Oracle® Fusion Middleware

Installing and Configuring Oracle Internet Directory

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Preface

This document describes how to install and configure Oracle Internet Directory.

- Audience
- Documentation Accessibility
- Diversity and Inclusion
- Related Documents
- Conventions

Audience

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

Documentation Accessibility

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Diversity and Inclusion

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

Related Documents

Refer to the Oracle Fusion Middleware Library for additional information.

- For administering Oracle Internet Directory, see *Administering Oracle Internet Directory*.

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

1

About the Oracle Internet Directory Installation

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

- Using the Standard Installation Topology as a Starting Point
  The standard installation topology is a flexible topology that you can use as a starting point in production environments.
- Using This Document to Extend an Existing Domain
  The procedures in this guide describe how to create a new domain. The assumption is that no other Oracle Fusion Middleware products are installed on your system.

Using the Standard Installation Topology as a Starting Point

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

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

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

- About the Oracle Internet Directory Standard Installation Topology
  This topology represents a standard WebLogic Server domain that contains an Administration Server and one or more clusters containing one or more Managed Servers.
- About Elements in the Standard Installation Topology Illustration
  The standard installation topology typically includes common elements.

About the Oracle Internet Directory Standard Installation Topology

This topology represents a standard WebLogic Server domain that contains an Administration Server and one or more clusters containing one or more Managed Servers.

The following figure shows the standard installation topology for Oracle Internet Directory.

See About Elements in the Standard Installation Topology Illustration for information on elements of this topology.

Figure 1-1 Standard Topology for Oracle Internet Directory Standalone Installation

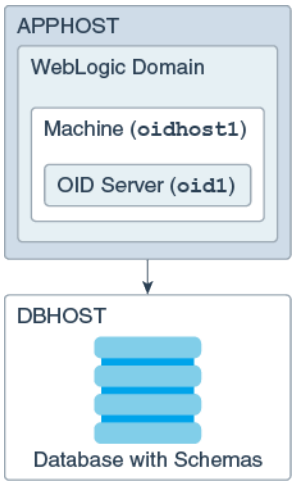
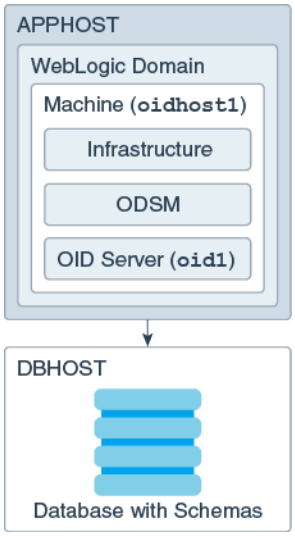


Figure 1-2 Standard Topology for Oracle Internet Directory Collocated Installation



For Oracle Internet Directory configuration instructions, see Configuring Oracle Internet Directory Domain.

For Oracle Directory Integration Platform configuration instructions, see Configuring Oracle Directory Integration Platform.

About Elements in the Standard Installation Topology Illustration

The standard installation topology typically includes common elements.

The following table describes all elements of the topology illustration:

Table 1-1 Description of Elements in Standard Installation Topologies

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

Using This Document to Extend an Existing Domain

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

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

2

Preparing to Install and Configure Oracle Internet Directory

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

- Roadmap for Installing and Configuring a Standard Installation Topology
  This roadmap provides the steps required to install and configure a standard Oracle Internet Directory installation topology.
- Roadmap for Verifying Your System Environment
  Before you begin the installation and configuration process, you must verify your system environment.
- About Product Distributions
  You create the initial Oracle Internet Directory domain using the Oracle Fusion Middleware Infrastructure distribution, which contains both Oracle WebLogic Server software and Oracle Java Required Files (JRF) software.
- Obtaining the Product Distribution
  You can obtain the Oracle Fusion Middleware Infrastructure and Oracle Internet Directory distribution on *Technical Resources from Oracle*.

Roadmap for Installing and Configuring a Standard Installation Topology

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

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

Table 2-1 Standard Installation Roadmap

Task	Description	Documentation
Verify your system environment.	Before you begin the installation, verify that the minimum system and network requirements are met.	See Roadmap for Verifying Your System Environment.
Check for any mandatory patches that are required before the installation.	Review the Oracle Fusion Middleware Infrastructure release notes to see if there are any mandatory patches required for the software products that you are installing.	See Install and Configure in *Oracle Fusion Middleware Release Notes for Oracle Fusion Middleware Infrastructure*.

Table 2-1 (Cont.) Standard Installation Roadmap

Task	Description	Documentation
Obtain the appropriate distributions.	Oracle Internet Directory (OID) can be installed in two modes — Standalone and Collocated. If you choose to install in standalone mode, you do not require Oracle Fusion Middleware Infrastructure. If you want to install OID in a collocated mode, you must install Oracle Fusion Middleware Infrastructure, and ensure that the Oracle Internet Directory is installed in the same Oracle Home as Infrastructure.	See About Product Distributions. For information about downloading distributions, see Oracle Fusion Middleware Download, Installation, and Configuration ReadMe.
Determine your installation directories.	Verify that the installer can access or create the required installer directories. Also, verify that the directories exist on systems that meet the minimum requirements.	See What Are the Key Oracle Fusion Middleware Directories? in *Oracle Fusion Middleware Understanding Oracle Fusion Middleware*.
Install prerequisite software.	This step is optional. If you are installing Oracle Internet Directory (OID) in a collocated mode, you must install Oracle Fusion Middleware Infrastructure to create the Oracle home directory for Oracle Internet Directory. For OID standalone installation, you do not require Infrastructure.	See Installing the Infrastructure Softwarein *Oracle Fusion Middleware Installing and Configuring the Oracle Fusion Middleware Infrastructure*.
Install the software.	Run the Oracle Universal Installer to install Oracle Internet Directory. Installing the software transfers the software to your system and creates the Oracle home directory.	See Installing the Oracle Internet Directory Software.
Select a database profile and review any required custom variables.	Before you install the required schemas in the database, review the information about any custom variables you need to set for the Oracle Internet Directory schemas.	See About Database Requirements for an Oracle Fusion Middleware Installation.
Create the schemas.	Run the Repository Creation Utility to create the schemas required for configuration.	See Creating the Database Schemas.
Create a WebLogic domain.	Use the Configuration Wizard/ Assistant to create and configure the WebLogic domain. For a standalone mode of Oracle Internet Directory, you should configure a standalone domain.	See Configuring the Domain for creating the standard topology for Oracle Internet Directory. See Configuring Oracle Directory Integration Platform for configuring Oracle Directory Integration Platform.
Administer and prepare your domain for high availability.	Discover additional tools and resources to administer your domain and configure your domain to be highly available.	See Next Steps After Configuring the Domain.

Roadmap for Verifying Your System Environment

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

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

Table 2-2 Roadmap for Verifying Your System Environment

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

- Verifying Certification, System, and Interoperability Requirements
  Oracle recommends that you use the certification matrix and system requirements documents with each other to verify that your environment meets the requirements for installation.
- Selecting an Installation User
  The user who installs and configures your system must have the required permissions and privileges.
- About the Directories for Installation and Configuration
  During the installation and domain configuration process, you must plan on providing the locations for these directories: Oracle home, Domain home, and the Application home.
- About JDK Requirements for an Oracle Fusion Middleware Installation
  Most Fusion Middleware products are in `.jar` file format. These distributions do not include a JDK. To run a `.jar` distribution installer, you must have a certified JDK installed on your system.
- About Database Requirements for an Oracle Fusion Middleware Installation
  Many Oracle Fusion Middleware products require database schemas prior to configuration. If you do not already have a database where you can install these schemas, you must install and configure a certified database.

Verifying Certification, System, and Interoperability Requirements

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

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

   Make sure that you install your product on a supported hardware and software configuration. See the certification document for your release on the *Oracle Fusion Middleware Supported System Configurations* page.

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

2. **Using the system requirements document to verify certification:**

   Oracle recommends that you use the *Oracle Fusion Middleware System Requirements and Specifications* document to verify that the certification requirements are met. For example, if the certification document indicates that your product is certified for installation on 64-Bit Oracle Linux 6.5, use this document to verify that your system meets the required minimum specifications. These include disk space, available memory, specific platform packages and patches, and other operating system-specific requirements. System requirements can change in the future. Therefore, the system requirement documents are kept outside of the documentation libraries and are available on Oracle Technology Network.

