have created - it only removes the software in the Oracle home.

Before you choose to remove any Oracle home, make sure that it is not in use by an existing domain, and also make sure you stop all running processes that use this Oracle home. After you remove the software, you will no longer be able to use your WebLogic domain.

6.1.4.1 Removing the WebCenter Portal Oracle Home

To start the deinstaller, navigate to the *WCP_ORACLE_HOME*`/oui/bin` (on UNIX operating systems) or *WCP_ORACLE_HOME*`\oui\bin` (on Windows operating systems) directory and start the deinstaller.

On UNIX operating systems:

```
./runInstaller.sh -deinstall -jreLoc JRE_LOCATION
```

On Windows operating systems:

```
setup.exe -deinstall -jreLoc JRE_LOCATION
```

Note: Specify the absolute path to your *JRE_LOCATION*; relative paths are not supported.

Follow the instructions in Table 6–1 to deinstall Oracle WebCenter Portal.

If you need additional help with any of the deinstallation screens, refer to Appendix B, "Oracle WebCenter Portal Deinstallation Screens" or click **Help** to access the online help.

Table 6–1 Flow of the Oracle WebCenter Portal Deinstallation Screens

Screen	Description and Action Required
Welcome	The installer displays this screen when you are about to deinstall one or more Oracle Fusion Middleware software components.
Deinstall Oracle Home	Verify the Oracle home you are about to deinstall. Click **Deinstall** to continue. On the Warning screen, select whether or not you want the deinstaller to remove the Oracle home directory in addition to removing the software. Click **Yes** to have the deinstaller remove the software and Oracle home, **No** to remove only the software, or **Cancel** to return to the previous screen. If you select **No**, go to 6.1.4.3 , "Manually Removing Your Oracle Home Directories" for instructions on how to manually remove your Oracle home directory.
Deinstallation Progress	This screen shows the progress and status of the deinstallation.
Deinstallation Complete	This screen summarizes the deinstallation that was just completed. Click **Finish** to dismiss the screen.

6.1.4.2 Removing the Oracle Common Home

This section describes how to remove the `oracle_common` directory. This directory contains its own deinstaller in `oui/bin` (on UNIX operating systems) or `oui\bin` (on Windows operating systems), just like any other Oracle home directory.

To start the deinstaller, navigate to the *MW_HOME*`/oracle_common/oui/bin` (on UNIX operating systems) or *MW_HOME*`\oracle_common\oui\bin` (on Windows operating systems) directory and start the deinstaller.

On UNIX operating systems:

```
./runInstaller -deinstall -jreLoc JRE_LOCATION
```

On Windows operating systems:

```
setup.exe -deinstall -jreLoc JRE_LOCATION
```

Note: Specify the absolute path to your *JRE_LOCATION*; relative paths are not supported.

After the deinstaller is started, follow the instructions in Table 6–1 to remove the Oracle Common home.

6.1.4.3 Manually Removing Your Oracle Home Directories

If you selected **No** on the warning screen during deinstallation, you must manually remove your Oracle home directories and all sub-directories. For example, if your WebCenter Portal Oracle home directory was `/home/Oracle/Middleware/Oracle_WC1` on a UNIX operating system:

```
> cd /home/Oracle/Middleware
> rm -rf Oracle_WC1
```

On a Windows operating system, if your WebCenter Portal Oracle home directory was `C:\Oracle\Middleware\Oracle_WC1`, use a file manager window and navigate to the `C:\Oracle\Middleware` directory, then right-click on the `Oracle_WC1` folder and select **Delete**.

The same procedure can be used to manually remove the Oracle Common home (`oracle_common`) directory.

6.1.5 Removing Oracle WebLogic Server

Instructions for removing Oracle WebLogic Server are provided in "Uninstalling the Software" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

After the software is removed, you must manually remove the Middleware home directory and all sub-directories. For example, if your Middleware home directory was `/home/Oracle/Middleware` on a UNIX operating system:

```
> cd /home/Oracle
> rm -rf Middleware
```

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

6.1.6 Removing Oracle JDeveloper

If you have installed Oracle JDeveloper on your system, refer to "Uninstalling Oracle JDeveloper" in *Oracle Fusion Middleware Installation Guide for Oracle JDeveloper (Oracle Fusion Applications Edition)* for instructions on how to remove this software from your system.

6.1.7 Removing the Program Groups (Windows Only)

On Windows systems, you must also manually remove the program groups from the Start menu. You can do this by either:

- Selecting the item in the Start menu, then right-click and select Delete to remove the selected item.
- Removing the folder from the directory on your system (for example, the `C:\Program Data\Microsoft\Windows\Start Menu\Programs` folder).

The following program groups should be removed:

- Oracle Common Home 11g - Home1
- Oracle WebCenter Portal 11g - Home1
- Oracle WebLogic

6.1.8 Rebooting Your System (Windows Only)

On Windows operating systems, you should reboot your computer after you have finished removing all your programs to ensure proper cleanup.

6.2 Reinstalling Oracle WebCenter Portal

The installer does not allow reinstallation of Oracle WebCenter Portal in a directory that already contains an Oracle product. To reinstall Oracle WebCenter Portal in the same directory as before, you must follow the instructions in this chapter to deinstall the software, then follow the instructions in Chapter 2, "Installing Oracle WebCenter Portal" to reinstall the software.

If you need to reinstall Oracle WebCenter Portal because of a partial installation or configuration, see important information in "Recovering From a Partial or Interrupted Installation or Configuration" in *Oracle Fusion Middleware Installation Planning Guide*.

