

# Oracle® Fusion Middleware

## Installing and Configuring the Oracle Fusion Middleware Infrastructure



12c (12.2.1.4.0)

E95088-06

March 2021

The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

ORACLE®

Oracle Fusion Middleware Installing and Configuring the Oracle Fusion Middleware Infrastructure, 12c  
(12.2.1.4.0)

E95088-06

Copyright © 2013, 2021, Oracle and/or its affiliates.

Primary Author: Oracle Corporation

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

# Contents

## Preface

---

Audience	vi
Documentation Accessibility	vi
Related Documents	vi
Conventions	vii

## 1 Planning the Oracle Fusion Middleware Infrastructure Installation

---

Using This Document	1-1
Using the Standard Installation Topology as a Starting Point	1-2
Using this Document to Extend an Existing Domain	1-2
Using this Document in an Upgrade Scenario	1-2
About Installing a Development Environment	1-2
About the Infrastructure Standard Installation Topology	1-3
About Certified Oracle Database and the Standard Installation Topology	1-4
Oracle Fusion Middleware Infrastructure Standard Installation Topology Elements	1-4
Options after You Have a Standard Installation Topology	1-5
Roadmap for Installing and Configuring the Standard Installation Topology	1-5
Roadmap for Verifying Your System Environment	1-6
Obtaining the Infrastructure Distribution	1-7
About Installing Oracle User Messaging Service (UMS)	1-8

## 2 Installing the Infrastructure Software

---

Starting the Installation Program	2-1
Navigating the Installation Screens	2-2
Verifying the Installation	2-2
Reviewing Installation Log Files	2-3
Checking the Directory Structure	2-3
Viewing Your Oracle Home Contents	2-3

## 3 Configuring the Oracle Fusion Middleware Infrastructure Domain

---

Creating Database Schemas	3-1
Installing and Configuring a Certified Database	3-2
Starting the Repository Creation Utility (RCU)	3-2
Navigating RCU Screens to Create Schemas	3-2
Introducing RCU	3-3
Selecting a Schema Creation Method	3-3
Providing Database Credentials	3-3
Specifying a Custom Prefix and Selecting Schemas	3-3
Specifying Schema Passwords	3-4
Completing Schema Creation	3-4
Configuring Your WebLogic Domain	3-4
Starting the Configuration Wizard	3-4
Navigating Configuration Wizard Screens to Configure the Domain	3-5
Selecting the Domain Type and Domain Home Location	3-6
Selecting Configuration Templates	3-7
Selecting the Application Home Location	3-7
Configuring the Administrator Account	3-7
Specifying the Domain Mode and JDK	3-7
Specifying the Database Configuration Type	3-8
Specifying JDBC Component Schema Information	3-9
Testing JDBC Connections	3-9
Selecting Advanced Configuration	3-9
Configuring the Administration Server Listen Address	3-10
Configuring Node Manager	3-10
Configuring Managed Servers	3-10
Configuring a Cluster	3-11
Defining Server Templates	3-11
Configuring Dynamic Servers	3-11
Assigning Managed Servers to the Cluster	3-12
Configuring Coherence Clusters	3-12
Creating a New Machine	3-13
Assigning Servers to Machines	3-13
Virtual Targets	3-14
Partitions	3-14
Reviewing Your Configuration Specifications and Configuring the Domain	3-14
Writing Down Your Domain Name and Administration Server URL	3-14
About Server Groups	3-15
Starting the Servers	3-15
Starting Node Manager	3-16

Starting the Administration Server	3-16
Starting Managed Servers	3-17
Verifying Your Configuration	3-18

## 4 Next Steps After Configuring the Infrastructure Domain

---

Basic Administrative Tasks for a New Domain	4-1
Performing Additional Domain Configuration Tasks	4-2
High Availability Configuration Tasks	4-3

## 5 Uninstalling Oracle Fusion Middleware Infrastructure

---

Product Uninstallation Roadmap	5-1
Stopping Oracle Fusion Middleware	5-2
Removing Your Database Schemas	5-2
Uninstalling the Software	5-3
Starting the Uninstallation Program	5-3
Distribution to Uninstall	5-3
Navigating the Uninstallation Screens	5-3
Removing the Oracle Home Directory Manually	5-4
Removing Program Shortcuts on Windows Operating Systems	5-4
Removing Your Domain and Application Data	5-4
Reinstalling the Software	5-5
Scenario: Installing in an Existing Oracle Home that Contains the Same Feature Sets	5-5
Scenario: Installing in an Existing, Non-Empty Oracle Home	5-6

## A Understanding the Oracle Fusion Middleware Infrastructure Distribution

---

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

---

About Updating the JDK Location After Installing an Oracle Fusion Middleware Product	B-1
Updating the JDK Location in an Existing Oracle Home	B-2
Updating the JDK Location in an Existing Domain Home	B-3

# Preface

This document describes how to use the Oracle Fusion Middleware Infrastructure installation program.

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

## Audience

This document is for system administrators or application developers who will install Oracle Fusion Middleware Infrastructure for Oracle Application Development Framework (ADF). You should be familiar with Web technologies and have a general understanding of Windows and UNIX platforms.

## Documentation Accessibility

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

### Access to Oracle Support

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

## Related Documents

Refer to the Oracle Fusion Middleware Library for additional information.

- For Oracle Infrastructure installation information, see *Install, Patch, and Upgrade Documentation*.
- For installation information, see *Fusion Middleware Installation Documentation*.
- For upgrade information, see *Fusion Middleware Upgrade Documentation*.
- For administration-related information, see *Fusion Middleware Administration Documentation*.
- For release-related information, see *Fusion Middleware Release Notes*.

---

## Conventions

This document uses the following text conventions:

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

---

# 1

## Planning the Oracle Fusion Middleware Infrastructure Installation

There are a few steps you must take to prepare for an Oracle Fusion Middleware Infrastructure installation.

Review this section thoroughly to ensure that you don't encounter any problems during or after product installation and domain configuration.

- [Using This Document](#)  
There are certain scenarios that you want to use this guide for, and other sources of information.
- [About the Infrastructure Standard Installation Topology](#)  
The standard installation topology for Oracle Fusion Middleware Infrastructure has a standard WebLogic Server domain that contains an Administration Server and a cluster containing two Managed Servers.
- [Roadmap for Installing and Configuring the Standard Installation Topology](#)  
There are a series of steps to install and configure a standard Oracle Fusion Middleware Infrastructure installation topology.
- [Roadmap for Verifying Your System Environment](#)  
This topic has important information that you must read and understand before you begin installation and configuration steps.
- [Obtaining the Infrastructure Distribution](#)  
Before you obtain product distributions and run installers, verify that you have a certified JDK installed on your system.
- [About Installing Oracle User Messaging Service \(UMS\)](#)  
Oracle User Messaging Service (UMS) enables two-way communication between users and applications. UMS is part of the Oracle Fusion Middleware Infrastructure distribution and installs as part of the Oracle Fusion Middleware Infrastructure standard installation topology.

### Using This Document

There are certain scenarios that you want to use this guide for, and other sources of information.

This section contains the following topics:

- [Using the Standard Installation Topology as a Starting Point](#)  
This guide helps you create the standard installation topology for Oracle Fusion Middleware Infrastructure. You can extend this topology to make it highly available and secure so that it is suitable for a production system.
- [Using this Document to Extend an Existing Domain](#)  
Procedures in this guide describe how to create a new domain; you can use the same instructions to extend an *existing* domain.



- [Using this Document in an Upgrade Scenario](#)  
If you are installing Oracle Fusion Middleware Infrastructure as part of an upgrade procedure, follow steps in this guide to install the software, but don't run the Configuration Wizard to create a WebLogic domain.
- [About Installing a Development Environment](#)  
This guide describes how to use the Oracle Fusion Middleware Infrastructure distribution to install and configure a standard installation topology as a starting point for a *development* environment.

## Using the Standard Installation Topology as a Starting Point

This guide helps you create the standard installation topology for Oracle Fusion Middleware Infrastructure. You can extend this topology to make it highly available and secure so that it is suitable for a production system.

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

## Using this Document to Extend an Existing Domain

Procedures in this guide describe how to create a new domain; you can use the same instructions to extend an *existing* domain.

If you do this, see Installing Multiple Products in the Same Domain in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware* for important information.

If you are creating a new domain but your needs don't match instructions in the procedure, be sure to make your selections accordingly and see supporting documentation for additional details.