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

   To learn how to install and run multiple Fusion Middleware products from the same release or mixed releases with each other, see Oracle Fusion Middleware 12c Interoperability and Compatibility in *Oracle Fusion Middleware Understanding Interoperability and Compatibility*.

Selecting an Installation User

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

- About User Permissions
  The user who installs a Fusion Middleware product owns the files and has certain permissions on the files.
- About Non-Default User Permissions on UNIX Operating Systems
  Changing the default permission setting reduces the security of the installation and your system. Oracle does not recommend that change the default permission settings.
- Verifying that the Installation User has Administrator Privileges on Windows Operating Systems
  To update the Windows Registry, you must have administrator privileges.

About User Permissions

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

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

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

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

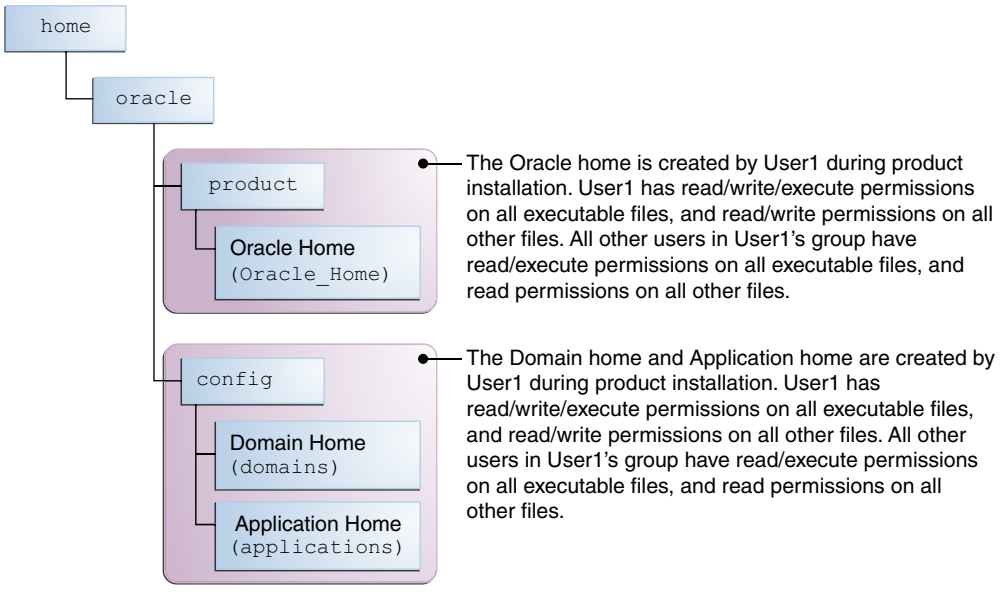
Consider the following examples:

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

  This example explains the file permissions where the same user installs the software and configures the domain.

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

Figure 2-1 Directory Structure when a Single User Installs the Software and Configures the Domain

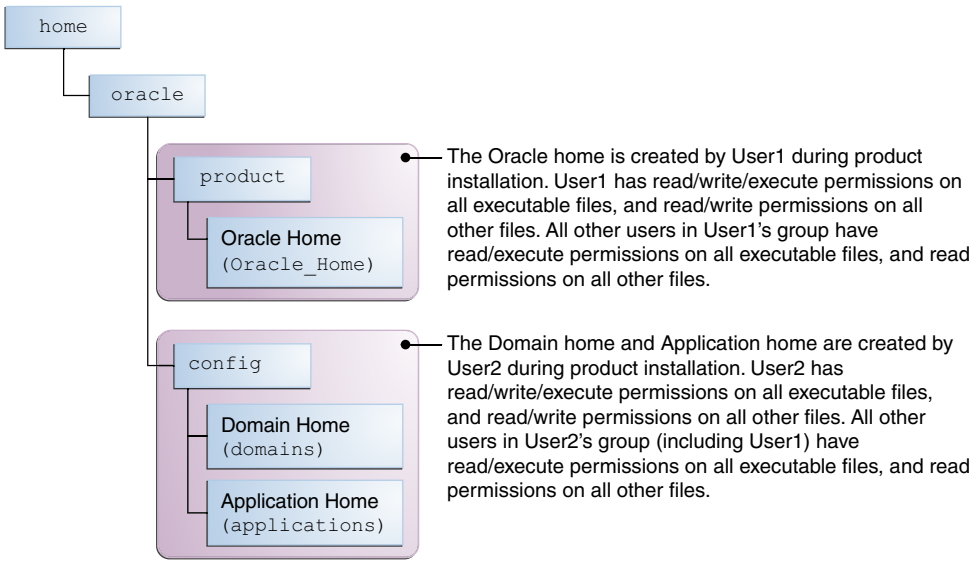


If the user who creates the domain is different than the user who installed the software, then both users must have the same privileges, as shown in the next example.

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

  This example explains the file permissions where one user creates the Oracle home and another user configures the domain.

Figure 2-2 Directory Structure when Different Users Install the Software and Configure the Domain



> **Note:**
>
> Certain domain files do not have group permissions. For example, `cwallet.sso`.

Consider the following points before you run the installer:

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

  ```
  umask 027
  ```

  You must enter this command in the same terminal window from which you plan to run the product installer.
- On UNIX operating systems, do not run the installation program as a `root` user. If you run the installer as a root user, the startup validation may fail and you cannot continue the installation.
- When you manage a product installation (for example, applying patches or starting managed Servers), use the same user ID that you used to install the product.

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

About Non-Default User Permissions on UNIX Operating Systems

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

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

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

Verifying that the Installation User has Administrator Privileges on Windows Operating Systems

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

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

To perform a task with elevated privileges:

1. Find the Command Prompt icon, either from the Start menu or the Windows icon in the lower-left corner.
2. Right-click **Command Prompt** and select **Run as administrator**.

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

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

   > **Note:**
   >
   > For Oracle Internet Directory, ensure that you have enabled User Account Control (UAC). If you have not done so already, enable UAC by following the instructions in the *Enabling User Account Control (UAC)* section from the appropriate version of *Oracle Fusion Middleware System Requirements and Specifications* for your installation.

3. Perform the desired task.

   For example, to start the product installer:

   For a jar file, enter:

   ```
   java –jar distribution_name.jar
   ```

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

distribution_name`.exe`

About the Directories for Installation and Configuration

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

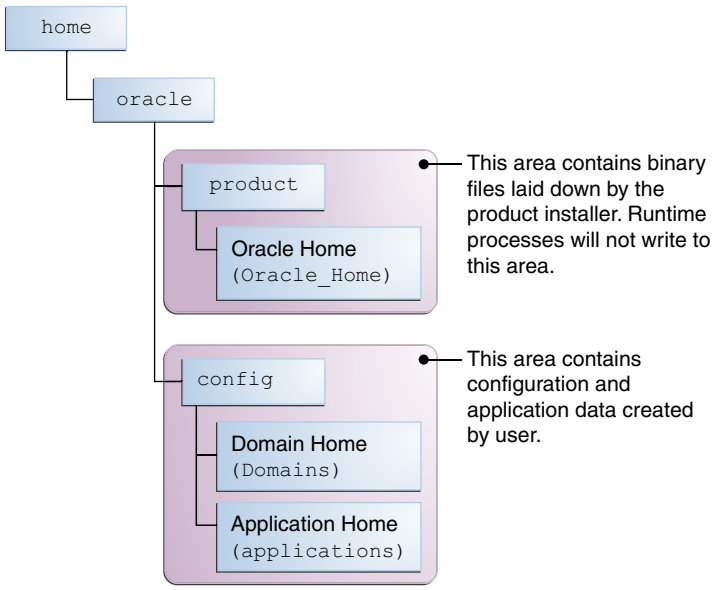
- About the Recommended Directory Structure
  Oracle recommends specific locations for the Oracle Home, Domain Home, and Application Home.
- About the Oracle Home Directory
  When you install any Oracle Fusion Middleware product, you must use an Oracle home directory.
- About the Domain Home Directory
  The Domain home is the directory where domains that you configure are created.
- About the Application Home Directory
  The Application home is the directory where applications for domains you configure are created.
- Installing Multiple Products in the Same Domain
  There are two methods to install and configure multiple products in one domain. This is also known as *extending* a domain.
- Preparing for Shared Storage
  Oracle Fusion Middleware allows you to configure multiple WebLogic Server domains from a single Oracle home. This allows you to install the Oracle home in a single location on a shared volume and reuse the Oracle home for multiple host installations.

