Oracle® Fusion Middleware

Installation Planning Guide for Oracle Identity and Access Management

11*g* Release 2 (11.1.2.2.0)

E35859-07

May 2014

ORACLE®

Oracle Fusion Middleware Installation Planning Guide for Oracle Identity and Access Management, 11*g* Release 2 (11.1.2.2.0)

E35859-07

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Preface

The *Oracle Fusion Middleware Installation Planning Guide for Oracle Identity and Access Management* covers common Oracle Fusion Middleware concepts that affect installation, installation procedures, and troubleshooting.

Intended Audience

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

Documentation Accessibility

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

Access to Oracle Support

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

Related Documents

For additional information, see the following manuals:

- *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*

- *Oracle Fusion Middleware Administrator's Guide*. This book contains information for managing your Oracle Fusion Middleware environment after installation and configuration is complete.

- *Oracle Fusion Middleware High Availability Guide*. This book contains information for installing Oracle Fusion Middleware in high availability environments.

Conventions

The following text conventions are used in this document:

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

1

Understanding Your Installation Starting Point

Oracle Fusion Middleware is a collection of standards-based software products that spans a range of tools and services from J2EE and developer tools, to integration services, business intelligence, collaboration, and content management. Oracle Fusion Middleware offers complete support for development, deployment, and management.

This guide provides important information about preparing your system and instructions for obtaining the latest version of Oracle Fusion Middleware Identity and Access Management products, which is 11*g* Release 2 (11.1.2.2.0).

The procedures you will need to follow will vary depending on the configuration of your existing system.

Find the starting point that best describes your current environment and go to that section for more information:

- Section 1.1, "Starting as a New Oracle Identity and Access Management User"

- Section 1.2, "Starting with Oracle Application Server 10g"

- Section 1.3, "Starting with Oracle Identity and Access Management 11g Release 1 (11.1.1)"

- Section 1.4, "Starting with Oracle Identity and Access Management 11g Release 2 (11.1.2)"

1.1 Starting as a New Oracle Identity and Access Management User

If you are a new Oracle Fusion Middleware user, refer to the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*, which provides complete information about installing and configuring your Oracle Identity and Access Management products.

1.2 Starting with Oracle Application Server 10*g*

For information on upgrading from any of the Oracle Identity Management 10*g* products to Oracle Identity and Access Management 11*g* Release 2 (11.1.2.2.0), refer to the *Oracle Fusion Middleware Upgrade and Migration Guide for Oracle Identity and Access Management*.

1.3 Starting with Oracle Identity and Access Management 11*g* Release 1 (11.1.1)

For information on upgrading from any of the Oracle Identity and Access Management 11*g* Release 1 (11.1.1) products to 11*g* Release 2 (11.1.2.2.0), refer to the *Oracle Fusion Middleware Upgrade and Migration Guide for Oracle Identity and Access Management*.

1.4 Starting with Oracle Identity and Access Management 11*g* Release 2 (11.1.2)

For information on patching your Oracle Identity and Access Management 11*g* Release 2 (11.1.2) products to 11*g* Release 2 (11.1.2.2.0), refer to the *Oracle Fusion Middleware Patching Guide for Identity and Access Management*.

2

Understanding Oracle Fusion Middleware Concepts and Directory Structure

During the installation process, you will be asked for a variety of directory locations. This section defines each of these directories and explains the contents of each directory.

This chapter contains the following content:

- Section 2.1, "Oracle Fusion Middleware Concepts"
- Section 2.2, "Oracle Fusion Middleware Directory Structure"

2.1 Oracle Fusion Middleware Concepts

For more information about important Oracle Fusion Middleware concepts for all users, refer to *Oracle Fusion Middleware Concepts*.

2.2 Oracle Fusion Middleware Directory Structure

This section describes the various directories that are created when you install Oracle Fusion Middleware products.

2.2.1 Middleware Home and WebLogic Server Home Directories

All Oracle Fusion Middleware products (except for Oracle Web Tier and some Oracle Identity Management products, such as Oracle Internet Directory) require the presence of an application server on your system. All Oracle Fusion Middleware products support Oracle WebLogic Server as the application server. Beginning with 11*g* Release 1 (11.1.1.4.0), Oracle Application Developer and Oracle SOA Suite and Oracle Business Process Management Suite also support IBM WebSphere as the application server.