## Using this Document in an Upgrade Scenario

If you are installing Oracle Fusion Middleware Infrastructure as part of an upgrade procedure, follow steps in this guide to install the software, but don't run the Configuration Wizard to create a WebLogic domain.

After you install the software, see Plan the Upgrade in *Oracle Fusion Middleware Upgrading WebLogic Server*.

## About Installing a Development Environment

This guide describes how to use the Oracle Fusion Middleware Infrastructure distribution to install and configure a standard installation topology as a starting point for a *development* environment.

To install an Oracle Fusion Middleware Infrastructure *development* environment, Oracle recommends that you download and install Oracle JDeveloper, which provides an integrated development environment (IDE), preconfigured with the design-time software to develop Java and Oracle ADF applications.

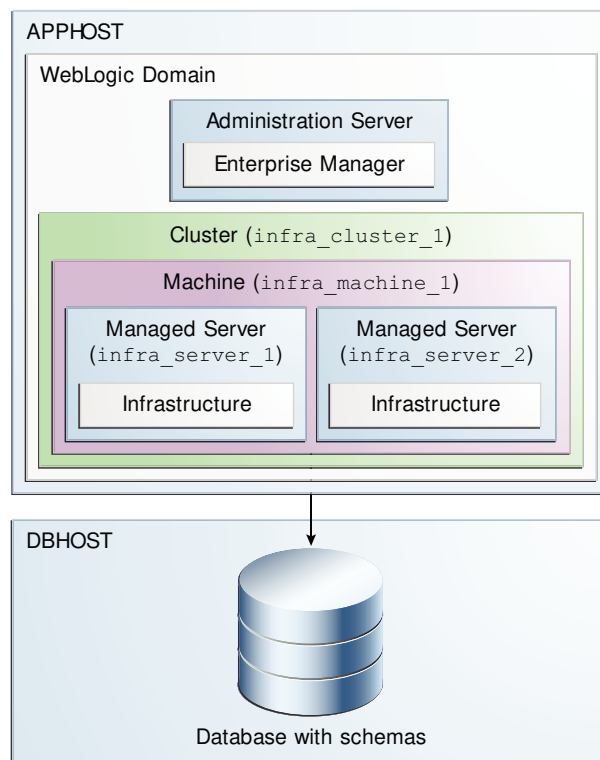
With Oracle JDeveloper, you can test your applications from within JDeveloper, using the integrated Oracle WebLogic Server.

Alternatively, you can use this guide to configure an Oracle Fusion Middleware Infrastructure domain to use as a runtime environment for your Java and Oracle ADF applications. You can then deploy your applications directly from JDeveloper to the Infrastructure domain. See [Installing Oracle JDeveloper](#).

## About the Infrastructure Standard Installation Topology

The standard installation topology for Oracle Fusion Middleware Infrastructure has a standard WebLogic Server domain that contains an Administration Server and a cluster containing two Managed Servers.

**Figure 1-1 Oracle Fusion Middleware Infrastructure Standard Installation Topology**



This topology also includes:

- Libraries and other software required to deploy and manage Oracle ADF applications that are installed and available on the Managed Servers.
- The domain is configured on one host. It requires the supported database where Fusion Middleware schemas are installed. See [About Certified Oracle Database and the Standard Installation Topology](#).

Continue to these topics on the standard installation topology:

- [About Certified Oracle Database and the Standard Installation Topology](#)  
For 12c (12.2.1.4.0), you must use a certified Oracle database for the Oracle Fusion Middleware Infrastructure standard installation topology.

- [Oracle Fusion Middleware Infrastructure Standard Installation Topology Elements](#)  
A standard installation topology includes a set of elements.
- [Options after You Have a Standard Installation Topology](#)  
Use the Standard Installation Topology (SIT) as a starting point for other documents.

## About Certified Oracle Database and the Standard Installation Topology

For 12c (12.2.1.4.0), you must use a certified Oracle database for the Oracle Fusion Middleware Infrastructure standard installation topology.

This database (in [About the Infrastructure Standard Installation Topology](#)) is the Infrastructure database, which Fusion Middleware products access. Do not confuse the *Infrastructure database* with the *internal application database*, which applications that you deploy in your environment use. For examples, see the "Additional DB" tab in the certification document for your release on the *Oracle Fusion Middleware Supported System Configurations* page.

## Oracle Fusion Middleware Infrastructure Standard Installation Topology Elements

A standard installation topology includes a set of elements.

The table describes elements in the topology figure ([Understanding the Infrastructure Standard Installation Topology](#)). See [Roadmap for Installing and Configuring the Standard Installation Topology](#) for a roadmap describing steps to create this topology.

**Table 1-1 Oracle Fusion Middleware Infrastructure Standard Installation Topology Elements**

Element	Description and Links to Additional Documentation
APPHOST	Standard term in Oracle documentation for the machine that hosts the application tier.
DBHOST	Standard term in Oracle documentation that refers to the machine that hosts the database.
WebLogic Domain	A logically related group of Java components. In this case, the Administration Server, Managed Servers, and other related software components.  See <i>What is an Oracle WebLogic Server Domain?</i> in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i> .
Administration Server	Central control entity of a domain which maintains the domain's configuration objects and distributes configuration changes to Managed Servers.  See <i>What is the Administration Server?</i> in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i> .
Enterprise Manager	Oracle Enterprise Manager Fusion Middleware Control, the main tool that you can use to manage your domain.  See <i>Oracle Enterprise Manager Fusion Middleware Control</i> in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i> .

**Table 1-1 (Cont.) Oracle Fusion Middleware Infrastructure Standard Installation Topology Elements**

Element	Description and Links to Additional Documentation
Cluster	A collection of multiple WebLogic Server instances running simultaneously and working together. See Understanding Managed Servers and Managed Server Clusters in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i> .
Machine	Logical representation of the computer that hosts one or more WebLogic Server instances (servers). Machines are also the logical glue between Managed Servers and Node Manager; to start or stop a Managed Server with Node Manager, the Managed Server must be associated with a machine.
Managed Server	Host for your applications, application components, Web services, and their resources. See Understanding Managed Servers and Managed Server Clusters in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i> .
Infrastructure	Collection of services that includes: <ul style="list-style-type: none"> <li>• Metadata repository (MDS) Contains metadata for Oracle Fusion Middleware components, such as Oracle Application Developer Framework. See What is the Metadata Repository in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i>.</li> <li>• Oracle Application Developer Framework (ADF)</li> <li>• Oracle Web Services Manager (OWSM)</li> </ul>

## Options after You Have a Standard Installation Topology

Use the Standard Installation Topology (SIT) as a starting point for other documents.

- The *Oracle Fusion Middleware Installing and Configuring Oracle HTTP Server* guide extends the SIT domain to include Oracle HTTP Server.
- The *Oracle Fusion Middleware High Availability Guide* uses the Oracle HTTP Server and Infrastructure as a starting point for configuring the SIT for high availability.
- For more information about the documentation roadmap and related high availability topologies, see Planning for a Production Environment in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

## Roadmap for Installing and Configuring the Standard Installation Topology

There are a series of steps to install and configure a standard Oracle Fusion Middleware Infrastructure installation topology.

This document has all steps you need to install and configure the product. Within the steps, this guide refers to additional information to create a modified version of this topology.

The following table shows steps required to install and configure the topology.

**Table 1-2 Oracle Fusion Middleware Infrastructure Installation Roadmap**

Task	Description	Documentation
Verify your system environment	Before you begin the installation, verify that the minimum system and network requirements are met.	See <a href="#">Roadmap for Verifying Your System Environment</a> .
Obtain the appropriate distribution	To create the topology described in this guide, obtain the Oracle Fusion Middleware Infrastructure distribution.	See <a href="#">Obtaining the Infrastructure Distribution</a> .
Determine your installation directories	Verify that the installer can create or access the installer directories that need to be created. Also, verify that the directories exist on systems that meet the minimum requirements.	See <i>What are the Key Oracle Fusion Middleware Directories?</i> in <i>Oracle Fusion Middleware Understanding Oracle Fusion Middleware</i> .
Install the software	Run the installation program to install the software. This transfers software to your system and creates the Oracle home directory.	See <a href="#">Installing the Infrastructure Software</a> .
Create a WebLogic domain	Use the configuration wizard to create and configure the WebLogic domain.	See <a href="#">Configuring the Oracle Fusion Middleware Infrastructure Domain</a> .
Administer and prepare your domain for high availability	Discover additional tools and resources to administer your domain and configure your domain to be highly available.	See <a href="#">Next Steps After Configuring the Infrastructure Domain</a> .