A

Oracle WebCenter Portal Installation Screens

This appendix contains screenshots and descriptions for all of the Oracle WebCenter Portal installation screens:

- Specify Inventory Directory
- Inventory Location Confirmation
- Welcome
- Install Software Updates
- Prerequisite Checks
- Specify Installation Location
- Application Server
- Installation Summary
- Installation Progress
- Installation Complete

Installation screens and instructions for WebCenter Portal back-end components can be found in Chapter 5, "Preparing Back-End Components for WebCenter Portal Tools and Services".

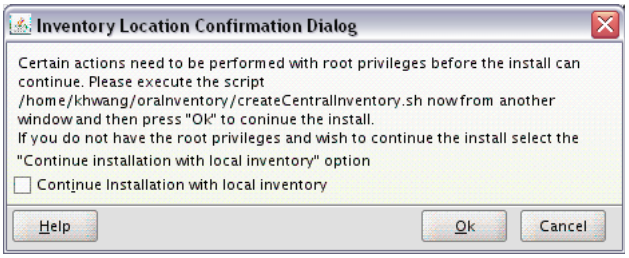
A.1 Specify Inventory Directory

This screen appears for UNIX systems only; if this is your first Oracle installation on this host, you must specify the location of the inventory directory. This inventory directory is used by the installer to keep track of all Oracle products installed on the computer.

The default inventory location is *User_Home*/oraInventory.

In the **Operating System Group name** field, select the group whose members you want to grant access to the inventory directory; all members of this group will be able to install products on this machine.

A.2 Inventory Location Confirmation



This screen appears for UNIX systems only; you are asked to run the *inventory_directory*/createCentralInventory.sh script as root.

If you do not have root access on this machine but wish to continue with the installation, select **Continue installation with local inventory**.

A.3 Welcome

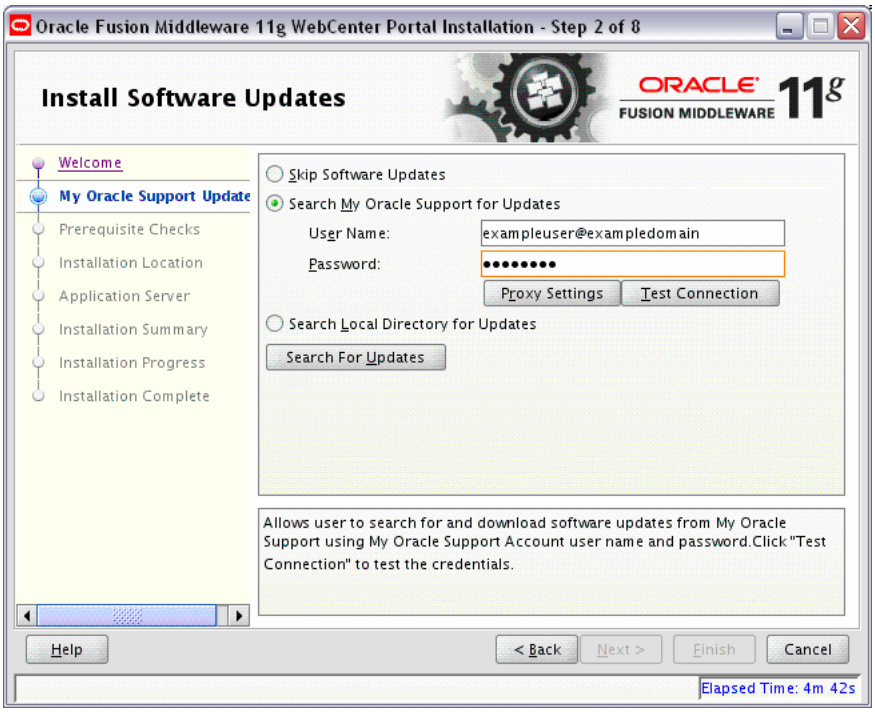
This page introduces you to the Oracle Fusion Middleware installer and provides two important pieces of information:

- A navigation pane on the left that summarizes the tasks the installer will help you complete. Each item in the navigation pane represents a specific installer screen that will prompt you for information required to install the software.
- Information about any prerequisites you might need to perform before continuing with the installation.

Review the information on this screen carefully to be sure you have performed all the necessary prerequisites.

If you are not sure about any of the prerequisite tasks, refer to the *Oracle Fusion Middleware Installation Planning Guide*, as well as the installation guide for the specific Oracle Fusion Middleware software you are about to install.