The top-level directory for all Oracle Fusion Middleware products is called the Middleware home; this directory serves as a container for the Oracle WebLogic Server home, Oracle Common home, and one or more product Oracle homes. The Middleware home directory is created when Oracle WebLogic Server is installed as the application server. The WebLogic Server home directory is inside the Middleware home and is created when Oracle WebLogic Server is installed. Figure 2–1 shows the directory structure after a typical Oracle WebLogic Server installation:

Figure 2–1   Directory Structure after an Oracle WebLogic Server Installation

Some of the notable directories in the Middleware home when created by the Oracle WebLogic Server installation are the WebLogic Server home (`wlserver_10.3`), the directory for the JDK which you can use for product installations (`jdk160_27`), and the Oracle Coherence directory, which is used by Oracle Service Bus for its business service result caching functionality (`coherence_3.7`).

If you choose to use IBM WebSphere as your application server, then you must still manually create a Middleware home directory where your Oracle Fusion Middleware products will be installed, as shown in Figure 2–2. The Middleware home and WebSphere home do not have any relation to each other and can be located anywhere on your system.

Figure 2–2   Directory Structure after an IBM WebSphere Installation and Middleware Home

If you are installing Oracle Web Tier or Oracle Identity Management with only Oracle Internet Directory where an application server is not required, you must still manually create a Middleware home directory on your system.

2.2.2 Oracle Home and Oracle Common Home Directories

Each Oracle Fusion Middleware product must be installed in its own Oracle home location. When a product is installed, two Oracle home directories are created: the product Oracle home and the Oracle Common home.

The product's software binaries will be installed into the product Oracle home; no runtime process can write to this directory.

The Oracle Common home contains the binary and library files required for the Oracle Enterprise Manager Fusion Middleware Control and Java Required Files (JRF). There can be only one Oracle Common home within each Middleware home.

Both the product Oracle home (in the example shown in Figure 2–3, the SOA Oracle home) and Oracle Common home directories must reside inside an existing Middleware home directory:

Figure 2–3   Directory Structure with Oracle Home Directories

2.2.2.1 Creating the Product Oracle Home

The product Oracle home directory can be created in the following ways:

- Before running the installation, you can create your Oracle home directory on your system. Remember that the Oracle home must reside inside the Middleware home directory, and it must also be an empty directory. Then, when you run the installer and are asked to provide the location of your Oracle home, you can specify the directory you have created.

- While running the installer, you can specify the name of a new directory. This directory will automatically be created for you by the installer and will be located inside the Middleware home directory.

2.2.2.2 Creating the Oracle Common Home

The Oracle Common home directory is created in the following ways:

- Installing Oracle Application Developer. For more information, see the *Oracle Fusion Middleware Installation Guide for Application Developer*.

- Installing any Oracle Fusion Middleware product. The directory `oracle_common` is automatically created inside the Middleware home directory.

2.2.2.3 Checking Port Numbers Across Multiple Oracle Homes

Each product requires its own Oracle home directory. If you are creating an environment where you will have multiple products (and therefore, multiple Oracle home directories), Oracle recommends that you use the `staticports.ini` file, so that you will have a record of all the ports that are in use on your system to help avoid conflicts.

To use the `staticports.ini` file, select **Specify Ports using Configuration file** on the Configure Ports screen during installation.

2.2.3 WebLogic Server Domain

After a product is installed, it can be configured into a WebLogic Server domain. See *Oracle Fusion Middleware Concepts* for more information about WebLogic Server domains.

During configuration, on the "Specify Domain Name and Location" screen, you will be asked for the location where you want to store data for your domains and applications. Specifically, you will be asked for:

- Domain name

- Domain location

- Application location

The domain location and domain name together are referred to as the domain home. For example, on a UNIX operating system, if you specified `/home/Oracle/Middleware/domains` as your domain location and `soa_domain` as your domain name, the domain home would be `/home/Oracle/Middleware/domains/soa_domain`.

The application location and domain name together are referred to as the application home. For example, on a Windows operating system, if you specified `C:\Oracle\Middleware\applications` as your application location, then the application home would be `C:\Oracle\Middleware\applications\soa_domain`.