About the Recommended Directory Structure

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

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

Figure 2-3 Recommended Oracle Fusion Middleware Directory Structure



A base location (Oracle base) should be established on your system (for example, `/home/oracle`). From this base location, create two separate branches, namely, the `product` directory and the `config` directory. The `product` directory should contain the product binary files and all the Oracle home directories. The `config` directory should contain your domain and application data.

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

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

About the Oracle Home Directory

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

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

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

Oracle Home Considerations

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

- Do not include spaces in the name of your Oracle home directory; the installer displays an error message if your Oracle home directory path contains spaces.
- You can install only one instance of each Oracle Fusion Middleware product in a single Oracle home directory. If you need to maintain separate versions of a product on the same machine, each version must be in its own Oracle home directory.

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

Multiple Home Directories

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

- You prefer to maintain separate development and production environments, with a separate product stack for each. With two directories, you can update your development environment without modifying the production environment until you are ready to do so.
- You want to maintain two different versions of a Fusion Middleware product at the same time. For example, you want to install a new version of a product while keeping your existing version intact. In this case, you must install each product version in its own Oracle home directory.
- You need to install multiple products that are not compatible with each other. See Oracle Fusion Middleware 12*c* (12.2.1.3.0) Interoperability and Compatibility in *Oracle Fusion Middleware Understanding Interoperability and Compatibility* .

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

About the Domain Home Directory

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

The default Domain home location is *`ORACLE_HOME`*`/user_projects/domains/`*`domain_name`*. However, Oracle strongly recommends that you do not use this default location. Put your Domain home *outside* of the Oracle home directory, for example, in `/home/oracle/config/domains`. The `config` directory should contain domain and application data. Oracle recommends a separate domain directory so that new installs, patches, and other operations update the *ORACLE_HOME* only, *not* the domain configuration.

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

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

About the Application Home Directory

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

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

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

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

Installing Multiple Products in the Same Domain

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

- **Method 1.**

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

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

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

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

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

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

  3. Run the Configuration Wizard to configure the domain.

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

- **Method 2.**

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

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

See Also:

- To update WebLogic domains, see Updating WebLogic Domains in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.
- For important information regarding the ability of Oracle Fusion Middleware products to function with previous versions of other Oracle Fusion Middleware, Oracle, or third-party products, see Oracle Fusion Middleware 12*c* (12.2.1.3.0) Interoperability and Compatibility in *Oracle Fusion Middleware Understanding Interoperability and Compatibility*.

Preparing for Shared Storage

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

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

About JDK Requirements for an Oracle Fusion Middleware Installation

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

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

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

Always verify the required JDK version by reviewing the certification information on the *Oracle Fusion Middleware Supported System Configurations* page. For 12*c* (12.2.1.3.0), the certified JDK is 1.8.0_131 and later.

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

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

About Database Requirements for an Oracle Fusion Middleware Installation

Many Oracle Fusion Middleware products require database schemas prior to configuration. If you do not already have a database where you can install these schemas, you must install and configure a certified database.

> **Note:**
>
> Multi-tenancy feature is supported in 12*c*, that is, Pluggable Database (PDB) and Container Database (CDB) are supported.

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

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

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

About Product Distributions

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

Oracle JRF software consists of:

- Oracle Web Services Manager
- Oracle Application Development Framework (Oracle ADF)
- Oracle Enterprise Manager Fusion Middleware Control
- Repository Creation Utility (RCU)
- Other libraries and technologies required to support Oracle Fusion Middleware products

Prerequisites:

- Install Oracle Fusion Middleware Infrastructure. For more information about installing Oracle Fusion Middleware Infrastructure, see Installing the Infrastructure Software in *Oracle Fusion Middleware Installing and Configuring the Oracle Fusion Middleware Infrastructure*.
- For SUSE 11 or later:
  - The `openmotif` package is not included by default on SUSE 11 or later. You need the `openmotif` package installed to successfully install Oracle Internet Directory on SUSE 11 or later.

Obtain this package from the Novell website and then perform the installation using the instructions provided by Novell.

- Create a soft-link from `/lib64/libnsl.so` to `/lib64/libnsl.so.1`.

Obtaining the Product Distribution

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

To prepare to install Oracle Fusion Middleware Infrastructure and Oracle Internet Directory:

1. Enter `java -version` on the command line to verify that a certified JDK is installed on your system. For 12*c* (12.2.1.3.0), the certified JDK is 1.8.0_131 and later.

   See About JDK Requirements for an Oracle Fusion Middleware Installation.

2. Locate and download the Oracle Fusion Middleware Infrastructure and Oracle Internet Directory software.

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

   To obtain the distribution for product evaluation, visit the Identity and Access Management Downloads page.

After preparing to install and configure the software, see Installing the Oracle Internet Directory Software and Configuring Oracle Internet Directory Domain.

3

Installing the Oracle Internet Directory Software

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

> **Note:**
>
> If you wish to install Oracle Internet Directory in `Standalone` mode, you do not require Oracle Fusion Middleware Infrastructure. You can proceed with the Oracle Internet Directory installation.
>
> If you wish to install Oracle Internet Directory in `Collocated` mode, ensure that you install Oracle Fusion Middleware Infrastructure 12*c* (12.2.1.3.0) first, followed by the Oracle Internet directory 12*c* (12.2.1.3.0). Infrastructure and Oracle Internet Directory must be installed in the same Oracle Home.
>
> For more information about installing Oracle Fusion Middleware Infrastructure 12*c* (12.2.1.3.0), see Installing the Infrastructure Software in the *Oracle Fusion Middleware Installing and Configuring the Oracle Fusion Middleware Infrastructure*

- Verifying the Installation Checklist
  The installation process requires specific information.
- Starting the Installation Program
  You can start the installation program on UNIX or Windows.
- 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 whether it was successful by completing a series of tasks.

Verifying the Installation Checklist

The installation process requires specific information.

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

Table 3-1 Installation Checklist

Information	Example Value	Description
JAVA_HOME	/home/Oracle/Java/jdk1.8.0_131	Environment variable that points to the Java JDK home directory.
Database host	examplehost.exampledomain	Name and domain of the host where the database is running.
Database port	1521	Port number that the database listens on. The default Oracle database listen port is 1521.
Database service name	orcl.exampledomain	Oracle databases require a unique service name. The default service name is orcl.
DBA username	SYS	Name of user with database administration privileges. The default DBA user on Oracle databases is SYS.
DBA password	myDBApw957	Password of the user with database administration privileges.
ORACLE_HOME	/home/Oracle/*product*/ORACLE_HOME	Directory in which you will install your software. This directory will include Oracle Fusion Middleware Infrastructure and Oracle Internet Directory, as needed.
WebLogic Server hostname	examplehost.exampledomain	Host name for Oracle WebLogic Server and Oracle Internet Directory consoles.
Console port	7001	Port for Oracle WebLogic Server and Oracle Internet Directory consoles.
DOMAIN_HOME	/home/Oracle/config/domains/oid_domain	Location in which your domain data is stored.
APPLICATION_HOME	/home/Oracle/config/applications/oid_domain	Location in which your application data is stored.
Administrator user name for your WebLogic domain	weblogic	Name of the user with Oracle WebLogic Server administration privileges. The default administrator user is weblogic.
Administrator user password	myADMpw902	Password of the user with Oracle WebLogic Server administration privileges.
RCU	*ORACLE_HOME*/oracle_common/bin	Path to the Repository Creation Utility (RCU).

Table 3-1 (Cont.) Installation Checklist

Information	Example Value	Description
RCU schema prefix	`oid`	Prefix for names of database schemas used by Oracle Internet Directory. **Note:** The schema prefix is not required for the Oracle Internet Directory schema (ODS) irrespective of the installation type (standalone or collocated). Prefix is only required for the other schemas that are created along with ODS schema.
RCU schema password	`myRCUpw674`	Password for the database schemas used by Oracle Internet Directory.
Configuration utility	*ORACLE_HOME*`/oracle_common/common/bin`	Path to the Configuration Wizard for domain creation and configuration.