A.4 Install Software Updates

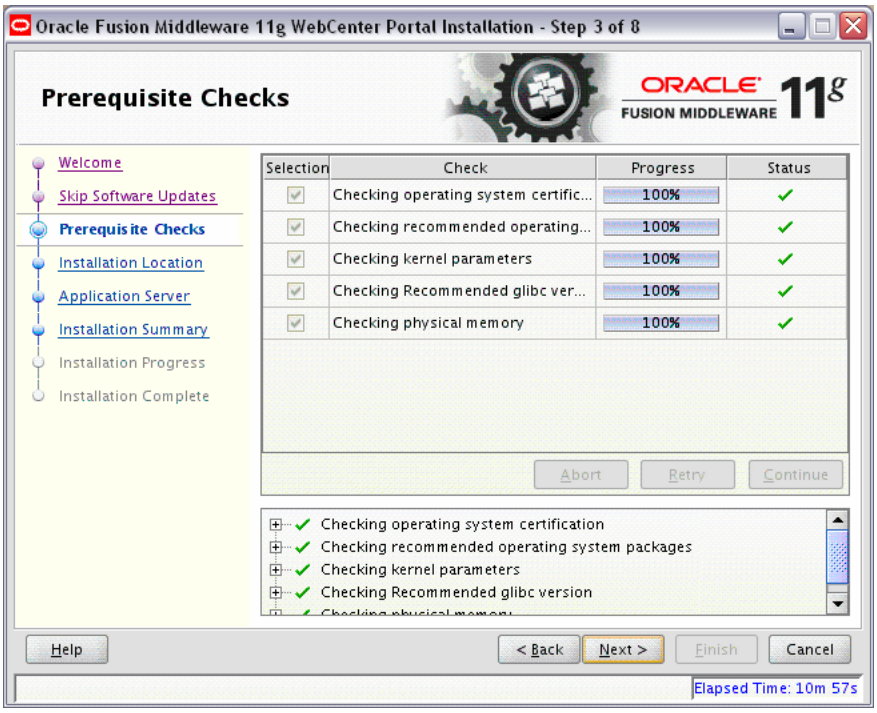


Use this screen to quickly and easily search for the latest software updates, including important security updates, via your My Oracle Support account.

The following table describes the fields on this screen.

Element	Description
Skip Software Updates	Select this option to skip this screen. The installer will not check for updates that might be applicable to the current product installation.
Search My Oracle Support for Updates	If you have a My Oracle Support account, then select this option to have the installer automatically search My Oracle Support for software updates that apply to the software products are about to install. Enter your My Oracle Support account name and password, and then click **Search for Updates**. The installer automatically downloads applicable software updates from My Oracle Support. Before you search for update, you can test your login credentials and the connection to My Oracle Support by clicking **Test Connection**. Click **Proxy Settings** to configure a proxy server if one is required.
Search Local Directory for Updates	Select this option if you already downloaded the latest software updates and you want the installer to search a local directory for updates applicable to the products you are about to install. When you select this option, the installer displays an additional field and **Browse** button that you can use to identify the local directory where your updates are located.

A.5 Prerequisite Checks



This screen analyzes the host computer to ensure that specific operating system prerequisites have been met.

If any of the prerequisite checks fail, then a short error message appears in the bottom portion of the screen. Fix the error and click **Retry** to try again. If you want to ignore the error or warning messages and continue with the installation, click **Continue**.

Click **Abort** to stop prerequisite checking for all components.

More About System Requirements and Prerequisites

Note that before performing any installation you should read the system requirements and certification documentation to ensure that your environment meets the minimum installation requirements for the products you are installing. Both of these documents are available on Oracle Technology Network (OTN).

The system requirements document covers information such as hardware and software requirements, minimum disk space and memory requirements, and required system libraries, packages, or patches:

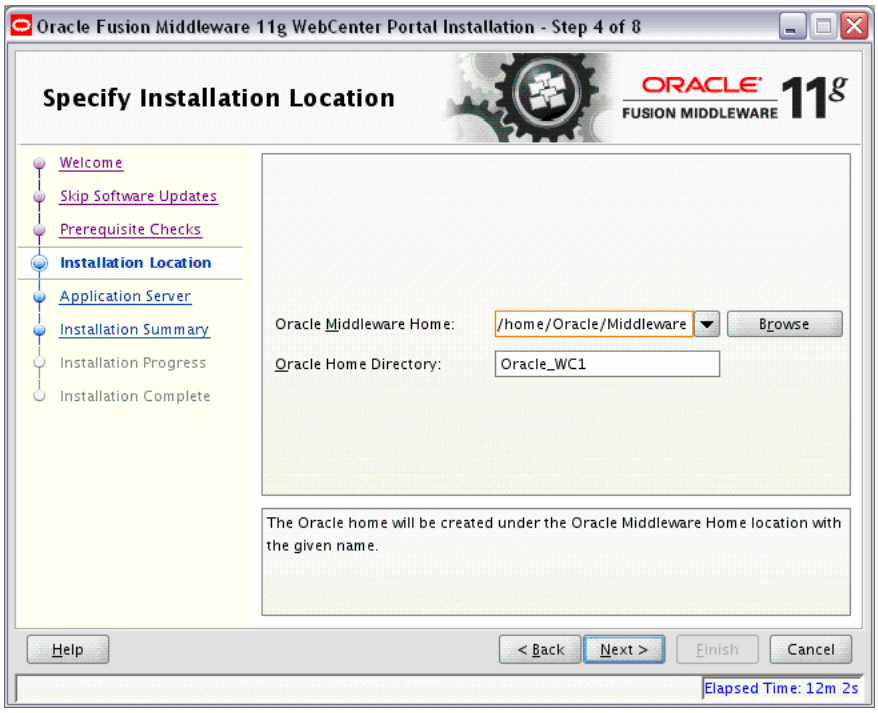
`http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-requirements-100147.html`

The certification document covers supported installation types, platforms, operating systems, databases, JDKs, and third-party products:

`http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html`

Note: If you are installing the 32-bit version of the product, the system on which you are installing must also be a supported 32-bit system. Installing a 32-bit version of the product on a 64-bit system is not supported.

A.6 Specify Installation Location



Use this screen to identify where you want to install your Oracle WebCenter Portal software.

The following table describes the fields that appear on this page.

Field	Description
Oracle Middleware Home	Specify the absolute path to your existing Oracle Middleware home directory, which was created when you installed Oracle WebLogic Server. If you do not know the full path to your Middleware home, click **Browse** to locate the directory on your system.
Oracle Home Directory	The Oracle home directory is where your products will be installed. All software binaries will reside in this directory, and no runtime process can write to this directory. Specify the directory inside the Oracle Middleware home where you want to install your products, but note the following: ▪ If you specify a new directory, it will be created inside the Middleware home. ▪ If you specify a directory that already exists (for example, you are reinstalling due of an incomplete previous installation), then it must be inside the Middleware home.