## Roadmap for Verifying Your System Environment

This topic has important information that you must read and understand before you begin installation and configuration steps.

It identifies important tasks and checks to make sure that your environment is ready for installing and configuring Oracle Fusion Middleware Infrastructure.

**Table 1-3 Roadmap for Verifying Your System Environment**

Task	Description	Documentation
Verify certification and system requirements.	Verify that your operating system is certified and properly configured for Oracle Fusion Middleware Infrastructure installation and configuration.	See <i>Verifying Certification and System Requirements</i> in <i>Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware</i> .

**Table 1-3 (Cont.) Roadmap for Verifying Your System Environment**

Task	Description	Documentation
Identify a proper installation user.	Verify that the installation user has the proper permissions to install and configure the software.	See <i>Selecting an Installation User</i> in <i>Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware</i> .
Select installation and configuration directories on your system.	Verify that you can create required directories for installation and configuration, according to the recommended directory structure.	See <i>Selecting Directories for Installation and Configuration</i> in <i>Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware</i> .
Install a certified JDK.	The installation program requires a certified JDK present on your system.	See <i>Installing a JDK</i> in <i>Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware</i> .
Install and configure an Oracle database.	To configure a WebLogic domain, you must have access to a certified database that is properly configured for schemas that Oracle Fusion Middleware Infrastructure requires. 12c (12.2.1.4.0) requires a certified Oracle database.	See <i>Installing and Configuring a Certified Database</i> in <i>Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware</i> .

## Obtaining the Infrastructure Distribution

Before you obtain product distributions and run installers, verify that you have a certified JDK installed on your system.

See *Installing a JDK* in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

To obtain Oracle Fusion Middleware Infrastructure:

1. Go to <http://www.oracle.com/technetwork/developer-tools/adf/downloads/index.html>. In the Oracle ADF Downloads section, select **12.2.1.4.0** from the Application Development Runtime field. Click **Download File**.
2. When your browser asks if you want to download the file `fmw_12.2.1.4.0_infrastructure_Disk1_1of1.zip`, download this file onto your system.
3. Extract the `.zip` file contents onto your system. The extracted file `fmw_12.2.1.4.0_infrastructure.jar` runs the product installer and installs the software onto your system. See [Installing the Infrastructure Software](#)

To obtain Oracle Fusion Middleware software, see *Understanding and Obtaining Product Distributions* in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

To locate and download Oracle Fusion Middleware products, see *Oracle Fusion Middleware Download, Installation, and Configuration Readme Files* on OTN.

## About Installing Oracle User Messaging Service (UMS)

Oracle User Messaging Service (UMS) enables two-way communication between users and applications. UMS is part of the Oracle Fusion Middleware Infrastructure distribution and installs as part of the Oracle Fusion Middleware Infrastructure standard installation topology.

UMS runtime components include a Configuration Wizard template and an Oracle Fusion Middleware schema, which installs into a database using Repository Creation Utility. See *Introduction to Oracle User Messaging Service* in *Oracle Fusion Middleware Administering Oracle User Messaging Service*.

You can install and use Oracle JDeveloper 12c to develop applications that can leverage UMS features. See *Oracle Fusion Middleware Installing Oracle JDeveloper*.

# 2

## Installing the Infrastructure Software

This section describes how to install Oracle Fusion Middleware Infrastructure software. This section contains the following topics:

- [Starting the Installation Program](#)  
You launch the installation program from the JDK directory on your system.
- [Navigating the Installation Screens](#)  
The installer shows a series of screens where you verify or enter information.
- [Verifying the Installation](#)  
After you complete the installation, verify it by completing the following tasks.

### Starting the Installation Program

You launch the installation program from the JDK directory on your system.

To start the installation program, run the following steps.

1. Sign in to the target system.
2. Verify that a certified JDK is on your system; the installer requires a certified JDK. See the certification document for 12c (12.2.1.4.0) on the *Oracle Fusion Middleware Supported System Configurations* page.
3. Go to the directory where you downloaded the installation program.
4. Launch the installation program by invoking the `java` executable from the JDK directory on your system, as examples below show. Replace the JDK location in the examples with the actual JDK location on your system.

On UNIX operating systems:

```
/home/Oracle/jdk/jdk1.8.0_211/bin/java -jar  
fmw_12.2.1.4.0_infrastructure.jar
```

On Windows operating systems:

```
"C:\Program Files\Java\jdk1.8.0_211\bin\java" -jar  
fmw_12.2.1.4.0_infrastructure.jar
```

#### Note:

When launching the installation program on Windows, run the command with Windows Administrator privileges. Specify 'Run as administrator' when you open the command prompt. The title bar of the command prompt window reads 'Administrator: Command Prompt'.

When the installation program opens, you can begin installation. [Navigating the Installation Screens](#) describes each screen.



## Navigating the Installation Screens

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

The following table lists the order in which installer screens appear. If you need additional help with an installation screen, click **Help**.

**Table 2-1 Oracle Fusion Middleware Infrastructure Install Screens**

Screen	Description
Installation Inventory Setup	<p>On UNIX operating systems, this screen opens if this is the first time you are installing any Oracle product on this host. Specify the location where you want to create your central inventory. Make sure that the operating system group name selected on this screen has write permissions to the central inventory location.</p> <p>See About the Oracle Central Inventory in <i>Oracle Fusion Middleware Installing Software with the Oracle Universal Installer</i>.</p> <p>This screen does not appear on Windows operating systems.</p>
Welcome	Review the information to make sure that you have met all the prerequisites, then click <b>Next</b> .
Auto Updates	Select to skip automatic updates, select patches, or search for the latest software updates, including important security updates, through your My Oracle Support account.
Installation Location	<p>Specify your Oracle home directory location.</p> <p>You can click <b>View</b> to verify and ensure that you are installing Oracle Fusion Middleware Infrastructure in the correct Oracle home.</p>
Installation Type	Use this screen to select the type of installation and consequently, the products and feature sets you want to install. For this topology, select <b>Fusion Middleware Infrastructure</b> .
Prerequisite Checks	<p>This screen verifies that your system meets the minimum necessary requirements.</p> <p>To view the list of tasks that gets verified, select <b>View Successful Tasks</b>. To view log details, select <b>View Log</b>. If any prerequisite check fails, then an error message appears at the bottom of the screen. Fix the error and click <b>Rerun</b> to try again. To ignore the error or the warning message and continue with the installation, click <b>Skip</b> (not recommended).</p>
Installation Progress	<p>This screen shows the installation progress.</p> <p>When the progress bar reaches 100% complete, click <b>Finish</b> to dismiss the installer, or click <b>Next</b> to see a summary.</p>
Installation Complete	This screen displays the Installation Location and the Feature Sets that are installed. Review this information and click <b>Finish</b> to close the installer.

## Verifying the Installation

After you complete the installation, verify it by completing the following tasks.

- [Reviewing Installation Log Files](#)  
Review contents of the installation log files to verify the installer did not encounter problems.

- [Checking the Directory Structure](#)  
The contents of your installation vary based on options you select during installation.
- [Viewing Your Oracle Home Contents](#)  
You can view the contents of your Oracle home using the `viewInventory` script.

## Reviewing Installation Log Files

Review contents of the installation log files to verify the installer did not encounter problems.

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

## Checking the Directory Structure

The contents of your installation vary based on options you select during installation.

For more information on the directory structure that you should see after installation, see *What are the Key Oracle Fusion Middleware Directories?* in *Understanding Oracle Fusion Middleware*.

## Viewing Your Oracle Home Contents

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

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

# 3

## Configuring the Oracle Fusion Middleware Infrastructure Domain

Use the steps in the following order to create and configure the WebLogic Server domain for Oracle Fusion Middleware Infrastructure.

This section contains the following topics:

- [Creating Database Schemas](#)  
Before you configure a Fusion Middleware Infrastructure domain, you must install the following schemas on a certified database to use them with this Oracle Fusion Middleware release.
- [Configuring Your WebLogic Domain](#)  
This topic describes how to create a WebLogic domain using the Configuration Wizard.
- [Starting the Servers](#)  
When you finish configuration, take the following steps to access tools to manage your domain.
- [Verifying Your Configuration](#)  
Oracle recommends that you verify that your domain is configured properly.