Note that a directory with the specified domain name is created in both the specified domain location and application location.

The domain home and application home can be created anywhere on your system. When you run the Configuration Wizard, the default value in the domain location field is user_projects/domains under the Middleware home. The default value for the application home is user_projects/applications, also under the Middleware home. However, it is recommended that you create your domain home and application home outside of both the Middleware home and Oracle home directories, so that in the event you need to patch either the Middleware home or Oracle home, your domain and application information would remain untouched.

For more information about domain configuration, see the Installation Guide for your product. For recommendations about configuring a domain in an enterprise production environment, see the Enterprise Deployment Guide for your product.

Figure 2–4   Directory Structure after a WebLogic Server Domain is Created
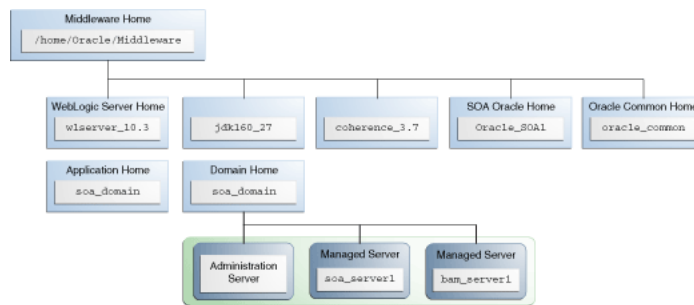
2.2.4 Multiple Products with Multiple WebLogic Server Domains

If you install multiple products and choose to create a separate domain for each product, then your directory structure would look something like the one shown in Figure 2–5:

Figure 2–5   Directory Structure with Multiple Oracle Fusion Middleware Products
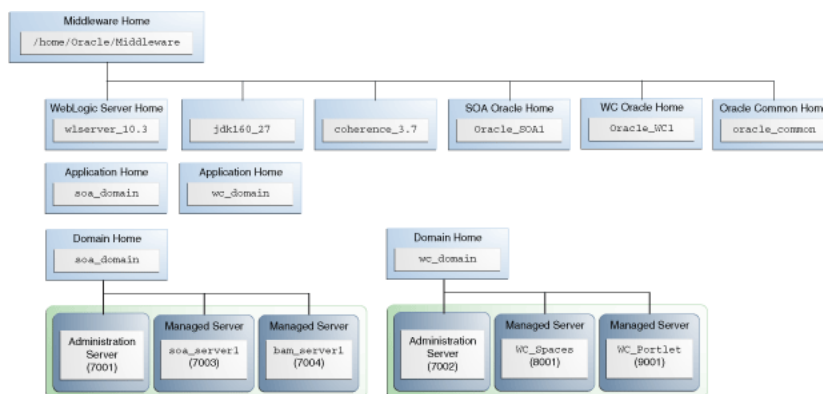
Notice that each product has its own Oracle home directory. To differentiate among all the product Oracle home directories, the install guides typically refer to each Oracle home by product name; for example, the Oracle home for Oracle SOA Suite is referred to as the SOA Oracle home, while the Oracle home for Oracle WebCenter Suite is referred to as the WebCenter Oracle home.

2.2.4.1 Notes for Creating Multiple Domains

If you choose to create multiple domains on a single machine, make sure that each domain has a unique name. When you are running the Configuration Wizard to create and configure your domains, be sure to specify a unique domain name on the "Specify Domain Name and Location" screen. For example, in Figure 2–5, the WebCenter domain might have the name `wc_domain`, while the SOA domain could be called `soa_domain`. Refer to the product installation guides for more information.

When you are configuring multiple domains, you must also make sure that the Administration Server and Managed Servers in each domain use a unique port number. There is no provision for checking port numbers across multiple domains, so you will have to keep track of this manually.

To customize the Administration Server port number, select **Administration Server** on the "Select Optional Configuration" screen in the Configuration Wizard. This will cause the Configure the Administration Server screen to appear, on which you can specify the Administration Server port number.

To customize the Managed Server port numbers, select **Managed Servers, Clusters and Machines** on the "Select Optional Configuration" screen in the Configuration Wizard. This will cause the Configure Manager Servers screen to appear, on which you can specify the port numbers for your managed servers.