Note: You cannot specify `oracle_common` as the Oracle home directory.

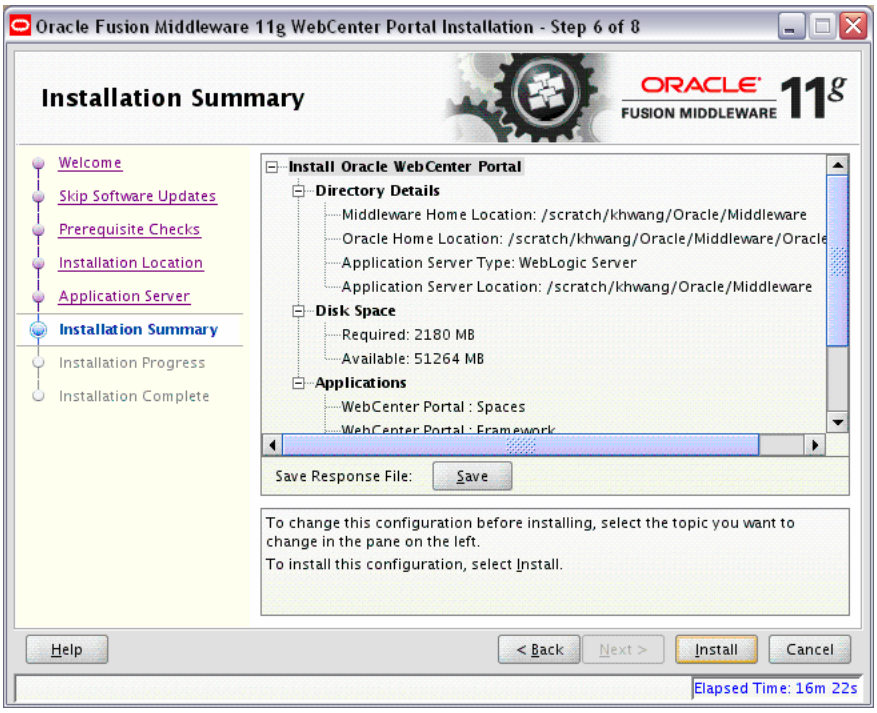
If you are performing an installation on a Windows operating system, be sure that your directory paths are valid and do not contain double backslashes (`\\`).

A.7 Application Server

Select the application server you want to use for this installation.

- If the installer detects a Middleware home with Oracle WebLogic Server installed, then this is the application server that will be used. All other fields in this screen will be inactive.
- If the installer detects a Middleware home without an Oracle WebLogic Server installed, you must select one of the application server options and then provide its location in the Application Server Location field.
- If the installer does not detect a Middleware home directory, the "WebLogic Server" option will be inactive. You must select "WebSphere" and then provide the location of your IBM WebSphere in the Application Server Location field.

A.8 Installation Summary



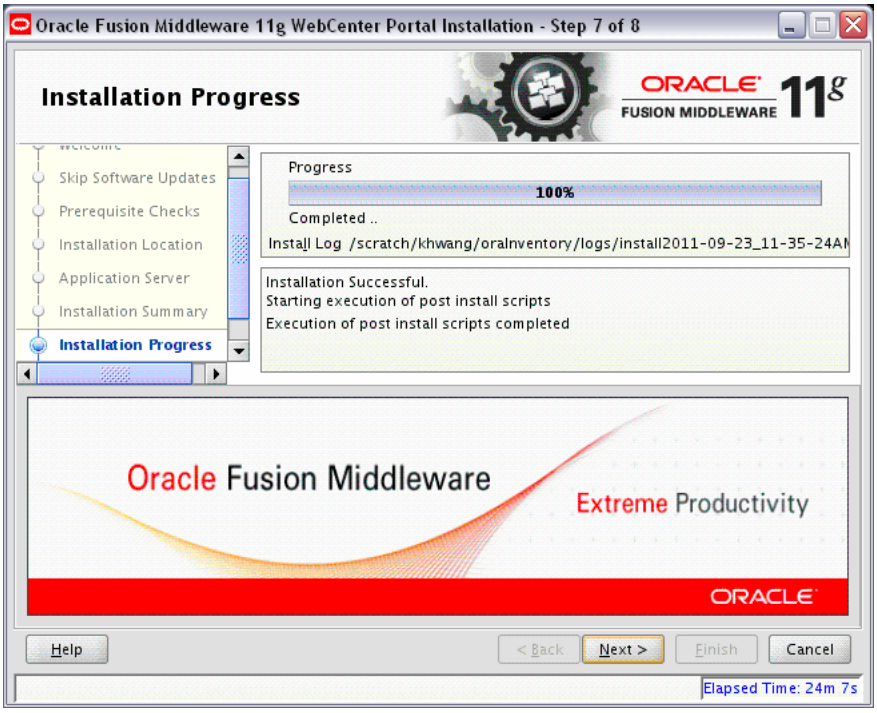
This screen summarizes the selections you have made during this installation session. It includes the following information:

- The location of your installation
- How much disk space will be used for the installation
- The applications you have selected for installation

Review information on this screen carefully, and take one of the following actions:

- If you want to make any changes to the configuration before starting the installation, use the navigation pane to select the Installer screen you want to return to and edit.
- If you are satisfied with the information, click **Install** to begin the installation procedure.
- If you want to save this configuration to a text file (called a response file), click **Save**. The resulting response file can be used later if you choose to perform the same installation from the command line. See Appendix C, "Silent Installation and Deinstallation" for more information.