### Creating Database Schemas

Before you configure a Fusion Middleware Infrastructure domain, you must install the following schemas on a certified database to use them with this Oracle Fusion Middleware release.

- Metadata Services (MDS)
- Audit Services (IAU)
- Audit Services Append (IAU\_APPEND)
- Audit Services Viewer (IAU\_VIEWER)
- Oracle Platform Security Services (OPSS)
- User Messaging Service (UMS)
- WebLogic Services (WLS)
- Service Table (STB)

Follow the instructions in this topic to create database schemas:

- [Installing and Configuring a Certified Database](#)  
Verify that you installed and configured a certified database and that it is up and running.
- [Starting the Repository Creation Utility \(RCU\)](#)  
You start RCU from the `/oracle_common/bin` directory.

- [Navigating RCU Screens to Create Schemas](#)  
Follow this series of steps to create schemas for the Oracle Fusion Middleware Infrastructure domain.

## Installing and Configuring a Certified Database

Verify that you installed and configured a certified database and that it is up and running.

See *Installing a Database and Database Schemas in Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

## Starting the Repository Creation Utility (RCU)

You start RCU from the `/oracle_common/bin` directory.

To start the Repository Creation Utility:

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

On UNIX operating systems:

```
./rcu
```

On Microsoft Windows operating systems:

```
rcu.bat
```

## Navigating RCU Screens to Create Schemas

Follow this series of steps to create schemas for the Oracle Fusion Middleware Infrastructure domain.

- [Introducing RCU](#)
- [Selecting a Schema Creation Method](#)  
If you have the permission and privileges to perform DBA actions on your database, select **System Load and Product Load** on the Create Repository screen.
- [Providing Database Credentials](#)  
On the Database Connection Details screen, enter database connection details for RCU to connect to your database.
- [Specifying a Custom Prefix and Selecting Schemas](#)  
On the Select Components screen, enter a custom prefix you want to use for your schemas, then select **AS Common Schemas**.
- [Specifying Schema Passwords](#)  
On the Schema Passwords screen, specify how you want to set the schema passwords on your database, then enter and confirm your passwords.
- [Completing Schema Creation](#)  
Navigate through the remaining RCU screens to complete schema creation. When you reach the Completion Summary screen, click **Close** to dismiss RCU.

## Introducing RCU

Click **Next** on the Welcome to Repository Creation Utility screen.

## Selecting a Schema Creation Method

If you have the permission and privileges to perform DBA actions on your database, select **System Load and Product Load** on the Create Repository screen.

(The procedure in this document assumes that you have the necessary privileges.)

If you do *not* have the necessary permission or privileges to perform DBA actions, you must select **Prepare Scripts for System Load**. This option generates a SQL script that you can give to your database administrator. See Understanding System Load and Product Load in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

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

## Providing Database Credentials

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

Click **Next** then click **OK** on the dialog window to confirm a successful database connection.

Database Connection Details in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility* has additional details about options on this screen.

## Specifying a Custom Prefix and Selecting Schemas

On the Select Components screen, enter a custom prefix you want to use for your schemas, then select **AS Common Schemas**.

All schemas in this section are automatically selected. The custom prefix logically groups these schemas together for this domain.

For more on custom prefixes, see Understanding Custom Prefixes in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

For more on how to organize schemas in a multi-domain environment, see Planning Your Schema Creation in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

Make a note of the custom prefix that you enter; you need the prefix when you create a domain.

Click **Next** then click **OK** on the dialog window to confirm that prerequisite checking for schema creation is successful.

## Specifying Schema Passwords

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

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

## Completing Schema Creation

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

See About Repository Creation Utility for more details about RCU features and concepts.

## Configuring Your WebLogic Domain

This topic describes how to create a WebLogic domain using the Configuration Wizard.

There are other ways to create a domain; see Additional Tools for Creating, Extending, and Managing WebLogic Domains in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

To configure a WebLogic domain, follow these steps:

- [Starting the Configuration Wizard](#)  
To start domain configuration, navigate to the `ORACLE_HOME/oracle_common/common/bin` directory and start the WebLogic Server Configuration Wizard.
- [Navigating Configuration Wizard Screens to Configure the Domain](#)  
In addition to creating and configuring a domain, you can use this procedure to extend an existing domain. If your settings don't match those in the procedure, change your selections as you need to or see supporting documentation for more details.
- [About Server Groups](#)  
**Server groups** target Fusion Middleware applications and services to one or more servers by mapping defined application service groups to each defined server group.

## Starting the Configuration Wizard

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

On UNIX operating systems:

```
./config.sh
```

On Microsoft Windows operating systems:

```
config.cmd
```

On Windows operating systems, you can also start the Configuration Wizard from the **Start** menu: Select **All Programs**, then **Oracle**, then **OracleHome**. Select **WebLogic Server 12c (12.2.version)**, then **Tools**, then **Configuration Wizard**.

## Navigating Configuration Wizard Screens to Configure the Domain

In addition to creating and configuring a domain, you can use this procedure to extend an existing domain. If your settings don't match those in the procedure, change your selections as you need to or see supporting documentation for more details.

To configure multiple products in one domain, see *Installing Multiple Products in the Same Domain* in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

- [Selecting the Domain Type and Domain Home Location](#)  
You must select a Domain home directory location, optimally outside the Oracle home directory.
- [Selecting Configuration Templates](#)  
A domain template defines the full set of resources within a WebLogic domain, including the Administration Server, clusters, servers, applications, services, security options, and other options.
- [Selecting the Application Home Location](#)  
On the Application Location screen, select a location to store applications associated with your domain. This location is the **Application home** directory.
- [Configuring the Administrator Account](#)  
Use the Administrator Account screen to specify the user name and password for the default WebLogic Administrator account for the domain.
- [Specifying the Domain Mode and JDK](#)  
Use the Domain Mode and JDK screen to specify the domain mode and Java Development Kit (JDK).
- [Specifying the Database Configuration Type](#)  
Use the Database Configuration type screen to specify details about the database and database schema.
- [Specifying JDBC Component Schema Information](#)  
Use the JDBC Component Schema screen to verify or specify details about the database schemas.
- [Testing JDBC Connections](#)  
Use the JDBC Component Schema Test screen to test datasource connections that you just configured.
- [Selecting Advanced Configuration](#)  
Use the Advanced Configuration screen to complete the domain configuration.
- [Configuring the Administration Server Listen Address](#)  
Use the Administration Server screen to select the IP address of the host.
- [Configuring Node Manager](#)  
Use the Node Manager screen to select the Node Manager type you want to configure, along with the Node Manager credentials.
- [Configuring Managed Servers](#)  
In this screen, you create Managed Servers.
- [Configuring a Cluster](#)

- [Defining Server Templates](#)  
If you are creating dynamic clusters for a high availability setup, use the Server Templates screen to define one or more server templates for domain.
- [Configuring Dynamic Servers](#)  
If you are creating dynamic clusters for a high availability setup, use the Dynamic Servers screen to configure the dynamic servers.
- [Assigning Managed Servers to the Cluster](#)
- [Configuring Coherence Clusters](#)  
Use the Coherence Clusters screen to configure the Coherence cluster.
- [Creating a New Machine](#)  
You create a new machine in the domain using the Machines screen. You assign servers to this machine in the next screen.
- [Assigning Servers to Machines](#)  
In this screen, assign the domain servers to the machine you just created.
- [Virtual Targets](#)  
If you have a WebLogic Server Multitenant (MT) environment, you use the Virtual Targets screen to add or delete virtual targets. For this installation (not a WebLogic Server MT environment), you do not enter any values; just select **Next**.
- [Partitions](#)  
The Partitions screen is used to configure partitions for virtual targets in WebLogic Server Multitenant (MT) environments. Select **Next** without selecting any options.
- [Reviewing Your Configuration Specifications and Configuring the Domain](#)  
The Configuration Summary screen shows detailed configuration information for the domain you are about to create.
- [Writing Down Your Domain Name and Administration Server URL](#)  
The Configuration Success screen shows information about the domain you just configured.

## Selecting the Domain Type and Domain Home Location

You must select a Domain home directory location, optimally outside the Oracle home directory.

To specify the Domain type and Domain home directory:

1. On the *Configuration Type* screen, select **Create a New Domain**.
2. In the Domain Location field, specify your Domain home directory.

Oracle recommends that you locate your Domain home in accordance with the directory structure in *What are the Key Oracle Fusion Middleware Directories?* in *Oracle Fusion Middleware Understanding Oracle Fusion Middleware*. The Domain home resides *outside* Oracle home directory. This directory structure helps avoid issues when you upgrade or reinstall software.