2.2.5 Extending an Existing Domain

During installation and configuration, you may chose to extend an existing domain rather than creating a new domain. Extending a domain means that you add products and funtionality to an existing domain. If, for example, you first install Oracle SOA Suite to create a new domain, then install Oracle WebCenter while choosing to extend the existing Oracle SOA Suite domain, then your topology would look like the one shown in Figure 2–6.

Figure 2–6 Directory Structure with Multiple Oracle Fusion Middleware Products in a Single Domain
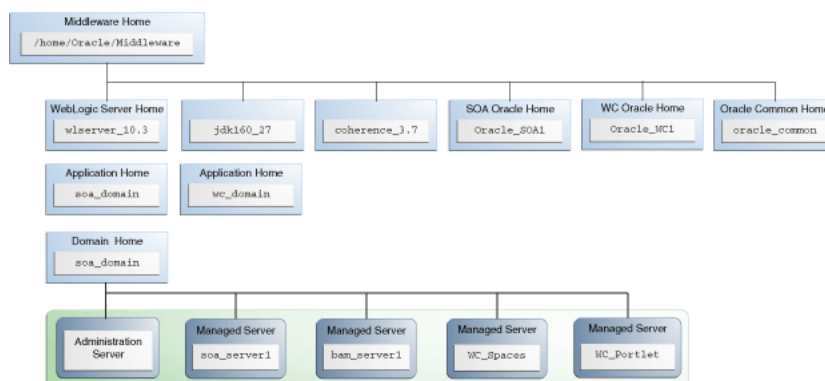
In essence, you are adding the products and functionality of Oracle WebCenter Suite to the existing Oracle SOA Suite domain.

Not all Oracle Fusion Middleware products can be configured or used in conjunction with other Oracle Fusion Middleware products. If you intend to configure multiple products in your domain, make sure you have read "Domain Extension Interoperability" in *Oracle Fusion Middleware Interoperability and Compatibility Guide for Oracle Identity and Access Management*.

2.2.6 Oracle Instance and WebLogic Server Domain

Figure 2–7 shows the directory structure when two products are installed, but one product (Oracle SOA Suite) is configured in a WebLogic Server domain (because it consists of Java components) while the other product (Oracle WebTier) is configured in an Oracle Instance (because it consists of system components):

Figure 2–7   Directory Structure with an Oracle Instance and a WebLogic Server Domain
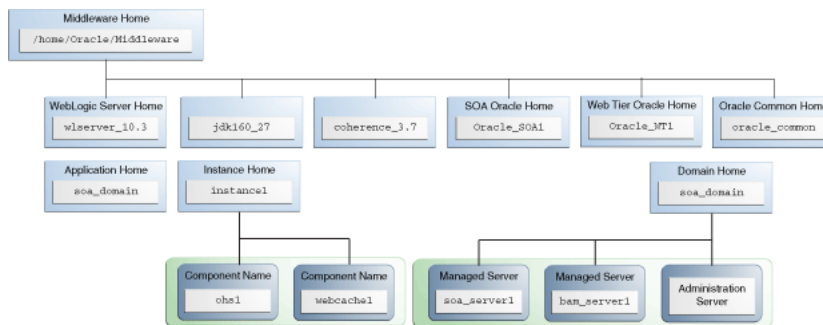
Fore more information about Java components and system components, refer to "Understanding Key Oracle Fusion Middleware Concepts" in *Oracle Fusion Middleware Administrator's Guide*.

3

Common Installation Planning Tasks

This chapter describes some common tasks that should be performed prior to beginning any Oracle Fusion Middleware installation.

The following topics are covered:

- Section 3.1, "Before You Begin"
- Section 3.2, "Installing Oracle Configuration Manager"
- Section 3.3, "Understanding Installation and Configuration Privileges and Users"
- Section 3.4, "Recovering From a Partial or Interrupted Installation or Configuration"
- Section 3.5, "Creating and Starting Managed Servers on a Remote Machine"

3.1 Before You Begin

This section contains important information that you should read before you begin to install or upgrade your system:

- Section 3.1.1, "Read and Understand Oracle Fusion Middleware Concepts"
- Section 3.1.2, "Review System Requirements and Specifications"
- Section 3.1.3, "Review Certification Information"
- Section 3.1.4, "Review Interoperability and Compatibility"
- Section 3.1.5, "Obtain the Oracle Fusion Middleware Software"
- Section 3.1.6, "Install an Application Server"
- Section 3.1.7, "Install and Configure a Database and Schemas"
- Section 3.1.8, "Create Operating System Users for IBM DB2 Databases"

3.1.1 Read and Understand Oracle Fusion Middleware Concepts

If you are new to Oracle Fusion Middleware, you should read *Oracle Fusion Middleware Concepts* before proceeding with an installation or upgrade. Chapter 2, "Understanding Oracle Fusion Middleware Concepts and Directory Structure", contains important information about the directory structure of Oracle Fusion Middleware installations that you should be familiar with before you install any product.

3.1.2 Review System Requirements and Specifications

Before performing any upgrade or installation you should read the Oracle Fusion Middleware System Requirements and Specifications document to ensure that your environment meets the minimum installation requirements for the products you are installing.

This document contains information related to hardware and software requirements, minimum disk space and memory requirements, database schema requirements, and required system libraries, packages, or patches.

If you are installing on a DHCP server, non-networked computer, or multihomed computer, there are additional configuration steps that are required. These steps are also available in the system requirements document in the "Oracle Fusion Middleware System Configuration Requirements" section.

If you are installing on a Windows operating system and want to install and configure Java Access Bridge for Section 508 Accessibility, read the "Installing and Configuring Java Access Bridge" section in this document.

If you are installing on a UNIX operating system, Oracle recommends that you configure your system to enable Unicode support. For more information, read the "Enabling Unicode Support" section in this document.

3.1.3 Review Certification Information

Before performing any upgrade or installation you should read the certification document for your specific release on the Oracle Fusion Middleware Supported System Configurations page. This document contains certification information related to supported 32-bit and 64-bit operating systems, databases, web servers, LDAP servers, adapters, IPv6, JDKs, and third-party products.

3.1.4 Review Interoperability and Compatibility

Before performing any upgrade or installation you should read *Oracle Fusion Middleware Interoperability and Compatibility Guide for Oracle Identity and Access Management*. This document contains important information regarding the ability of Oracle Fusion Middleware products to function with previous versions of other Oracle Fusion Middleware, Oracle, or third-party products. This information is applicable to both new Oracle Fusion Middleware users and existing users who are upgrading their existing environment.

3.1.5 Obtain the Oracle Fusion Middleware Software

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

3.1.6 Install an Application Server

All Oracle Fusion Middleware products (except for Oracle Web Tier and Oracle Identity Management with Oracle Internet Directory only) require an application server on your system. For Oracle Application Developer or Oracle SOA Suite and Business Process Management Suite you can choose to install Oracle WebLogic Server or IBM WebSphere as the application server. Refer to the *System Requirements and Supported Platforms for Oracle Fusion Middleware 11gR1* document to determine the certified versions of these application servers for installation on your system. This

document is located on the "Oracle Fusion Middleware Supported System Configurations" page.

All Oracle Fusion Middleware products must be installed in the Oracle Middleware home directory, which can be created by installing Oracle WebLogic Server as the application server on your system. If you choose to use IBM WebSphere as your application server, you must manually create a Middleware home directory in which you can install your Oracle Fusion Middleware products.

For more information about the installation directory structure, see Section 2.2, "Oracle Fusion Middleware Directory Structure".

For instructions on how to install Oracle WebLogic Server, see "Running the Installation Program in Graphical Mode" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

For instructions on how to install IBM WebSphere, see *Oracle Fusion Middleware Third-Party Application Server Guide for Oracle Identity and Access Management*.

3.1.7 Install and Configure a Database and Schemas

Installation of most Oracle Fusion Middleware products requires the availability of a database (only Oracle Web Tier and Oracle Forms and Reports without Oracle Identity Management protection do not require a database). This database must be up and running, and does not have to be on the same system where you are installing the components. The database must also be compatible with Repository Creation Utility (RCU), which is used to create the schemas necessary for your Oracle Fusion Middleware components.

> **Note:** It is recommended that all metadata repositories reside on a database at the same site as the products to minimize network latency issues.