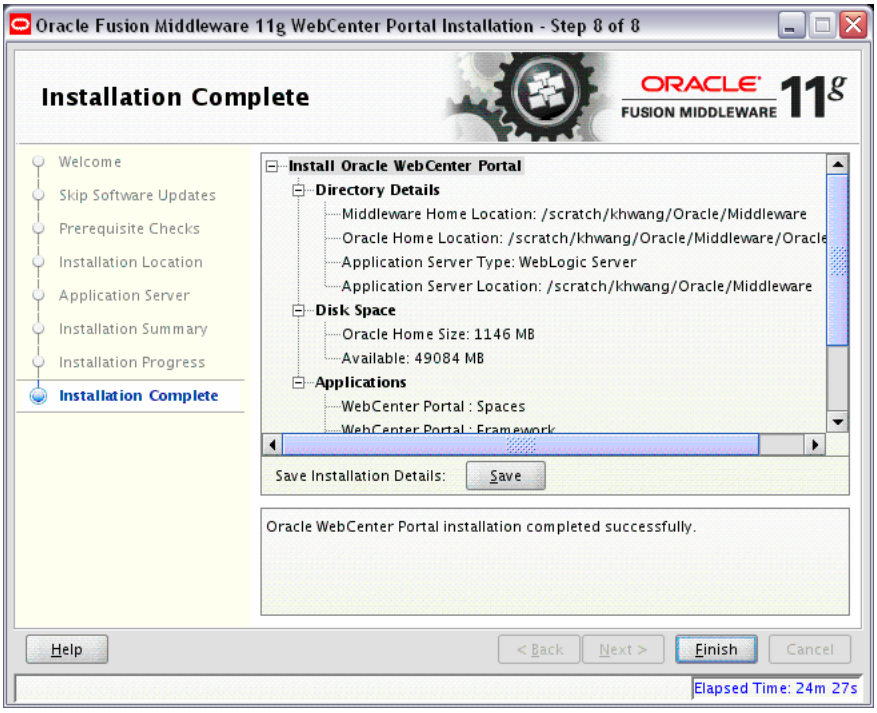
A.9 Installation Progress



This screen shows you the progress of the installation.

If you want to quit before the installation is completed, click **Cancel**. Doing so will result in a partial installation; the portion of the software that was installed on your system before you click **Cancel** will remain on your system, and you will have to remove it manually.

A.10 Installation Complete



This screen summarizes the installation that was just completed.

If you want to save this summary information to a text file for future reference, click **Save**.

Click **Finish** to dismiss the screen and end your installation session.

B

Oracle WebCenter Portal Deinstallation Screens

This appendix contains screenshots and descriptions for all of the Oracle WebCenter Portal deinstallation screens:

- Welcome
- Deinstall Oracle Home
- Deinstallation Progress
- Deinstallation Complete

B.1 Welcome

The installer displays this screen when you are about to deinstall one or more Oracle Fusion Middleware software components.

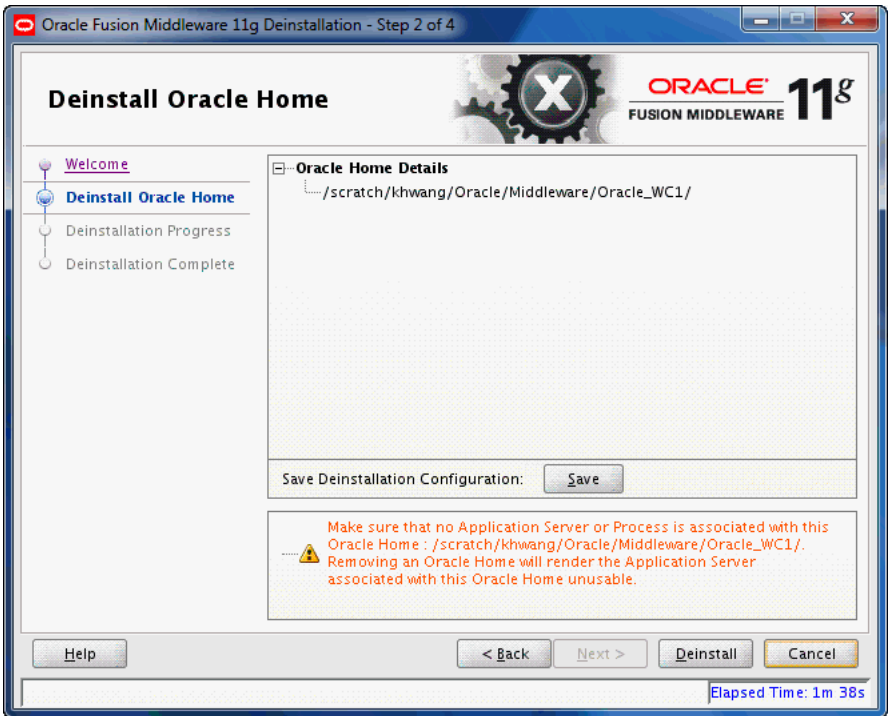
When you use the installer to deinstall your Oracle Fusion Middleware software, the installer removes the software files in the selected Oracle home from disk, updates the

Oracle inventory, and performs other operating-specific tasks to remove the components.

Like the Welcome screen that appears when you are about to install a product, the deinstallation Welcome screen contains a navigation pane on the left that summarizes the tasks the installer will help you complete.

Each item in the navigation pane represents a specific installer screen that will prompt you for information required to install the software.

B.2 Deinstall Oracle Home



Use this screen to verify that you have selected the Oracle home that you want to deinstall.