For more on the Domain home directory, see *Choosing a Domain Home* in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

For more about reinstalling the software, see [Reinstalling the Software](#).

For more about other options on this screen, see *Configuration Type* in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.



## Selecting Configuration Templates

A domain template defines the full set of resources within a WebLogic domain, including the Administration Server, clusters, servers, applications, services, security options, and other options.

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

- Oracle Enterprise Manager - 12.2.1.4.0 [em]  
Selecting this template automatically selects the following dependencies:
  - Oracle JRF - 12.2.1.4.0 [oracle\_common]
  - WebLogic Coherence Cluster Extension - 12.2.1.4.0 [wlserver]
- Oracle WSM Policy Manager - 12.2.1.4.0 [oracle\_common]

See Templates in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard* for details about options on this screen.

## Selecting the Application Home Location

On the Application Location screen, select a location to store applications associated with your domain. This location is the **Application home** directory.

Oracle recommends that you locate your Application home in accordance with the directory structure that *What are the Key Oracle Fusion Middleware Directories?* in *Oracle Fusion Middleware Understanding Oracle Fusion Middleware* describes. Oracle recommends that you locate the Application home outside the Oracle home directory. This directory structure helps avoid issues when you upgrade or reinstall your software.

For more about the Application home directory, see *Choosing an Application Home* in *Oracle Fusion Middleware Planning an Installation of Oracle Fusion Middleware*.

For more about reinstalling the software, see [Reinstalling the Software](#).

For more about options on this screen, see *Application Location* in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

## Configuring the Administrator Account

Use the Administrator Account screen to specify the user name and password for the default WebLogic Administrator account for the domain.

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

## Specifying the Domain Mode and JDK

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

On the Domain Mode and JDK screen:

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

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

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

## Specifying the Database Configuration Type

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

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

### Note:

If you select **Manual Configuration** on this screen, you must manually fill in parameters for your schema on the next screen.

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

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

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

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

Successfully Done.

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

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

## Specifying JDBC Component Schema Information

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

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

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

- Configuring Active GridLink Data Sources with Oracle RAC
- Configuring Multi Data Sources

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

## Testing JDBC Connections

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

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

See JDBC Component Schema Test in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard* for more details about other options on this screen.

## Selecting Advanced Configuration

Use the Advanced Configuration screen to complete the domain configuration.

To complete domain configuration, select these options:

- Administration Server — Required to properly configure the Administration Server's listen address.
- Node Manager — Required to configure Node Manager.
- Topology — Required to configure the Managed Servers and cluster, and for configuring the machine and targeting Managed Servers to the machine.

To configure dynamic clusters, see:

- Overview of Dynamic Clusters in *Oracle Fusion Middleware Understanding Oracle WebLogic Server*.
- Creating Dynamic Clusters in *Oracle Fusion Middleware Administering Clusters for Oracle WebLogic Server*.

You do not need to select:

- Domain Frontend Host Capture

- Deployments and Services
- JMS File Store

## Configuring the Administration Server Listen Address

Use the Administration Server screen to select the IP address of the host.

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

Do *not* specify any server groups for the Administration Server.

## Configuring Node Manager

Use the Node Manager screen to select the Node Manager type you want to configure, along with the Node Manager credentials.

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

### Tip:

See Node Manager in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard* for details about options on this screen.

See Node Manager Overview in *Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server* for details about the types of Node Manager.

## Configuring Managed Servers

In this screen, you create Managed Servers.

To create two new Managed Servers:

1. Click the **Add** button to create a new Managed Server.
2. Specify `infra_server_1` in the Server name column.  
Installation and configuration procedures use `infra_server_#` for Managed Servers names. If you use different names, substitute `infra_server_#` with them.
3. In the Listen Address drop-down list, select the IP address of the host on which the Managed Server will reside. Do not use "All Local Addresses."
4. In the Server Groups drop-down list, select **JRF-MAN-SVR** and **WSMPM-MAN-SVR**. These server groups ensure that Oracle JRF and Oracle Web Services Manager (OWSM) services target Managed Servers you are creating.  
See [About Server Groups](#) for more on server groups.
5. Repeat this process to create a second Managed Server named `infra_server_2`.

You must configure a second Managed Server to configure the standard topology for high availability. If you are *not* creating a highly available environment, this step is optional.

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

For more about the next steps to prepare for high availability after your domain is configured, see [High Availability Configuration Tasks](#).

For details about options on this screen, see Managed Servers in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

## Configuring a Cluster

To create a new cluster:

1. Click the **Add** button.
2. Enter `infra_cluster_1` in the Cluster Name field.
3. Leave the cluster Address field blank.

By default, server instances in a cluster use unicast to communicate with each other. To change your cluster communications to use multicast, see Considerations for Choosing Unicast or Multicast in *Oracle Fusion Middleware Administering Clusters for Oracle WebLogic Server*.

You can create new clusters using Fusion Middleware Control and configure cluster communication (unicast or multicast) as you go through cluster creation steps. See Create and Configure Clusters in Administration Console Online Help.

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

## Defining Server Templates

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

To continue configuring the domain, click **Next**.

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

## Configuring Dynamic Servers

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

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

 **Note:**

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

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

## Assigning Managed Servers to the Cluster

To assign `infra_server_1` and `infra_server_2` to the new cluster `infra_cluster_1`, use the Assign Servers to Clusters screen:

1. In the Clusters pane, select the cluster that you want to assign servers to; in this case, `infra_cluster_1`.
2. In the Servers pane, take one of the following steps to assign `infra_server_1` to `infra_cluster_1`:
  - Click once on `infra_server_1` to select it, then click on the right arrow to move it beneath the selected cluster (`infra_cluster_1`) in the Clusters pane.
  - Double-click on `infra_server_1` to move it beneath the selected cluster (`infra_cluster_1`) in the clusters pane.
3. Repeat to assign `infra_server_2` to `infra_cluster_1`.

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

## Configuring Coherence Clusters

Use the Coherence Clusters screen to configure the Coherence cluster.

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

 **Note:**

Setting the unicast listen port to 0 creates an offset for the Managed Server port numbers. The offset is 5000, meaning the maximum allowed value that you can assign to a Managed Server port number is 60535, instead of 65535.

For Coherence licensing information, see Oracle Coherence Products in *Oracle Fusion Middleware Licensing Information User Manual*.

## Creating a New Machine

You create a new machine in the domain using the Machines screen. You assign servers to this machine in the next screen.

### Tip:

If you plan to create a high availability environment and know the list of machines that your target topology requires, you can follow the steps in this topic to create all machines at this time. See *Optional Scale Out Procedure* in *Oracle Fusion Middleware High Availability Guide*.

To create a new machine in the domain:

1. Click the **Add** button to create a new machine.
2. Specify `infra_machine_1` in the Name field.
3. In the Node Manager Listen Address field, select the IP address of the machine where you are configuring Managed Servers. You must select a specific interface, not "localhost," so that Coherence cluster addresses can calculate dynamically.
4. Verify the port in the Node Manager Listen Port field.

Examples in the procedures may use port number 5556. You must replace this port number with your own port number as needed.

### Note:

If you extend an existing domain, you can assign servers to any existing machine. You don't need to create a new machine unless your situation requires it.

See *Machines* in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard* for details about these options.

## Assigning Servers to Machines

In this screen, assign the domain servers to the machine you just created.

To assign the Administration Server and Managed Servers to the new machine:

1. In the Machines pane, select the machine you want to assign the servers to; in this case, `infra_machine_1`.
2. In the Servers pane, take one of the following steps to assign `AdminServer` to `infra_machine_1`:
  - Click once on `AdminServer` to select it, then click on the right arrow to move it beneath the selected machine (`infra_machine_1`) in the Machines pane.
  - Double-click on `AdminServer` to move it beneath the selected machine (`infra_machine_1`) in the Machines pane.

3. Repeat to assign both `infra_server_1` and `infra_server_2` to `infra_machine_1`. Click **Next**.

For more details about options on this screen, see *Assign Servers to Machines* in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

## Virtual Targets

If you have a WebLogic Server Multitenant (MT) environment, you use the Virtual Targets screen to add or delete virtual targets. For this installation (not a WebLogic Server MT environment), you do not enter any values; just select **Next**.