Starting the Installation Program

You can start the installation program on UNIX or Windows.

To start the installation program:

1. Sign in to the host system.
2. Go to the directory where you downloaded the installation program.
3. Enter the following command:
   - (UNIX) `./fmw_12.2.1.3.0_oid_linux64.bin`
   - (Windows) `setup_fmw_12.2.1.3.0_oid_win64.exe`
   - (For other platforms) `./fmw_12.2.1.3.0_oid_`*`platform_hardware architecture`*`.bin`

     For example: `./fmw_12.2.1.3.0_oid_solaris_sparc64.bin`

> **Note:**
>
> You will not be able to execute `./fmw_12.2.1.3.0_oid_linux64.bin` if it does not have execute permission. Make sure to check and grant execute permission before running this command.

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

Navigating the Installation Screens

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

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

Table 3-2 Oracle Internet Directory Install Screens

Screen	Description
Installation Inventory Setup	On UNIX operating systems, this screen opens if this is the first time you are installing any Oracle product on this host. Specify the location where you want to create your central inventory. Make sure that the operating system group name selected on this screen has write permissions to the central inventory location. See About the Oracle Central Inventory in *Oracle Fusion Middleware Installing Software with the Oracle Universal Installer*. This screen does not appear on Windows operating systems.
Welcome	Review the information to make sure that you have met all the prerequisites, then click **Next**.
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	Specify your Oracle home directory location. You can click **View** to verify and ensure that you are installing Oracle Internet Directory in the correct Oracle home.
Installation Type	Select **Standalone OID** or **Collocated OID** based on what topology you would like to deploy. In case of a Standalone mode, you can install OID without configuring any WebLogic domain. However, you should configure a standalone domain. If you choose the Collocated mode, OID will be managed by the WebLogic domain. You will have to install Oracle Fusion Middleware Infrastructure 12*c* (12.2.1.3.0) prior to installing OID, in case of a Collocated mode.
JDK Selection	**Note**: This screen appears for certain distributions only. Use this screen to select the JDK to use for this installation.
Prerequisite Checks	This screen verifies that your system meets the minimum necessary requirements. To view the list of tasks that gets verified, select **View Successful Tasks**. To view log details, select **View Log**. If any prerequisite check fails, then an error message appears at the bottom of the screen. Fix the error and click **Rerun** to try again. To ignore the error or the warning message and continue with the installation, click **Skip** (not recommended).
Specify Security Updates	**Note**: This screen appears only if you selected **Standalone HTTP Server (Managed independently of WebLogic server)** as the Installation Type. If you already have an Oracle Support account, use this screen to indicate how you would like to receive security updates. If you do not have one and are sure you want to skip this step, clear the check box and verify your selection in the follow-up dialog box.
Installation Progress	This screen shows the installation progress. When the progress bar reaches 100% complete, click **Finish** to dismiss the installer, or click **Next** to see a summary.

Table 3-2 (Cont.) Oracle Internet Directory Install Screens

Screen	Description
Installation Complete	This screen displays the Installation Location and the Feature Sets that are installed. Review this information and click **Finish** to close the installer.

Verifying the Installation

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

- Reviewing the Installation Log Files
  Review the contents of the installation log files to make sure that the installer did not encounter any problems.
- Checking the Directory Structure
  The contents of your installation vary based on the options that you selected during the installation.
- Viewing the Contents of the Oracle Home
  You can view the contents of the Oracle home directory by using the `viewInventory` script.

Reviewing the Installation Log Files

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

By default, the installer writes logs files to the *`Oracle_Inventory_Location`*`/logs` (on UNIX operating systems) or *`Oracle_Inventory_Location`*`\logs` (on Windows operating systems) directory.

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

Checking the Directory Structure

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

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

Viewing the Contents of the Oracle Home

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

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

4

Configuring Oracle Internet Directory Domain

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

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

- Preparing to Install and Configure Oracle Internet Directory
- Installing the Oracle Internet Directory Software

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

- Creating the Database Schemas
  Before you can configure an Oracle Internet Directory domain, you must install required schemas on a certified database for use with this release of Oracle Fusion Middleware.
- Configuring the Domain
  Use the Configuration Wizard to create and configure a domain.
- Starting Servers and Processes
  After configuration is complete, start the servers and the processes.
- Performing the Initial Oracle Internet Directory Setup
  Use the `wlst` command from a different terminal to connect to Administration Server and set up Oracle Internet Directory.
- Verifying the Configuration
  After completing all configuration steps, you can perform additional steps to verify that your domain is properly configured.

Creating the Database Schemas

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

- Installing and Configuring a Certified Database
  Before you create the database schemas, you must install and configure a certified database, and verify that the database is up and running.
- Starting the Repository Creation Utility
  Start the Repository Creation Utility (RCU) after you verify that a certified JDK is installed on your system.
- Navigating the Repository Creation Utility Screens to Create Schemas
  Enter required information in the RCU screens to create the database schemas.

Installing and Configuring a Certified Database

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

See About Database Requirements for an Oracle Fusion Middleware Installation.

- Installing Pluggable Database

Installing Pluggable Database

To install a pluggable database (PDB), see Installing the Oracle Database Software in the *Database Installation Guide*.

On the Select Install Type screen, select **Typical Install**.

On the Typical Installation screen, select the **Create as Container Database** option, and specify a container database name such as `cdb1`.

To create a pluggable database from an existing container database, see Creating PDBs on Oracle Technology Network.

> **Note:**
>
> - OID is certified to be used with the following versions of Oracle Database: 12.1.0.1, 12.1.0.2, and 12.2.0.1.
> - Also, note that you need to configure at least one pluggable database in order to configure and use a container database.
> - When you install and use PDB, the data that you specify and the steps that you follow while running the RCU or the OID installer remain the same.

Starting the Repository Creation Utility

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

To start the RCU:

1. Verify that a certified JDK already exists on your system by running `java -version` from the command line. For 12*c* (12.2.1.3.0), the certified JDK is 1.8.0_131 and later.

   See About JDK Requirements for an Oracle Fusion Middleware Installation.
2. Ensure that the `JAVA_HOME` environment variable is set to the location of the certified JDK. For example:
   - (UNIX) `setenv JAVA_HOME /home/Oracle/Java/jdk1.8.0_131`
   - (Windows) `set JAVA_HOME=C:\home\Oracle\Java\jdk1.8.0_131`
3. Change to the following directory:

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

4. Enter the following command:
   - (UNIX) ./rcu
   - (Windows) rcu.bat

Navigating the Repository Creation Utility Screens to Create Schemas

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

- Introducing the RCU
  The Welcome screen is the first screen that appears when you start the RCU.
- Selecting a Method of Schema Creation
  Use the Create Repository screen to select a method to create and load component schemas into the database.
- Providing Database Connection Details
  On the Database Connection Details screen, provide the database connection details for the RCU to connect to your database.
- Specifying a Custom Prefix and Selecting 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.

Introducing the RCU

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

Click **Next**.

Selecting a Method of Schema Creation

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

On the Create Repository screen, select **System Load and Product Load**. This procedure assumes that you have the necessary permissions and privileges to perform DBA activities on your database, that is the SYSDBA privileges.

Providing Database Connection Details

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

> **Note:**
>
> If you are unsure of the service name for your database, you can obtain it from the `SERVICE_NAMES` parameter in the initialization parameter file of the database. If the initialization parameter file does not contain the `SERVICE_NAMES` parameter, then the service name is the same as the global database name, which is specified in the `DB_NAME` and `DB_DOMAIN` parameters.

For example:

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

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

Specifying a Custom Prefix and Selecting Schemas

Select **Create new prefix**, specify a custom prefix, then select the **Oracle Internet Directory** schema. This action automatically selects the following schemas as dependencies:

> **Note:**
>
> Oracle Internet Directory (ODS) schema does not need a prefix. The prefix is required for the other schemas selected during the schema creation process.
>
> You can load only one **Oracle Internet Directory** (ODS) schema per Database.