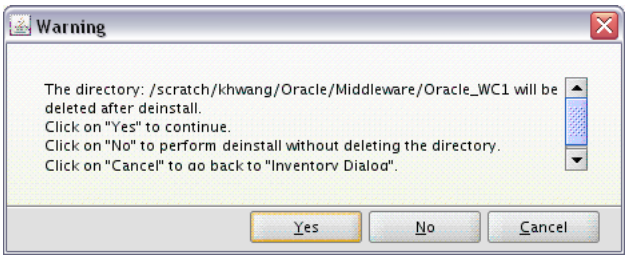
When you click **Deinstall**, then the installer will begin the process of deinstalling the Oracle home shown on this screen.

Note: Before you click **Deinstall**, ensure that all processes associated with the selected Oracle home have been stopped. For complete information about deinstalling your Oracle Fusion Middleware software, refer to the deinstallation information in the Installation guide for your software suite.

If you want to save this configuration to a text file (called a response file), click **Save**. The resulting response file can be used later if you choose to perform the same deinstallation procedure from the command line. See Appendix C, "Silent Installation and Deinstallation" for more information.

Verify that this is the correct directory, then click **Deinstall** to continue.

The following warning screen will appear:

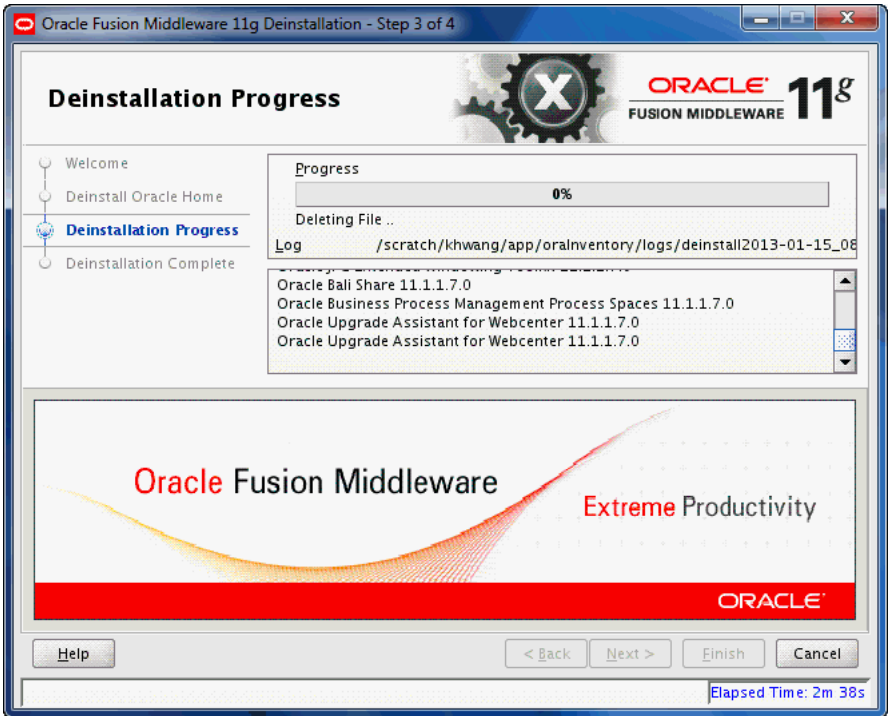


Click **Yes** to remove the software and the Oracle home directory from which the deinstaller was started.

Click **No** to remove the software but do not remove the Oracle home directory.

Click Cancel to return to the previous screen.

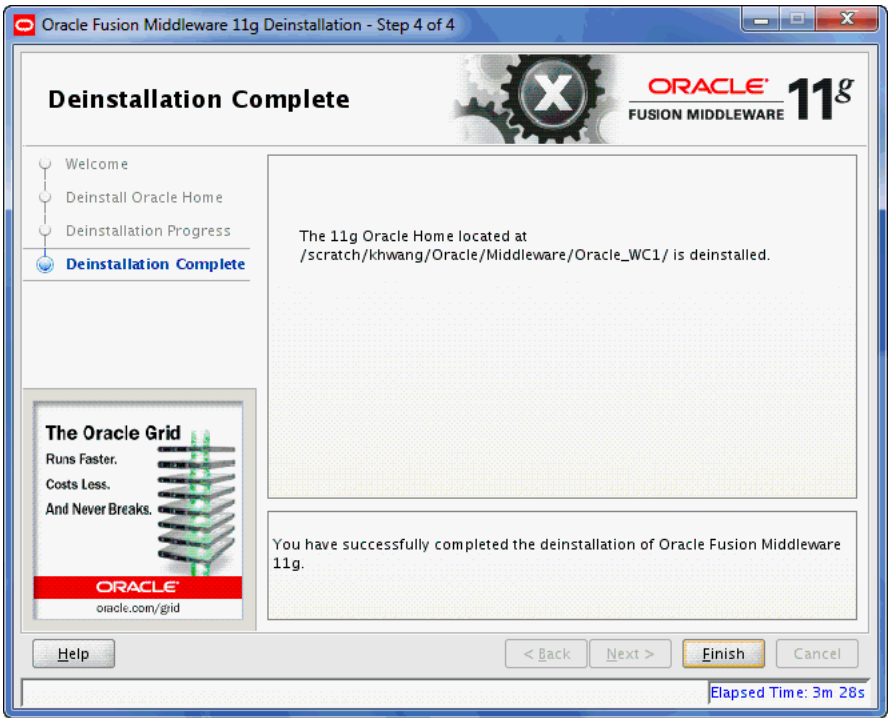
B.3 Deinstallation Progress



Use this screen to monitor the progress of the deinstallation process.

Click **Cancel** to stop the deinstallation process.

B.4 Deinstallation Complete



This screen summarizes the deinstallation that was just completed. When this screen appears, it indicates that the deinstallation is complete and the selected components have been cleared from the Oracle Inventory.