For details about this screen, see *Virtual Targets* in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

### Note:

WebLogic Server Multitenant virtual targets are deprecated in WebLogic Server 12.2.1.4.0 and will be removed in the next release.

## Partitions

The Partitions screen is used to configure partitions for virtual targets in WebLogic Server Multitenant (MT) environments. Select **Next** without selecting any options.

For details about options on this screen, see *Partitions* in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

### Note:

WebLogic Server Multitenant domain partitions are deprecated in WebLogic Server 12.2.1.4.0 and will be removed in the next release.

## Reviewing Your Configuration Specifications and Configuring the Domain

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

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

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

## Writing Down Your Domain Name and Administration Server URL

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

- Domain Location



- Administration Server URL

You must make a note of both items because you need them later; you need the **Domain Location** to access scripts that start Node Manager and Administration Server. You need **Admin Server URL** to access the Administration Server.

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

## About Server Groups

**Server groups** target Fusion Middleware applications and services to one or more servers by mapping defined application service groups to each defined server group.

Any application services that map to a server group automatically target *all* servers assigned to that group. For more details, see Application Service Groups, Server Groups, and Application Service Mappings in *Oracle Fusion Middleware Domain Template Reference*.

### Note:

The WSM-CACHE-SVR server group configures Nonce caching for Oracle Web Services automatically, and is suitable for most applications. Nonce is a unique number that can be used only once in a SOAP request and prevents replay attacks. Nonce caching scales with the number of added Managed Servers running Web service applications.

For advanced caching configurations, see Caching the Nonce with Oracle Coherence in *Oracle Fusion Middleware Securing Web Services and Managing Policies with Oracle Web Services Manager*.

## Starting the Servers

When you finish configuration, take the following steps to access tools to manage your domain.

### Note:

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

- [Starting Node Manager](#)
- [Starting the Administration Server](#)  
After you finish configuration, you need to start the Administration Server to manage your domain.
- [Starting Managed Servers](#)  
You start the Managed Servers from Oracle Fusion Middleware Control.

## Starting Node Manager

To start the per-domain Node Manager:

1. Change to the following directory:
  - (UNIX) `setenv JAVA_HOME /home/Oracle/Java/jdk1.8.0_211`
  - (Windows) `set JAVA_HOME=C:\home\Oracle\Java\jdk1.8.0_211`
2. Enter the following command:

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

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

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

- (Windows) `startNodeManager.cmd`

### Note:

On Windows operating systems, Oracle recommends that you configure Node Manager to run as a startup service. This allows Node Manager to start up automatically each time the system is restarted.

See *Running Node Manager as a Startup Service in Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server*.

## Starting the Administration Server

After you finish configuration, you need to start the Administration Server to manage your domain.

To start the Administration Server:

On UNIX operating systems, go the `DOMAIN_HOME/bin` directory and run:

```
./startWebLogic.sh
```

On Windows operating systems, run:

```
startWebLogic.cmd
```

If you chose **Production Mode** or **Secure** on the Domain Mode and JDK screen in the Configuration Wizard, you see a prompt for Administrator user login credentials. You provided these in the Administrator Account screen in [Configuring the Administrator Account](#).

 **Tip:**

For more details about starting the Administration Server, see *Starting and Stopping Administration Servers* in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.

In production mode, you can create a boot identity file to bypass the need to enter credentials when starting the Administration Server. See *Creating a Boot Identity File for an Administration Server* in *Oracle Fusion Middleware Administering Server Startup and Shutdown for Oracle WebLogic Server*.

To verify that the Administration Server is up and running, open the Administration Server Console. The URL is on the Configuration Success screen in [Writing Down Your Domain Name and Administration Server URL](#).

 **Note:**

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

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

The default Administration Server port number is 7001.

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

## Starting Managed Servers

You start the Managed Servers from Oracle Fusion Middleware Control.

To start Managed Servers:

1. Sign in to Oracle Fusion Middleware Control:

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

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

You specified login credentials on the Administrator Account screen ([Specifying a Custom Prefix and Selecting Schemas](#)).

2. From the Target Navigation pane, click the arrows to expand the domain until you see Managed Servers (infra\_server\_1 and infra\_server\_2).
3. Select the first Managed Server (infra\_server\_1).
4. Next to the **WebLogic Server** menu, select **Start Up**.

5. Repeat Steps 3 and 4 to start `infra_server_2`.
6. In the Target Navigation page, select your domain name to see that all servers are up and running.

For more information about managing Oracle Fusion Middleware using Oracle Enterprise Manager Fusion Middleware Control, see [Manage Infrastructure in Administering Oracle Fusion Middleware with Fusion Middleware Control](#) .

## Verifying Your Configuration

Oracle recommends that you verify that your domain is configured properly.

See [Basic Administrative Tasks for a New Domain](#) to verify your configuration. Familiarize yourself with tasks that this topic describes and run them.

# 4

## Next Steps After Configuring the Infrastructure Domain

This topic describes common tasks you might want to perform on a newly created Oracle Fusion Middleware Infrastructure domain.

This section includes the following topics:

- [Basic Administrative Tasks for a New Domain](#)  
There are a series of common administration tasks to perform on your newly created domain.
- [Performing Additional Domain Configuration Tasks](#)  
Review additional configuration tasks you will likely want to perform on a new domain.
- [High Availability Configuration Tasks](#)  
If you choose to scale out your standard installation environment for high availability, there is a list of tasks to perform.

### Basic Administrative Tasks for a New Domain

There are a series of common administration tasks to perform on your newly created domain.

**Table 4-1 Basic Administration Tasks for a New Domain**

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

# Performing Additional Domain Configuration Tasks

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

**Table 4-2 Additional Domain Configuration Tasks**

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

## High Availability Configuration Tasks

If you choose to scale out your standard installation environment for high availability, there is a list of tasks to perform.

**Table 4-3 Tasks Required to Prepare Your Environment for High Availability**

Task	Description	More Information
Configuring Node Manager	Node Manager enables you to start, shut down, and restart the Administration Server and Managed Server instances from a remote location. Node Manager is an essential utility for high availability environments.	Configuring Java Node Manager in <i>Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server</i> .
Scaling out to multiple host computers	To enable high availability, it is important to provide failover capabilities to another host computer. If one computer goes down, your environment can continue to serve consumers of your deployed applications.	Scaling Out a Topology (Machine Scaleout) in the <i>Oracle Fusion Middleware High Availability Guide</i> .
Configuring high availability for your Web Tier components.	If you added a Web tier front-end, you must configure the Web Tier for high availability, as well as the WebLogic Server software.	Configuring High Availability for Web Tier Components in <i>Oracle Fusion Middleware High Availability Guide</i> .
Setting up a front-end load balancer	You can use a load balancer to distribute requests across servers more evenly.	Server Load Balancing in a High Availability Environment and Configure Load Balancer in <i>Oracle Fusion Middleware High Availability Guide</i> .

# 5

## Uninstalling Oracle Fusion Middleware Infrastructure

This section describes how to uninstall or reinstall Oracle Fusion Middleware Infrastructure. Always use the instructions in this topic to remove the software to verify it uninstalls properly. If you try to remove the software manually, you may experience problems when you try to reinstall the software again at a later time.

This section includes the following topics:

- [Product Uninstallation Roadmap](#)  
The Oracle Fusion Middleware uninstaller removes software from the Oracle home directory that it starts from.
- [Reinstalling the Software](#)  
You can reinstall your software into the same Oracle home as a previous installation only if you have uninstalled the software by following the deinstallation instructions, including manually removing the Oracle home directory.

### Product Uninstallation Roadmap

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

The following table summarizes the procedure and provides links to supporting documentation.

**Table 5-1 Roadmap for Uninstalling Oracle Fusion Middleware Infrastructure**

Task	Description	Documentation
Stop Oracle Fusion Middleware.	Oracle recommends that you stop all servers and processes in your domain before you run the uninstaller.	See <a href="#">Stopping Oracle Fusion Middleware</a> .
Remove your database schemas.	Run Repository Creation Utility to remove your database schemas.	See <a href="#">Removing Your Database Schemas</a> .
Remove the software.	Run the product uninstaller to remove Oracle Fusion Middleware Infrastructure.	See <a href="#">Uninstalling the Software</a> .
Remove the Oracle home directory.	The uninstaller does not remove all files and folders from the Oracle home directory. After the uninstaller finishes, you must manually remove the Oracle home to complete your product removal.	See <a href="#">Removing the Oracle Home Directory Manually</a> .
Remove the program shortcuts on Windows operating systems.	The uninstaller does not remove the program shortcuts on your Windows operating system.	See <a href="#">Removing Program Shortcuts on Windows Operating Systems</a> .