For information about which databases are certified for use with Oracle Fusion Middleware and RCU, and important database configuration information, see "RCU System and Database Requirements" in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

After your database is installed and configured, run the latest version of RCU to create your schemas. For instructions, see "Creating Schemas" in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

For more information about managing metadata repositories, refer to "Managing the Oracle Metadata Repository" in the Oracle Fusion Middleware System Requirements and Specifications document.

3.1.8 Create Operating System Users for IBM DB2 Databases

If you are not using an IBM DB2 database, you can skip this section.

IBM DB2 databases authenticates its database users using equivalent operating system users. Therefore, prior to running RCU, one operating system user must be created on the database host for each schema. The operating system user name must match the schema owner name and must contain only lowercase letters; no all-uppercase or mixed-case names are allowed. For example, if you plan to create a schema named `DEV_MDS` using RCU, then the operating system user must be named `dev_mds` (all lowercase letters).

You can create the operating system user with the following command (this example creates the operating system user dev_mds and assigns the password welcome1):

```
/usr/sbin/useradd dev_mds -p welcome1 -d /scratch/dev_mds
```

Refer to your system documentation for more information.

3.2 Installing Oracle Configuration Manager

During installation, you will be asked whether or not you want to configure your system to automatically check for security (**Specify Security Updates** screen) and software (**Install Software Updates** screen) updates. Electing to do so installs Oracle Configuration Manager on your system.

Oracle Configuration Manager continuously tracks key Oracle and system details, providing essential data to help you manage and service your configurations. Collected data is sent via HTTPS to Oracle Support, which maintains a secure view of each configuration. My Oracle Support then provides system health checks, patch advice, and other valuable information about your Oracle products. Configuration manager does NOT collect application data, such as user passwords.

For more information, log into or create a My Oracle Support account at `https://support.oracle.com/`, then click on the **Collector** tab.

3.3 Understanding Installation and Configuration Privileges and Users

This section contains the following:

- Section 3.3.1, "Installation and Configuration Privileges"
- Section 3.3.2, "Installing as a Non-Default User on UNIX Operating Systems"

3.3.1 Installation and Configuration Privileges

The user who installs a Fusion Middleware product owns and has read, write, and execute privileges on the binary files installed in the Oracle home. Other users in the operating system group have only read and execute privileges (no write privileges). This means they cannot write to the files, but they can use the installed binaries in the Oracle home 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. The user who ran the Configuration Wizard has read, write, and execute privilege on those files. Other users in the operating system group can read and execute the files, but they do not have write privileges.

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

3.3.2 Installing as a Non-Default User on UNIX Operating Systems

On UNIX operating systems, the installation of Fusion Middleware products is owned and controlled as a known user (for example, "oracle"). The file permissions associated with this installation are configured to ensure the highest level of security possible, which by default are 700 (meaning all files are owned and accessible by the owner only).

Changing the default permissions settings will reduce the security of the installation and possibly your system. Therefore, making such a change is not recommended. If access to particular files or executables is required by other users, the UNIX `sudo` command (or other similar command) should be considered in lieu of changing file permissions.

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

3.4 Recovering From a Partial or Interrupted Installation or Configuration

The installation of an Oracle Fusion Middleware 11*g* product consists of two phases:

1. Installation Phase

   During this phase, the installer lays down the binaries in an Oracle home directory. The Oracle home directory must be located inside the Middleware home directory (see Section 2.2.1, "Middleware Home and WebLogic Server Home Directories") and no runtime processes can write to this directory.

2. Configuration Phase

   During this phase, the configuration of instances for system components and/or the configuration of a WebLogic Server domain for Java components occurs (see "Understanding Key Oracle Fusion Middleware Concepts" in *Oracle Fusion Middleware Administrator's Guide* for more information about Java components and system components).

   The Oracle Instance home (for Oracle instances) and WebLogic Server domains (for the Managed Servers that host the Java components) contain no binaries; they hold files such as configuration files, log files, and temporary files that can be updated.

The installers for Oracle SOA Suite and Oracle Business Process Management Suite, Oracle WebCenter Portal, Oracle WebCenter Content, Oracle Application Developer, and Oracle Service Bus create only Java components in a WebLogic Server domain. For these products, the installation and configuration phases are completely separate - you must run the Configuration Wizard separately after the software installation to configure your Java components.