Click **Finish** to exit the installer.

C

Silent Installation and Deinstallation

This appendix describes how to install and deinstall Oracle WebCenter Portal from the command line in silent mode.

This appendix contains the following topics:

- Understanding Silent Installation and Deinstallation
- Using the Oracle WebCenter Portal Response File Templates

C.1 Understanding Silent Installation and Deinstallation

You can use the Oracle Universal Installer's silent installation mode to bypass the graphical user interface and supply the necessary information in a response file. This method is most useful when installing the same product multiple times on multiple hosts. By using a response file, you can automate the installation of a product for which you know the installation parameters.

For information about silent installation and deinstallation, refer to "Silent Oracle Fusion Middleware Installation and Deinstallation" in *Oracle Fusion Middleware Installation Planning Guide*.

C.2 Using the Oracle WebCenter Portal Response File Templates

Before doing a silent installation, you must provide information specific to your installation in a response file. A response file is a specification file containing information you normally fetch through the Oracle Universal Installer user interface during an interactive installation session. Each answer is stored as a value for a variable identified in the response file. For example, values for Oracle home or installation type can be set automatically within the response file. Response files are text files that you can create or edit in any text editor.

The installer will fail if you attempt an installation using a response file that is not configured correctly. Oracle recommends creating your response file by first running the install GUI, then clicking **Save** on the Installation Summary screen. You will be prompted for a name and location where you want to create this response file. After it is created, you can use it exactly as-is to replicate the installation on other systems, or modify it as needed.

Response file templates for Oracle WebCenter Portal are provided in the `Disk1/stage/Response` (on UNIX operating systems) or `Disk1\stage\Response` (on Windows operating systems) directory where you unpacked the archive file (Section 2.2.1, "Obtaining the Software"):

- For more information about the response file templates that be used for silent installation, see Section C.2.1, "Using the Oracle WebCenter Portal Silent Installation Response Files".
- For more information about the response file template that be used for silent deinstallation, see Section C.2.2, "Using the Oracle WebCenter Portal Silent Deinstallation Response File".

C.2.1 Using the Oracle WebCenter Portal Silent Installation Response Files

Table C–1 lists the installation response file templates provided for Oracle WebCenter Portal:

Table C–1 Installation Response File Templates for Oracle WebCenter Portal

Template	Description
`sampleResponse_wls.rsp`	Use this response file template to install Oracle SOA Suite using Oracle WebLogic Server as your application server. The equivalent using the GUI would be to run the installer and select **WebLogic Server** on the Application Server screen. For more information, see Section C.2.1.1, "Using the sampleResponse_wls.rsp response File Template".
`sampleResponse_was.rsp`	Use this response file template to install Oracle SOA Suite using IBM WebSphere as your application server. The equivalent using the GUI would be to run the installer and select **WebSphere** on the Application Server screen. For more information, see Section C.2.1.2, "Using the sampleResponse_was.rsp response File Template".

C.2.1.1 Using the sampleResponse_wls.rsp response File Template

Table C–2 describes the parameters found in the `sampleResponse_wls.rsp` response file template. The parameters are listed in the order in which they appear in the response file; note that they do not necessarily follow the order of the installation screens as seen in graphical mode.

Table C–2 Parameters in the sampleResponse_wls.rsp File

Corresponding Install Screen	Parameter	Description
Install Software Updates	`SPECIFY_DOWNLOAD_LOCATION` `SOFTWARE_UPDATES_DOWNLOAD_LOCATION`	Set `SPECIFY_DOWNLOAD_LOCATION=true` if you want to specify the location where software updates can be downloaded. Then, specify the directory on your local system that contains the updates using the `SOFTWARE_UPDATES_DOWNLOAD_LOCATION` parameter.
	`SKIP_SOFTWARE_UPDATES`	Set `SKIP_SOFTWARE_UPDATES=true` if you do not want the installer to check for software updates.
Specify Installation Location	`ORACLE_HOME`	Specify the full path to your Oracle home directory.
	`MIDDLEWARE_HOME`	Specify the full path to your Middleware home directory.
Application Server	`APPSERVER_TYPE`	Set `APPSERVER_TYPE=WLS` since you are using Oracle WebLogic Server as the application server.

C.2.1.2 Using the sampleResponse_was.rsp response File Template

Table C–3 describes the parameters found in the `sampleResponse_was.rsp` response file template. The parameters are listed in the order in which they appear in the response file; note that they do not necessarily follow the order of the installation screens as seen in graphical mode.

Table C–3 Parameters in the sampleResponse_was.rsp File

Corresponding Install Screen	Parameter	Description
Install Software Updates	`SPECIFY_DOWNLOAD_LOCATION` `SOFTWARE_UPDATES_DOWNLOAD_LOCATION`	Set `SPECIFY_DOWNLOAD_LOCATION=true` if you want to specify the location where software updates can be downloaded. Then, specify the directory on your local system that contains the updates using the `SOFTWARE_UPDATES_DOWNLOAD_LOCATION` parameter.
	`SKIP_SOFTWARE_UPDATES`	Set `SKIP_SOFTWARE_UPDATES=true` if you do not want the installer to check for software updates.
Specify Installation Location	`ORACLE_HOME`	Specify the full path to your Oracle home directory.
	`MIDDLEWARE_HOME`	Specify the full path to your Middleware home directory.
Application Server	`APPSERVER_TYPE`	Set `APPSERVER_TYPE=WAS` since you are using the IBM WebSphere application server.
	`APPSERVER_LOCATION`	Specify the location of your IBM WebSphere application server.