Table 5-1 (Cont.) Roadmap for Uninstalling Oracle Fusion Middleware Infrastructure

Task	Description	Documentation
Remove your domain and application data.	The uninstaller does not remove data contained in your Domain home nor Application home directories, even if they are located inside the Oracle home. If necessary, you must remove these directories manually.	See <a href="#">Removing Your Domain and Application Data</a> .

- [Stopping Oracle Fusion Middleware](#)  
Before you run the uninstaller, Oracle recommends that you stop all servers and processes associated with the Oracle home that you are going to remove.
- [Removing Your Database Schemas](#)  
Before removing the Oracle home, Oracle recommends that you run Repository Creation Utility to remove database schemas associated with a domain.
- [Uninstalling the Software](#)  
You can use the uninstaller or perform a silent install.
- [Removing the Oracle Home Directory Manually](#)  
After the uninstaller finishes, you must manually remove your Oracle home directory and any existing sub-directories that the uninstaller did not remove.
- [Removing Program Shortcuts on Windows Operating Systems](#)  
On Windows operating systems, you must also manually remove the program short cuts; the uninstaller does not remove them for you.
- [Removing Your Domain and Application Data](#)  
If you will no longer use domain and application files, you can remove them.

## Stopping Oracle Fusion Middleware

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

For more about how to stop servers and processes, see *Stopping an Oracle Fusion Middleware Environment* in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.

## Removing Your Database Schemas

Before removing the Oracle home, Oracle recommends that you run Repository Creation Utility to remove database schemas associated with a domain.

Each domain has its own set of schemas that a custom prefix uniquely identifies (see *Understanding Custom Prefixes* in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*). This set of schemas cannot be shared with any other domain (see *Planning Your Schema Creation* in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*).

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

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

## Uninstalling the Software

You can use the uninstaller or perform a silent install.

To perform a silent (command-line) uninstallation, see *Running the Oracle Universal Installer for Silent Uninstallation* in *Oracle Fusion Middleware Installing Software with the Oracle Universal Installer*.

- [Starting the Uninstallation Program](#)  
The method you use to start the uninstallation program depends on your operating system: Windows or UNIX.
- [Distribution to Uninstall](#)  
The installer shows the Distribution to Uninstall screen only if it detects more than one distribution in the Oracle home that you start the program from.
- [Navigating the Uninstallation Screens](#)  
The uninstallation program shows a series of screens in the order that the following table describes.

### Starting the Uninstallation Program

The method you use to start the uninstallation program depends on your operating system: Windows or UNIX.

On UNIX operating systems, go to the `ORACLE_HOME/oui/bin` directory and enter command `./deinstall.sh`.

On Windows operating systems, use a file manager window to go to the `ORACLE_HOME\oui\bin` directory and double click on `deinstall.cmd`.

### Distribution to Uninstall

The installer shows the Distribution to Uninstall screen only if it detects more than one distribution in the Oracle home that you start the program from.

Select the distribution you want to uninstall from the drop-down list, then click **Uninstall**.

Beneath the drop-down list are the contents of the selected distribution, so you can verify that you are choosing to remove the correct distribution.

### Navigating the Uninstallation Screens

The uninstallation program shows a series of screens in the order that the following table describes.

If you need additional help with any uninstallation screen, click the screen name.

**Table 5-2 Uninstall Screens and Descriptions**

Screen	Description
Welcome	Introduces you to the product uninstaller.

**Table 5-2 (Cont.) Uninstall Screens and Descriptions**

Screen	Description
Uninstallation Summary	Shows the Oracle home directory and its contents that will be uninstalled. Verify that this is the correct directory. Click <b>Deinstall</b> to begin removing the software.
Uninstallation Progress	Shows the progress of the uninstallation.
Uninstallation Complete	Opens when the uninstallation is complete. Review the information on this screen then click <b>Finish</b> to dismiss the uninstaller.

## Removing the Oracle Home Directory Manually

After the uninstaller finishes, you must manually remove your Oracle home directory and any existing sub-directories that the uninstaller did not remove.

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

```
cd /home/Oracle/Products
rm -rf Oracle_Home
```

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

## Removing Program Shortcuts on Windows Operating Systems

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

Go to the `C:\Program Data\Microsoft\Windows\Start Menu\Programs\Oracle\Oracle Home\Product` directory. If you only have one product installed in your Oracle home, you can remove the `Oracle Home` directory. If you have multiple products installed in your Oracle home, you must remove all products before removing the `Oracle Home`.

## Removing Your Domain and Application Data

If you will no longer use domain and application files, you can remove them.

To remove your domain and application data:

1. Manually remove your Domain home directory.

For example, if your Domain home directory was `/home/Oracle/config/domains/infra_domain` on a UNIX operating system:

```
cd /home/Oracle/config/domains
rm -rf infra_domain
```

On a Windows operating system, if your Domain home directory was `C:\Oracle\Config\domains\infra_domain`, use a file manager window and

navigate to the `C:\Oracle\Config\domains` directory, then right-click on the `infra_domain` folder and select **Delete**.

2. Manually remove your Application home directory.

For example, if your Application home directory was `/home/Oracle/config/applications/infra_domain` on a UNIX operating system:

```
cd /home/Oracle/config/applications
rm -rf infra_domain
```

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

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

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

Save and exit the file when you are finished.

## Reinstalling the Software

You can reinstall your software into the same Oracle home as a previous installation only if you have uninstalled the software by following the deinstallation instructions, including manually removing the Oracle home directory.

When you reinstall, you can then specify the same Oracle home as your previous installation.

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

- [Scenario: Installing in an Existing Oracle Home that Contains the Same Feature Sets](#)  
The installer warns you that the Oracle home you specified during the installation already contains the same software you are trying to install.
- [Scenario: Installing in an Existing, Non-Empty Oracle Home](#)  
Suppose that you have chosen to create your Domain home or Application home somewhere inside your existing Oracle home.

### Scenario: Installing in an Existing Oracle Home that Contains the Same Feature Sets

The installer warns you that the Oracle home you specified during the installation already contains the same software you are trying to install.

Your options:

- Select a different installation type. In this case, only feature sets that don't already exist in the Oracle home directory get installed.
- Select a different Oracle home directory.

## Scenario: Installing in an Existing, Non-Empty Oracle Home

Suppose that you have chosen to create your Domain home or Application home somewhere inside your existing Oracle home.

The deinstallation process doesn't remove this data, so if you attempt to reinstall into the same Oracle home, the installer does not allow it.

Your options:

- Deinstall your software from the Oracle home as this topic describes, and then remove the Oracle home directory. After this is complete, you can reinstall and reuse the same Oracle home location, using the instructions in [Installing the Infrastructure Software](#). You will need to re-create any domain or application data that was in the Oracle home.
- Select a different Oracle home directory.

# A

## Understanding the Oracle Fusion Middleware Infrastructure Distribution

The Oracle Fusion Middleware Infrastructure distribution includes products and feature sets that you can select for installation.

**Table A-1 Oracle Fusion Middleware Infrastructure Products and Feature Sets**

Product	Feature Set	Description
Core Server	<b>Core Application Server</b>	<p>A complete application server that implements Java Enterprise Edition 8 (Java EE 8) technologies, Web Services, and other leading Internet standards to provide a reliable framework for highly available, scalable, and secure applications and services. Includes the full set of components that comprise the essential WebLogic Server run time with full Java EE 8 support.</p> <p>This feature set does not include administration tools and add-on technologies, such as the Administration Console, Web Server plug-ins, Beehive run-time framework, JDBC drivers, and so on.</p>
	<b>Coherence Product Files</b>	<p>Coherence provides replicated and distributed (partitioned) data management and caching services on top of a reliable, highly scalable peer-to-peer clustering protocol. Coherence has no single points of failure; it automatically and transparently fails over and redistributes its clustered data management services when a server becomes inoperative or is disconnected from the network. When a new server is added, or when a failed server is restarted, it automatically joins the cluster and Coherence fails back services to it, transparently redistributing the cluster load. Coherence includes network-level fault tolerance features and transparent soft re-start capability to enable servers to self-heal.</p>
Web 2.0 HTTP Pub-Sub Server	<b>Web 2.0 HTTP Pub-Sub Server</b>	<p>A channels based publish-subscribe mechanism for Web-based clients to send and receive asynchronous messages over HTTP. Web clients can use the HTTP Publish-Subscribe server to subscribe to channels (a representation in Bayeux for destinations) and publish messages to the channels. Oracle recommends that developers install the pub-sub sample, available by selecting the <b>Server Examples</b> product component.</p> <p>If you don't install this component, you cannot take advantage of Web 2.0 HTTP Publish-Subscribe functionality.</p> <p>See <i>Using the HTTP Publish-Subscribe Server in Oracle Fusion Middleware Developing Web Applications, Servlets, and JSPs for Oracle WebLogic Server</i>.</p>
	<b>WebLogic SCA</b>	<p>This is a Spring container for Java applications that use SCA semantics to expose services and invoke references. The container is included as an optional library in WebLogic Server.</p>
WebLogic Client Jars	<p>These are client-side WebLogic applications.</p>	
Oracle WebLogic Communication Services	<p>Oracle WebLogic Communication Services (OWLCS) is a platform designed to integrate communication services with enterprise services and applications.</p>	