The installer for Oracle Identity Management and Oracle Portal, Forms, Reports and Discoverer will create both system components and Java components in a WebLogic Server domain. The installer for Oracle Web Tier will create only system components, and you will have the option of associating these components with an existing WebLogic Server domain. For these products, the installer gives you the option to "Install and Configure"; if you choose this option, the installer runs and performs both the installation and configuration phase. If you do not choose to "Install and Configure" then you can install the binaries first and then run the configuration tool separately to configure your components.

The actions required to recover from a partial installation or configuration are described in the following sections:

- Section 3.4.1, "Recovering From an Installation Phase Failure or Interruption"
- Section 3.4.2, "Recovering From a Configuration Phase Failure or Interruption"

Additional information can be found in the Troubleshooting appendix in each product installation guide.

3.4.1 Recovering From an Installation Phase Failure or Interruption

If the product installation is interrupted during the installation phase, the recommended approach is to deinstall the product and remove the Oracle home, then start the installation again.

3.4.2 Recovering From a Configuration Phase Failure or Interruption

If the installation phase is completed successfully but the configuration phase is interrupted and cannot be restarted, the recommended approach is to:

1. Address and fix the cause of the failure or interruption.

2. Perform one of the following:

   a. Retry the configuration by selecting the **Retry** button in the graphical user interface.

   b. Exit the installer (for system components) or Configuration Wizard (for Java components) session, deinstall and remove the failed instance or domain, then restart your configuration tool.

   For product-specific deinstallation information, refer to the deinstallation chapter in your product installation guide.

3.5 Creating and Starting Managed Servers on a Remote Machine

To create and start a Managed Server in a WebLogic domain on a remote machine, complete the following steps:

- Use the `pack` command located in the `WebLogic_Home`/common/bin (on UNIX operating systems) or `WebLogic_Home`\common\bin (on Microsoft Windows operating systems) directory to create a Managed Server template that contains a subset of the files in a domain that are required to create a Managed Server domain directory hierarchy on a remote machine.

  The `-managed={true|false}` parameter of the `pack` command specifies whether the template is to be used to create Managed Servers on remote machines.

- Use the `unpack` command located in the `WebLogic_Home`/common/bin (on UNIX operating systems) or `WebLogic_Home`\common\bin (on Windows operating systems) directory to create the Managed Server domain directory on the remote machine.

For more information, see the "Creating and Starting a Managed Server on a Remote Machine" in *Oracle Fusion Middleware Creating Templates and Domains Using the Pack and Unpack Commands*.

4

Silent Oracle Fusion Middleware Installation and Deinstallation

This chapter describes how to install and deinstall the Oracle Identity and Access Management software from the command line. This is often referred to as installing or deinstalling in silent mode, since it does not involve use of the Oracle Universal Installer (OUI) graphical user interface.

This chapter contains the following content:

- Section 4.1, "What is a Silent Installation?"

- Section 4.2, "Understanding Response Files"

- Section 4.3, "Typical Silent Installation Procedures for Oracle Fusion Middleware Products"

- Section 4.4, "End-to-End Silent Installation and Configuration for Oracle Identity Manager"

4.1 What is a Silent Installation?

Silent installation eliminates the need to monitor your product installation because no graphical output is displayed and no input by the user is required.

Silent installation of your Oracle Fusion Middleware product is accomplished by using the `-silent` flag on the command line when you start the installer. In most cases, you will need to supply the location and name of a file containing certain variable and parameter values (for example, installation location). These are the values that would be asked for during a typical installation using the graphical user interface.

For Oracle Fusion Middleware products, this file is typically called a response file. For more information, see Section 4.2, "Understanding Response Files".

> **Note:** For UNIX users, if this is a first time installation of any Oracle product, you must create the `oraInst.loc` file before starting. Please refer to Section 4.3.1.1, "UNIX Users: Creating the `oraInst.loc` File" for more information.
>
> Following installation of your product, you need to run the `root.sh` script as the `root` user. The `root.sh` script detects settings of environment variables and enables you to enter the full path of the local `bin` directory.