If you are configuring Oracle Internet Directory in a standalone mode, the following dependant schema is selected:

- Common Infrastructure Service (STB)

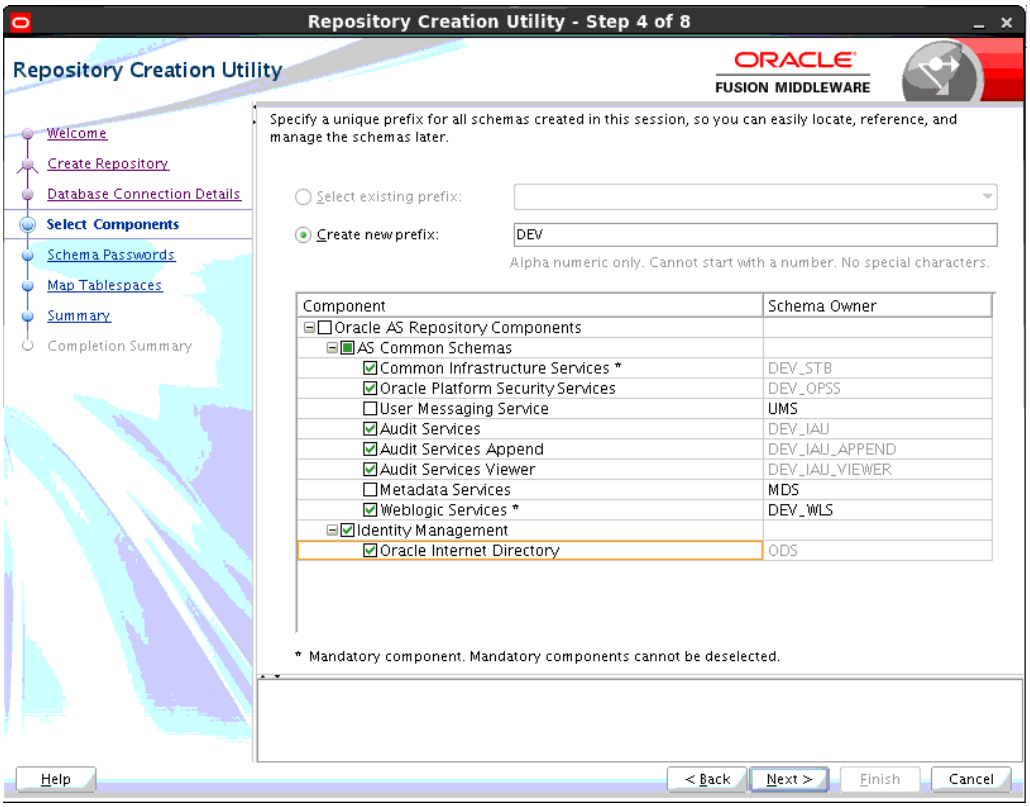
If you are configuring Oracle Internet Directory in a collocated mode, the following dependant schemas are selected:

- Oracle Platform Security Services (OPSS)
- Audit Services (IAU)
- Audit Services Append (IAU_Append)
- Audit Services Viewer (IAU_Viewer)
- WebLogic Services (WLS)
- Common Infrastructure Service (STB)

The schema `Common Infrastructure Services` is automatically created. This schema is dimmed; you cannot select or deselect it. This schema enables you to retrieve information from RCU during domain configuration. For more information, see "Understanding the Service Table Schema" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

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

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



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

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

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 the RCU.

Configuring the Domain

Use the Configuration Wizard to create and configure a domain.

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

- Starting the Configuration Wizard
  Start the Configuration Wizard to begin configuring a domain.
- Navigating the Configuration Wizard Screens to Create and Configure the Domain
  Enter required information in the Configuration Wizard screens to create and configure the domain for the topology.

Starting the Configuration Wizard

Start the Configuration Wizard to begin configuring a domain.

To start the Configuration Wizard:

1. Change to the following directory:

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

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

   where *ORACLE_HOME* is your 12*c* (12.2.1.3.0) Oracle home.
2. Enter the following command:

   (UNIX) ./config.sh

   (Windows) config.cmd

Navigating the Configuration Wizard Screens to Create and Configure the Domain

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

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

- Selecting the Domain Type and Domain Home Location
  Use the Configuration Type screen to select a Domain home directory location, optimally outside the Oracle home directory.
- Selecting the Configuration Templates for Oracle Internet 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 the JDBC Connections
  Use the JDBC Component Schema Test screen to test the data source connections.
- 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 type of Node Manager you want to configure, along with the Node Manager credentials.
- Configuring Managed Servers
- Configuring a Cluster
  You can skip this screen as it is not applicable to Oracle Internet Directory.
- Defining Server Templates
  Click **Next** and proceed, as this is not applicable to Oracle Internet Directory.
- Configuring Coherence Clusters
  You can skip this screen as it is not applicable to Oracle Internet Directory.
- Creating a New Oracle Internet Directory Machine
  Use the Machines screen to update the default machine listed on the screen — `oidhost1`. A machine is required so that Node Manager can start and stop servers.
- Assigning Servers to Oracle Internet Directory Machines
  Use the Assign Servers to Machines screen to assign the Administration Server to the default machine `oidhost1` that is listed.
- Virtual Targets
  You can skip this screen for Oracle Internet Directory configuration.
- Partitions
  Click **Next** as this is not applicable to Oracle Internet Directory.
- 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 Home and Administration Server URL
  The End of Configuration screen shows information about the domain you just configured.

Selecting the Domain Type and Domain Home Location

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

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

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

To specify the Domain type and Domain home directory:

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

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

Selecting the Configuration Templates for Oracle Internet Directory

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

For standalone mode, select the following template:

- Oracle Internet Directory (Standalone) - 12.2.1.3.0 [oid]

For collocated mode, select the following templates:

- Oracle Internet Directory (Collocated) -12.2.1.3.0 [oid]

  Selecting this template automatically selects the following as dependencies:

  - Oracle Directory Services Manager -12.2.1.3.0 [oid]
  - Oracle JRF -12.2.1.3.0 [oracle_common]
  - WebLogic Coherence Cluster Extension -12.2.1.3.0 [wlserver]
  - Oracle Enterprise Manager - 12.2.1.3.0 [em]
- Oracle Directory Integration Platform - 12.2.1.3.0 [dip]

  Optional. Select this template if you're using OID and ODIP in the same domain.

> **Tip:**
>
> More information about the options on this screen can be found in "Templates" 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 enter on this screen; you need these credentials later to boot and connect to the domain's Administration Server.

Specifying the Domain Mode and JDK

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

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 Specifying Schema Passwords). The default username is *`prefix`*`_STB`, where *`prefix`* 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 the JDBC Connections

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

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

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

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

Selecting Advanced Configuration

Use the Advanced Configuration screen to complete the domain configuration.

On the Advanced Configuration screen, select:

- Administration Server

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

- Node Manager

  Required to configure Node Manager.

- Topology

  Select Topology to configure machines and assign the Administration Server to a machine. Note that you cannot configure the oid system component using the Configuration Wizard. The oid instance is configured after the domain configuration. See Performing the Initial Oracle Internet Directory Setup.

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

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 type of Node Manager you want to configure, along with the Node Manager credentials.

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

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

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

Configuring Managed Servers

If you do not plan to create a WebLogic managed server during installation, click **Next** and proceed. A WebLogic managed server is not required for OID 12c and Oracle Directory Services Manager (ODSM) gets deployed on the administration server.

If you plan to create a WebLogic managed server during installation, ensure that you associate the Server Groups to the managed server. This step deploys the ODSM/`oiddms` on the administration server.

> **Note:**
>
> Server Groups are WebLogic Server constructs that are used to organize resources such as hostname(s) being part of a 'machine'.

If you do not select any server groups for the managed server and ODSM/`oiddms` are deployed on the managed server, then use the Administration Server Console to remove `oiddms` from the managed sever and deploy them on the administration server.

Configuring a Cluster

You can skip this screen as it is not applicable to Oracle Internet Directory.

Click **Next**.

> **Tip:**
>
> For more information about this screen, see Clusters in *Oracle Fusion Middleware Creating WebLogic Domains Using the Configuration Wizard*.

Defining Server Templates

Click **Next** and proceed, as this is not applicable to Oracle Internet Directory.

Configuring Coherence Clusters

You can skip this screen as it is not applicable to Oracle Internet Directory.

Click **Next**.

Creating a New Oracle Internet Directory Machine

Use the Machines screen to update the default machine listed on the screen — `oidhost1`. A machine is required so that Node Manager can start and stop servers.

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

Select the default machine `oidhost1` that is listed, and update the **Listen Port** to appropriate value based on the Node Manager listen port number.