Table A-1 (Cont.) Oracle Fusion Middleware Infrastructure Products and Feature Sets

Product	Feature Set	Description
Administrative Tools	<b>Administration Console Additional Language Help Files</b>	The WebLogic Server Web application for configuring, administering, and monitoring WebLogic domains. If you don't install the Administration Console, the console will not be available when you start the Administration Server. For information, see About the Administration Console in <i>Oracle Fusion Middleware Understanding Oracle WebLogic Server</i> .
	<b>CIE WLS Config</b>	Provides files used by the Oracle Fusion Middleware Configuration Wizard.
	<b>Enterprise Manager</b>	Oracle Enterprise Manager Fusion Middleware Control is a Web browser-based, graphical user interface that you can use to monitor and administer your domain. See Getting Started Using Oracle Enterprise Manager Fusion Middleware Control in <i>Oracle Fusion Middleware Administering Oracle Fusion Middleware</i> .
Database Support	<b>Third-Party JDBC Drivers</b>	Other JDBC drivers bundled with WebLogic Server that can be used to connect a WebLogic Server environment to an external database. For more details about this feature set, see "Using JDBC Drivers with WebLogic Server" in <i>Oracle Fusion Middleware Administering JDBC Data Sources for Oracle WebLogic Server</i> .
	<b>WebLogic Evaluation Database</b>	Installs an evaluation database, which is used by the Server Examples, into the <code>ORACLE_HOME/wlserver/common/derby</code> directory. If you don't choose the <b>Fusion Middleware Infrastructure with Examples</b> install type, this evaluation database is still installed.
Open Source Components	<b>Third Party Jackson</b>	Third party open source software for processing JavaScript Object Notation (JSON) data formats.
	<b>Third Party Jersey</b>	Third party open source software representing the official implementation of the Representational State Transfer (REST) architecture. See About RESTful Web Service Development in <i>Oracle Fusion Middleware Developing and Securing RESTful Web Services for Oracle WebLogic Server</i> .
	<b>Third Party Maven Apache</b>	Maven is a build management tool that is central to project build tasks such as compilation, packaging, and artifact management. For more details, see Introduction to Continuous Integration in <i>Oracle Fusion Middleware Developing Applications Using Continuous Integration</i> .
Examples	<b>Server Examples</b>	Server Examples are example applications that demonstrate key features of WebLogic Server. See Sample Application and Code Examples in <i>Oracle Fusion Middleware Understanding Oracle WebLogic Server</i> .
	<b>Coherence Examples</b>	Coherence Examples demonstrate how to use the features of Coherence in all supported languages (Java, .NET, and C++). The examples are organized collections of code that show how to use one or more features, and provide a single common way (per language) to build and run all examples. Source code for the examples is included. <b>Note:</b> Both Server Examples and Coherence Examples are only installed if you select the <b>Fusion Middleware Infrastructure with Examples</b> install type.

Table A-1 (Cont.) Oracle Fusion Middleware Infrastructure Products and Feature Sets

Product	Feature Set	Description
JRF and Enterprise Manager	WLS for FMW	<p>Installing this component creates the <code>oracle_common</code> directory inside the specified Oracle home. This directory contains:</p> <ul style="list-style-type: none"> <li>Repository Creation Utility Location: <code>ORACLE_HOME/oracle_common/bin</code> This is the tool used to create database schemas for Fusion Middleware products. See <i>Creating Schemas</i>.</li> <li>Configuration Wizard Location: <code>ORACLE_HOME/oracle_common/common/bin</code> The Configuration Wizard guides you through the process of creating a domain for your target environment and selecting configuration options you want to include. To manage this domain and the servers that are created, use the Administration Console or Fusion Middleware Control. <b>Note:</b> The WebLogic Scripting Tool (WLST) has a dependency on the Configuration Wizard. WLST is available only if you select this component for installation. For information about the Configuration Wizard, see <i>Overview of the Configuration Wizard in Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard</i>.</li> <li>Upgrade Assistant Location: <code>ORACLE_HOME/oracle_common/upgrade/bin</code> The Upgrade Assistant convert a domain configuration from previous WebLogic Server release to the current release. For information about the upgrade tools, see <i>Introduction in Oracle Fusion Middleware Upgrading Oracle WebLogic Server</i>.</li> <li>Oracle Application Development Framework (ADF) This is a Java framework for building enterprise applications, providing visual and declarative approaches to Java EE development.</li> </ul>
	OPatch	The OPatch utility is a tool that allows the application and rollback of interim patches to Oracle products.
Oracle Automatic Diagnostic Repository Feature Set Group	Toplink Developer	Oracle TopLink builds high-performance applications that store persistent object-oriented data in a relational database. It successfully transforms object-oriented data into either relational data or Extensible Markup Language (XML) elements.



# B

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

Consider that you have a JDK version `jdk1.8.0_191` installed on your machine. When you install and configure an Oracle Fusion Middleware product, the utilities, such as Configuration Wizard (`config.sh|exe`), OPatch, or RCU point to a default JDK, for example, `jdk1.8.0_191`. After some time, Oracle releases a new version of the JDK, say `jdk1.8.0_211` that carries security enhancements and bug fixes. From 12c (12.2.1.4.0) onwards, you can upgrade the existing JDK to a newer version, and can have the complete product stack point to the newer version of the JDK.

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

- [About Updating the JDK Location After Installing an Oracle Fusion Middleware Product](#)

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

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

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

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

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

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

For example, consider that you installed Oracle Fusion Middleware Infrastructure with the JDK version `8u191`. So while configuring the WebLogic domain with the Configuration Assistant, you can select the path to the newer JDK on the Domain

Mode and JDK screen of the Configuration Wizard. Example: `/scratch/jdk/jdk1.8.0_211`.

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

#### Note:

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

- [Updating the JDK Location in an Existing Oracle Home](#)  
The `getProperty.sh|cmd` script displays the value of a variable, such as `JAVA_HOME`, from the `.globalEnv.properties` file. The `setProperty.sh|cmd` script is used to set the value of variables, such as `OLD_JAVA_HOME` or `JAVA_HOME` that contain the locations of old and new JDKs in the `.globalEnv.properties` file.
- [Updating the JDK Location in an Existing Domain Home](#)  
You must search the references to the current JDK, for example `1.8.0_191` manually, and replace those instances with the location of the new JDK.

## Updating the JDK Location in an Existing Oracle Home

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

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

(UNIX) `ORACLE_HOME/oui/bin`

(Windows) `ORACLE_HOME\oui\bin`

Where, `ORACLE_HOME` is the directory that contains the products using the current version of the JDK, such as `1.8.0_191`.

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

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

(UNIX) `ORACLE_HOME/oui/bin/getProperty.sh JAVA_HOME`

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

`echo JAVA_HOME`

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

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

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

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

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

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

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

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

After you run this command, the `JAVA_HOME` variable in the `.globalEnv.properties` file now contains the path to the new JDK, such as `jdk1.8.0_211`.

## Updating the JDK Location in an Existing Domain Home

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

You can use the `grep` (UNIX) or `findstr` (Windows) commands to search for the `jdk`-related references.

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

```
(UNIX) DOMAIN_HOME/bin/setNMJavaHome.sh
```

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

```
(UNIX) DOMAIN_HOME/nodemanager/nodemanager.properties
```

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

```
(UNIX) DOMAIN_HOME/bin/setDomainEnv.sh
```

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