C.2.2 Using the Oracle WebCenter Portal Silent Deinstallation Response File

The only response file template provided for deinstallation is called `deinstall_oh.rsp`. This file contains only a single parameter: `DEINSTALL_IN_ASINSTANCE_MODE=false`. This causes the deinstaller to not look for any Oracle instances to remove; instead, the deinstaller will remove the Oracle home from where it is started.

D

Troubleshooting

This appendix describes solutions to common problems that you might encounter when installing Oracle WebCenter Portal.

It contains the following sections:

D.1 General Troubleshooting Tips

If you encounter an error during installation:

- Read the *Oracle Fusion Middleware Release Notes for Linux x86* or *Oracle Application Server Release Notes and New Features* (depending on your platform) for the latest updates. The most current version of the release notes is available on the Oracle Fusion Middleware Documentation page on Oracle Technology Network:

  `http://www.oracle.com/technetwork/middleware/fusion-middleware/documentation/index.html`

  Select the link for the documentation library corresponding to your release. The Release Notes are available in the library.

- Verify that your computer meets the requirements specified in the System Requirements and Specifications document:

  `http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-requirements-100147.html`

- If you entered incorrect information on one of the installation screens, return to that screen by clicking **Back** until you see the screen.

- If an error occurred while the installer is copying or linking files:

  1. Note the error and review the installation log files.
  2. Remove the failed installation by following the steps in Chapter 6, "Deinstalling Oracle WebCenter Portal".
  3. Correct the issue that caused the error.
  4. Restart the installation.

D.2 Installation and Configuration Log Files

This section contains solutions to common problems that you might encounter when installing Oracle Fusion Middleware. The following topics are covered:

- Section D.2.1, "Installation Log Files"
- Section D.2.2, "Configuration Log Files"

D.2.1 Installation Log Files

The installer writes logs files to the *Oracle_Inventory_Location*/log (on UNIX operating systems) or *Oracle_Inventory_Location*\logs (on Windows operating systems) directory. On UNIX operating systems, if you do not know the location of your Oracle Inventory directory, you can find it in the oraInst.loc file in the following directories (default locations):

- Linux: /etc/oraInst.loc
- HP-UX and Solaris: /var/opt/oracle/oraInst.loc

On Windows operating systems, the default location for the inventory directory is C:\Program Files\Oracle\Inventory\logs.

The following install log files are written to the log directory:

- install*date-time-stamp*.log

  This is the main log file.

- install*date-time-stamp*.out

  This log file contains the output and error streams during the installation.

- installActions*date-time-stamp*.log

  This file is used by the installer GUI to keep track of internal information.

- installProfile*date-time-stamp*.log

  This log file contains the overall statistics like time taken to complete the installation, as well as configuration, memory and CPU details.

- oraInstall*date-time-stamp*.log

  This log file contains the output stream of the copy session.

If you start the installer with the -printtime parameter, the timeTaken*date-time-stamp*.log and time*date-time-stamp*.log files are created in the same directory:

- timeTaken*date-time-stamp*.log

  This file contains information for the amount of time taken to move between screens (applicable for GUI installations only).

- time*date-time-stamp*.log

  This file contains time information for the copy session.

If you start the installer with the -printmemory parameter, the memory*date-time-stamp*.log file is created. This file contains memory usage information for the copy session.

D.2.2 Configuration Log Files

To create a log file of your configuration session, start the Configuration Wizard with the `-log` option, as shown below:

On UNIX operating systems:

```
./config.sh -log=log_filename -log_priority=log_level
```

On Windows operating systems:

```
config.cmd -log=log_filename -log_priority=log_level
```

See Table D–1 for more details about the `-log` and `-log_priority` options.

Table D–1 Configuration Wizard Log File Options

Parameter	Description
`-log`	Specify the location of your log file. If you specify an absolute path with your *`log_filename`* then your log file will be created there. If you only specify a file name with no path, then the log files are created in the *`MW_HOME`*`/logs` (on UNIX operating systems) or *`MW_HOME`*`\logs` (on Windows operating systems) directory. Other values that can be specified with `-log` are: ■ `stdout` This writes the error message to the standard output stream. ■ `stderr` This writes the error messages to the standard error stream. ■ `disable` This disables default logging so that no log files are generated in *`MW_HOME`*`/logs` (on UNIX operating systems) or *`MW_HOME`*`\logs` (on Windows operating systems).
`-log_priority`	Specify the level of detail you want included in your logs. The acceptable values are listed below, from most detailed to least detailed: ■ `debug` ■ `info` ■ `warning` ■ `error` ■ `fatal`

D.3 Keeping Track of Your JRE Location

The JRE location used by the installer is stored in the *`WebCenter_ORACLE_HOME`*`/oui/oraparam.ini` (on UNIX operating systems) or *`WebCenter_ORACLE_HOME`*`\oui\oraparam.ini` (on Windows operating systems) file. This file is used by OPatch and Oracle Universal Installer (OUI) to determine the location of your preferred JRE.

It is possible to change the location of your JRE (for example, the JRE directory is moved out of the Middleware Home). If this happens, you will get an error message when trying to run OPatch or OUI since the JRE location can no longer be found. If this happens, you can do one of the following:

- Edit the *WebCenter_ORACLE_HOME*/oui/oraparam.ini (on UNIX operating systems) or *WebCenter_ORACLE_HOME*\oui\oraparam.ini (on Windows operating systems) file to point to the new JRE location.
- Use the -jreLoc command line option to point to the new JRE location. See Section 2.2.2, "Starting the Installer" for more information.

D.4 Need More Help?

If this appendix does not solve the problem you encountered, contact My Oracle Support (formerly Oracle*MetaLink*: http://metalink.oracle.com), or open a service request.