> **Note:**
>
> Do not change the name of the default machine (`oidhost1`), as the WLST command `oid_setup()` run for setting up the OID instance, later during the post-configuration stage (as described in Performing the Initial Oracle Internet Directory Setup), relies on this name.

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

Assigning Servers to Oracle Internet Directory Machines

Use the Assign Servers to Machines screen to assign the Administration Server to the default machine `oidhost1` that is listed.

On the Assign Servers to Machines screen:

1. In the Machines pane, select the default machine **oidhost1** that is listed.
2. In the Servers pane, assign `AdminServer` to `oidhost1` by doing one of the following:
   - Click once on `AdminServer` to select it, then click the right arrow to move it beneath the selected machine (`oidhost1`) in the Machines pane.
   - Double-click on `AdminServer` to move it beneath the selected machine (`oidhost1`) in the Machines pane.

Virtual Targets

You can skip this screen for Oracle Internet Directory configuration.

Click **Next** and proceed.

Partitions

Click **Next** as this is not applicable to Oracle Internet Directory.

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

Reviewing Your Configuration Specifications and Configuring the Domain

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

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

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

Writing Down Your Domain Home and Administration Server URL

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

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

- Domain Location
- Administration Server URL

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

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

Starting Servers and Processes

After configuration is complete, start the servers and the processes.

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

Refer to the following topics based on your configuration mode:

- Starting the Servers for Standalone Oracle Internet Directory
  In case of a standalone Oracle Internet Directory (OID) configuration, start the Node Manager. The OID instance will be started when you perform the initial OID setup in the later sections.
- Starting Servers and Processes for Collocated Oracle Internet Directory
  In case of a collocated Oracle Internet Directory (OID) configuration, start the Administration Server and the Node Manager. The OID instance will be started when you perform the initial OID setup in the later sections.

Starting the Servers for Standalone Oracle Internet Directory

In case of a standalone Oracle Internet Directory (OID) configuration, start the Node Manager. The OID instance will be started when you perform the initial OID setup in the later sections.

To start the Node Manager, use the following command:

- (UNIX) `DOMAIN_HOME/bin/startNodeManager.sh`
- (Windows) `DOMAIN_HOME\bin\startNodeManager.cmd`

> **Note:**
>
> Before starting the Node Manager, make sure that any changes made to the default port in `nodemanager.properties` reflects in the corresponding associated machine as well.

Starting Servers and Processes for Collocated Oracle Internet Directory

In case of a collocated Oracle Internet Directory (OID) configuration, start the Administration Server and the Node Manager. The OID instance will be started when you perform the initial OID setup in the later sections.

The components may be dependent on each other so they must be started in the correct order.

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

To start your Fusion Middleware environment, follow the steps below.

Step 1: Start the Administration Server

When you start the Administration Server, you also start the processes running in the Administration Server, including the WebLogic Server Administration Console and Fusion Middleware Control.

To start the Administration Server, use the `startWebLogic` script:

- (UNIX) *`DOMAIN_HOME`*`/bin/startWebLogic.sh`
- (Windows) *`DOMAIN_HOME`*`\bin\startWebLogic.cmd`

When prompted, enter your user name, password, and the URL of the Administration Server.

Step 2: Start Node Manager

To start Node Manager, use the `startNodeManager` script:

- (UNIX) *`DOMAIN_HOME`*`/bin/startNodeManager.sh`
- (Windows) *`DOMAIN_HOME`*`\bin\startNodeManager.cmd`

> **Note:**
>
> Before starting the Node Manager, make sure that any changes made to the default port in `nodemanager.properties` reflects in the corresponding associated machine as well.

Performing the Initial Oracle Internet Directory Setup

Use the `wlst` command from a different terminal to connect to Administration Server and set up Oracle Internet Directory.

To perform the initial setup of OID, do the following:

1. Run the following command from the location *$ORACLE_HOME*`/oracle_common/common/bin` to launch the WLST tool:

   ```
   ./wlst.sh
   ```

2. In case of a standalone Oracle Internet Directory configuration, connect to the Node Manager using the following command:

   ```
   nmConnect(username='wls_user',password='password',domainName='base_domain')
   ```

   In case of a collocated Oracle Internet Directory configuration, connect to the Administration Server using the following command:

   ```
   connect('Admin_username','Admin_password','t3://Admin_host:Admin_port')
   ```

3. Run the following command to perform the initial setup of OID:

   From location:

   - For standalone mode: `/base_domain`
   - For collocated mode: `/base_domain/serverConfig`

   ```
   oid_setup(orcladminPassword='password',odsPassword='password',realmDN='<your realm>' port='nnnn', sslPort='nnnn', host='hostname' )
   ```

   where,

   ```
   realmDN='<dc=<xxxx>,dc=<company name>, dc=com>'
   ```

   > **Note:**
   >
   > For information about the other optional arguments that can be used with `oid_setup` command, run the following command:
   >
   > ```
   > help('oid_setup')
   > ```
   >
   > You can use the appropriate arguments for running OID on custom SSL and non-SSL ports, setting instanceName, port, hostname, machineName as input parameters etc.

   The command `oid_setup()` performs the following operations:

   - Sets the password for `cn=orcladmin user`.
   - Creates the first OID instance `oid1`. The following parameters are set by default when `oid_setup` is run:
     - `instanceName = 'oid1'`
     - `host = 'hostname of the current machine'`
     - `port = '3060'`

  - `machine = 'oidhost1'`

    This gets created automatically when you run `config.sh`.

  - `sslPort = '3131'`

- Starts the newly created OID instance `oid1` .
- Creates the realm.

> **Note:**
>
> If the realm is not provided then `'dc=us,dc=oracle,dc=com'` realm is created automatically.

> **Note:**
>
> For more information about managing Oracle Internet Directory components using WLST commands, see Managing Oracle Internet Directory Components by Using WLST Commands in the *Administering Oracle Internet Directory*.

Verifying the Configuration

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

To verify the Oracle Internet Directory (OID) is configured successfully, do the following:

1. Set the environment variable `ORACLE_HOME` to the new 12*c* ORACLE_HOME location.
2. Run the following command to check on the OID instance:

   `ORACLE_HOME/bin/ldapbind -h` *`OID_HOST`* `-p` *`OID_PORT`*

For additional configuration and administration tasks, see Performing Additional Domain Configuration Tasks.

5

Configuring Oracle Directory Integration Platform

Configure Oracle Directory Integration Platform (ODIP) after you install Oracle Internet Directory binaries.

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

- Preparing to Install and Configure Oracle Internet Directory
- Installing the Oracle Internet Directory Software

> **Note:**
>
> Ensure that you install Oracle Fusion Middleware Infrastructure too. Installation of ODIP requires Infrastructure to be installed.

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

- Creating the Database Schemas
  Before you can configure an Oracle Directory Integration Platform (ODIP) domain, you must install required schemas on a certified database for use with this release of Oracle Fusion Middleware.
- Configuring Oracle Directory Integration Platform with Backend Directories
  Oracle Directory Integration Platform (ODIP) can be configured with the Oracle Internet Directory (OID), Oracle Unified Directory (OUD), or Oracle Directory Server Enterprise Edition (ODSEE).
- Installing ODIP Without a Database
  You can install and configure ODIP to run without a database.

Creating the Database Schemas

Before you can configure an Oracle Directory Integration Platform (ODIP) domain, you must install required schemas on a certified database for use with this release of Oracle Fusion Middleware.

> **Note:**
>
> You can skip this section if OID is configured as a backend directory and you've already created a schema for OID collocated mode as described in Creating the Database Schemas.

- Installing and Configuring a Certified Database
  Before you create the database schemas, you must install and configure a certified database, and verify that the database is up and running.
- Starting the Repository Creation Utility
  Start the Repository Creation Utility (RCU) after you verify that a certified JDK is installed on your system.
- Navigating the Repository Creation Utility Screens to Create Schemas
  Enter required information in the RCU screens to create the database schemas.

Installing and Configuring a Certified Database

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

See About Database Requirements for an Oracle Fusion Middleware Installation.

Starting the Repository Creation Utility

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

To start the RCU:

1. Verify that a certified JDK already exists on your system by running `java -version` from the command line. For 12*c* (12.2.1.3.0), the certified JDK is 1.8.0_131 and later.

   See About JDK Requirements for an Oracle Fusion Middleware Installation.
2. Ensure that the `JAVA_HOME` environment variable is set to the location of the certified JDK. For example:
   - (UNIX) `setenv JAVA_HOME /home/Oracle/Java/jdk1.8.0_131`
   - (Windows) `set JAVA_HOME=C:\home\Oracle\Java\jdk1.8.0_131`
3. Change to the following directory:
   - (UNIX) *ORACLE_HOME*`/oracle_common/bin`
   - (Windows) *ORACLE_HOME*`\oracle_common\bin`
4. Enter the following command:
   - (UNIX) `./rcu`
   - (Windows) `rcu.bat`

Navigating the Repository Creation Utility Screens to Create Schemas

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

- Introducing the RCU
  The Welcome screen is the first screen that appears when you start the RCU.
- Selecting a Method of Schema Creation
  Use the Create Repository screen to select a method to create and load component schemas into the database.

- Providing Database Connection Details
  On the Database Connection Details screen, provide the database connection details for the RCU to connect to your database.
- Specifying a Custom Prefix and Selecting 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.

Introducing the RCU

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

Click **Next**.

Selecting a Method of Schema Creation

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

On the Create Repository screen:

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

Providing Database Connection Details

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

> **Note:**
>
> If you are unsure of the service name for your database, you can obtain it from the `SERVICE_NAMES` parameter in the initialization parameter file of the database. If the initialization parameter file does not contain the `SERVICE_NAMES` parameter, then the service name is the same as the global database name, which is specified in the `DB_NAME` and `DB_DOMAIN` parameters.

For example:

Database Type: `Oracle Database`

Connection String Format: `Connection Parameters or Connection String`
Connection String: `examplehost.exampledomain.com:1521:Orcl.exampledomain.com`
Host Name: `examplehost.exampledomain.com`
Port: `1521`
Service Name: `Orcl.exampledomain.com`
User Name: `sys`
Password: `******`
Role: `SYSDBA`

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

Specifying a Custom Prefix and Selecting Schemas

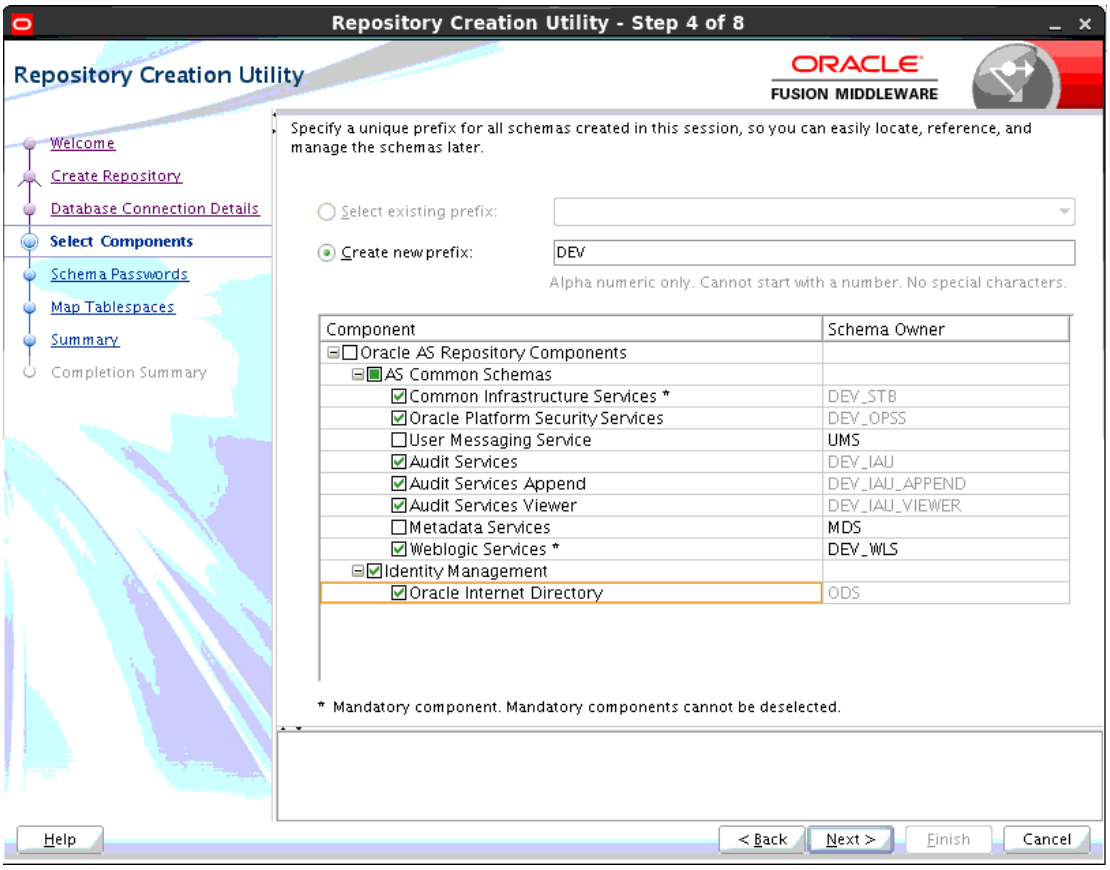
Select **Create new prefix**, specify a custom prefix, then select the **Oracle Internet Directory** schema. This action automatically selects the following schemas as dependencies:

- ODS — Select this schema only if ODIP needs to be wired against OID backend directory installed in same domain.
- Oracle Platform Security Services
- Audit Services
- Audit Services Append
- Audit Services Viewer
- WebLogic Services

The schema Common Infrastructure Services is also automatically created. This schema is dimmed; you cannot select or deselect it. This schema enables you to retrieve information from RCU during domain configuration. For more information, see "Understanding the Service Table Schema" in *Oracle Fusion Middleware Creating Schemas with the Repository Creation Utility*.

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

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



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

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

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.

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

you start the RCU. Select the **Encrypt Tablespace** check box if you want to encrypt all new tablespaces that the RCU creates.

When you reach the Completion Summary screen, click **Close** to dismiss the RCU.

Configuring Oracle Directory Integration Platform with Backend Directories

Oracle Directory Integration Platform (ODIP) can be configured with the Oracle Internet Directory (OID), Oracle Unified Directory (OUD), or Oracle Directory Server Enterprise Edition (ODSEE).

> **Note:**
>
> When configuring ODIP with backend directories, you must set the environment variable *ORACLE_HOME* for ODIP, to the top level Oracle home, wherever required.
>
> For example, for Oracle Internet Directory or Infrastructure installation, if wlserver is installed under `/home/Oracle/Middleware/Oracle_Home`, then *ORACLE_HOME* must be set to `/home/Oracle/Middleware/Oracle_Home`.

- To configure Oracle Directory Integration Platform with Oracle Internet Directory, see Configuring Oracle Internet Directory in the *Oracle Fusion Middleware Administrator's Guide for Oracle Directory Integration Platform*.
- To configure Oracle Directory Integration Platform with Oracle Unified Directory, see Configuring Oracle Directory Integration Platform for Oracle Unified Directory in the *Oracle Fusion Middleware Administrator's Guide for Oracle Directory Integration Platform*.
- To configure Oracle Directory Integration Platform with Oracle Directory Server Enterprise Edition, see Configuring Oracle Directory Integration Platform for Oracle Directory Server Enterprise Edition in the *Oracle Fusion Middleware Administrator's Guide for Oracle Directory Integration Platform*.

Installing ODIP Without a Database

You can install and configure ODIP to run without a database.

To configure ODIP to work without creating and using a database, create the following Python script, `oudscript.py`, which creates a domain for ODIP without a database. Note: replace password in the script with your WebLogic password. This sample assumes `/oracle/mw_oud12c` as the Oracle Unified Directory home. Be sure to use the directory information that matches your installation.

```
setTopologyProfile('Compact')
selectTemplate('Basic WebLogic Server Domain')
selectTemplate('Oracle Directory Integration Platform')
loadTemplates()
setOption('AppDir', '${MW_HOME}/applications/dip1')
```

```
cd(r'/Security/base_domain/User/weblogic')
cmo.setPassword('Oracle123')
writeDomain('${MW_HOME}/domains/dip1')
closeTemplate()
readDomain('${MW_HOME}/domains/dip1')
cd('Servers/AdminServer')
cmo.setListenPort(7007)
cmo.setListenAddress('')
create('AdminServer','SSL')
cd('SSL/AdminServer')
cmo.setEnabled(true)
cmo.setListenPort(7008)
cd('/Servers/wls_ods1')
cmo.setListenPort(7009)
create('wls_ods1','SSL')
cmo.setEnabled(true)
cmo.setListenPort(7010)
updateDomain()
closeDomain()
```

You can deploy this with `wlst.sh` by running the command `wlst.sh oudscript.py`. After running the script, use the dipConfigurator to configure ODIP. See Configuring Oracle Internet Directory in *Administering Oracle Directory Integration Platform*.

6

Next Steps After Configuring the Domain

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

- Performing Basic Administrative Tasks
  Review the administrative tasks you will likely want to perform on a new domain.
- Performing Additional Domain Configuration Tasks
  Review additional configuration tasks you will likely want to perform on a new domain.
- Preparing Your Environment for High Availability
  Scaling out for high availability requires additional steps.

Performing Basic Administrative Tasks

Review the administrative tasks you will likely want to perform on a new domain.

Table 6-1 Basic Administration Tasks for a New Domain

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

Performing Additional Domain Configuration Tasks

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

Table 6-2 Additional Domain Configuration Tasks

Task	Description	More Information
Deploying Applications	Learn how to deploy your applications to Oracle Fusion Middleware.	See Deploying Applications in *Oracle Fusion Middleware Administering Oracle Fusion Middleware*.
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 *Oracle Fusion Middleware Installing and Configuring Oracle HTTP Server*. See also Installing Multiple Products in the Same Domain for important information.
Tuning and configuring Coherence for your topology	The standard installation topology includes a Coherence cluster that contains storage-enabled Managed Coherence Servers. This configuration is a good starting point for using Coherence, but depending upon your specific requirements, consider tuning and reconfiguring Coherence to improve performance in a production environment.	For more information about Coherence clusters, see Configuring and Managing Coherence Clusters in *Oracle Fusion Middleware Administering Clusters for Oracle WebLogic Server*. For information on tuning Coherence, see Performance Tuning in *Oracle Fusion Middleware Administering Oracle Coherence*. For information on storing HTTP session data in Coherence, see Using Coherence*Web with WebLogic Server in *Oracle Fusion Middleware Administering HTTP Session Management with Oracle Coherence*Web*. For more about creating and deploying Coherence applications, see Getting Started in *Oracle Fusion Middleware Developing Oracle Coherence Applications for Oracle WebLogic Server*.

Preparing Your Environment for High Availability

Scaling out for high availability requires additional steps.

Table 6-3 provides a list of tasks to perform if you want to scale out your standard installation environment for high availability.

Table 6-3 Tasks Required to Prepare Your Environment for High Availability

Task	Description	More Information
Scaling out to multiple host computers	To enable high availability, it is important to provide failover capabilities to another host computer. That way, if one computer goes down, your environment can continue to serve the consumers of your deployed applications.	See Scaling Out a Topology (Machine Scale Out) in the *Oracle Fusion Middleware High Availability Guide*.
Configuring high availability for your Web Tier components.	If you have added a Web tier front-end, then you must configure the Web Tier for high availability, as well as the WebLogic Server software.	See Configuring High Availability for Web Tier Components in *Oracle Fusion Middleware High Availability Guide*.
Setting up a front-end load balancer	A load balancer can be used to distribute requests across servers more evenly.	See Server Load Balancing in a High Availability Environment and Configuring Load Balancer Virtual Server Names and Ports in *Oracle Fusion Middleware High Availability Guide*.
Configuring Node Manager	Node Manager enables you to start, shut down, and restart the Administration Server and Managed Server instances from a remote location. This document assumes you have configured a per-domain Node Manager. Review the Node Manager documentation, for information on advanced Node Manager configuration options and features.	See Advanced Node Manager Configuration in *Oracle Fusion Middleware Administering Node Manager for Oracle WebLogic Server*.

7

Uninstalling or Reinstalling Oracle Internet Directory

Follow the instructions in this section to uninstall or reinstall Oracle Internet Directory.

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

- About Product Uninstallation
  The Oracle Fusion Middleware uninstaller removes the software from the Oracle home directory.
- Stopping Oracle Fusion Middleware
  Before running the Uninstall Wizard, Oracle recommends that you stop all servers and processes associated with the Oracle home you are going to remove.
- Removing Your Database Schemas
  Before you remove the Oracle home, Oracle recommends that you run the Repository Creation Utility (RCU) to remove database schemas associated with this domain.
- Uninstalling the Software
  Follow the instructions in this section to start the Uninstall Wizard and remove the software.
- Removing the Oracle Home Directory Manually
  After you uninstall the software, you must manually remove your Oracle home directory and any existing subdirectories that the Uninstall Wizard did not remove.
- Removing the Program Shortcuts on Windows Operating Systems
  On Windows operating systems, you must also manually remove the program shortcuts; the Deinstallation Wizard does not remove them for you.
- Removing the Domain and Application Data
  After you uninstall the software, you must remove the domain and application data.
- Reinstalling the Software
  You can reinstall your software into the same Oracle home as a previous installation only if you uninstalled the software by following the instructions in this section, including manually removing the Oracle home directory.

About Product Uninstallation

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

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

Table 7-1 Roadmap for Product Uninstallation

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

Stopping Oracle Fusion Middleware

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

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

Removing Your Database Schemas

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

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

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

Uninstalling the Software

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

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

- Starting the Uninstall Wizard
- Selecting the Product to Uninstall
- Navigating the Uninstall Wizard Screens

Starting the Uninstall Wizard

To start the Uninstall Wizard:

1. Change to the following directory:

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

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

2. Enter the following command:

   (UNIX) `./deinstall.sh`

   (Windows) `deinstall.cmd`

Selecting the Product to Uninstall

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

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

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

Navigating the Uninstall Wizard Screens

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

If you need help on screen listed in Table 7-2, click **Help** on the screen.

Table 7-2 Uninstall Wizard Screens and Descriptions

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

Removing the Oracle Home Directory Manually

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

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

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

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

Removing the Program Shortcuts on Windows Operating Systems

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

To remove the program shortcuts on Windows:

1. Change to the following directory:
   `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Oracle\ORACLE_HOME\Product`
2. If you only have one product installed in your Oracle home, delete the *ORACLE_HOME* directory. If you have multiple products installed in your Oracle home, delete all products before you delete the *ORACLE_HOME* directory.

Removing the Domain and Application Data

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

To remove the domain and application data:

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

   On a UNIX operating system, if your Domain home directory is `/home/Oracle/config/domains/oid_domain`, enter the following command:

   ```
   cd /home/Oracle/config/domains
   ```

   ```
   rm -rf oid_domain
   ```

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

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

   On a UNIX operating system, if your Application home directory is `/home/Oracle/config/applications/oid_domain`, enter the following commands:

   ```
   cd /home/Oracle/config/applications
   ```

   ```
   rm -rf oid_domain
   ```

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

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

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

   Save and exit the file when you are finished.

Reinstalling the Software

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

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

If ODI is installed again in the same location where it was previously deleted, delete the entire Oracle Home where it was previously installed.

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

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

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

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

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

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

A

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

Consider that you have a JDK version jdk1.8.0_121 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_121. After some time, Oracle releases a new version of the JDK, say jdk1.8.0_131 that carries security enhancements and bug fixes. From 12*c* (12.2.1.3.0) 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 8u121. So while configuring the WebLogic domain with the Configuration Assistant, you can select the path to the newer JDK on the Domain Mode and JDK screen of the Configuration Wizard. Example: `/scratch/jdk/jdk1.8.0_131`.

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

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

- Updating the JDK Location in an Existing Oracle Home
  The `getProperty.sh|cmd` script displays the value of a variable, such as JAVA_HOME, from the .globalEnv.properties file. The `setProperty.sh|cmd` script is used to set the value of variables, such as OLD_JAVA_HOME or JAVA_HOME that contain the locations of old and new JDKs in the .globalEnv.properties file.
- Updating the JDK Location in an Existing Domain Home
  You must search the references to the current JDK, for example jdk1.8.0_121 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 jdk1.8.0_121.

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_131.

Updating the JDK Location in an Existing Domain Home

You must search the references to the current JDK, for example jdk1.8.0_121 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