> **Note:** For Windows users, if this is a first time installation of any Oracle product, you must create the registry keys before starting. Registry key creation is described in Section 4.3.1.2, "Windows Users: Creating the Registry Key"

4.2 Understanding Response Files

Before doing a silent installation, you must provide information specific to your installation in a response file. The installer will fail if you attempt an installation using a response file that is not configured correctly. Response files are text files that you can create or edit in a text editor.

- Section 4.2.1, "Creating a Response File"
- Section 4.2.2, "Sample Response Files"
- Section 4.2.3, "Securing Your Response Files for Silent Installation"

4.2.1 Creating a Response File

Oracle recommends creating a response file in the following manner:

1. Run your product's graphical installer or configuration tool, as described in your product installation or configuration guide.

2. On the Installation Summary screen of the installer (or on the summary screen of the configuration tool), click **Save** to save your installation or configuration parameters to a response file.

   You will be prompted for a name and location where you want to create this response file. After it is created, you can use it exactly as-is to replicate the installation on other systems, or modify it as needed.

4.2.2 Sample Response Files

Pre-existing sample response files for most Oracle Fusion Middleware product installers are provided in the `Disk1/stage/Response` (on UNIX operating systems) or `Disk1\stage\Response` (on Windows operating systems) directory in the location where you unzipped your downloaded archive files for installation.

Refer to your product installation guide for more detailed descriptions of the sample installation and deinstallation response files that are provided for each product.

4.2.3 Securing Your Response Files for Silent Installation

Your response files contain certain passwords required by the installer. To minimize security issues regarding these passwords in the response file, follow these guidelines:

- Set the permissions on the response files so that they are readable only by the operating system user who will be performing the silent installation.
- If possible, remove the response files from the system after the silent installation is completed.

4.3 Typical Silent Installation Procedures for Oracle Fusion Middleware Products

The following sections provide general information for using silent installation, configuration, and deinstallation procedures for most Oracle Fusion Middleware products:

- Section 4.3.1, "Pre-Installation Tasks"

- Section 4.3.2, "Silent Database Schema Creation"

- Section 4.3.3, "Silent Oracle WebLogic Server Installation"

- Section 4.3.4, "Silent Product Installation"

- Section 4.3.5, "Silent Product Configuration for Oracle Fusion Middleware Products"

- Section 4.3.6, "Silent Product Deinstallation for Oracle Fusion Middleware Products"

4.3.1 Pre-Installation Tasks

This section covers the pre-installation tasks that may be required before you are able to perform a silent installation.

The following topics are covered:

- Section 4.3.1.1, "UNIX Users: Creating the `oraInst.loc` File"

- Section 4.3.1.2, "Windows Users: Creating the Registry Key"

4.3.1.1 UNIX Users: Creating the `oraInst.loc` File

The Oracle inventory directory is used by the installer to keep track of all Oracle products installed on the computer. The inventory directory is stored in a file called `oraInst.loc`. If this file does not already exist on your system, you must create it before starting a silent installation. This file is used by the installer.

1. Log in as the `root` user.

   ```
   prompt> su
   ```

2. Using a text editor such as vi or emacs, create the `oraInst.loc` file in the directory of your choice. The contents of the file consist of the following two lines:

   ```
   inventory_loc=oui_inventory_directory
   inst_group=oui_install_group
   ```

   Replace `oui_inventory_directory` with the full path to the directory where you want the installer to create the inventory directory. Then, replace `oui_install_group` with the name of the group whose members have write permissions to this directory.

3. Exit from the `root` user.

   ```
   # exit
   ```

4.3.1.2 Windows Users: Creating the Registry Key

If you have not installed Oracle SOA Suite on your computer, then you need to create the following Registry key and value:

```
HKEY_LOCAL_MACHINE / SOFTWARE / Oracle / inst_loc = [inventory_directory]
```

Replace *Inventory_Directory* with the full path to your installer files. For example:

```
C:\Program Files\Oracle\Inventory
```

4.3.2 Silent Database Schema Creation

If your Oracle Fusion Middleware product requires database schemas, you must first create the schemas in your database before installing and configuring your product.

For instructions on how to create the schemas in silent mode, refer to "Running Repository Creation Utility (RCU) from the Command Line" in *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

4.3.3 Silent Oracle WebLogic Server Installation

Installation of all Oracle Fusion Middleware products requires the presence of an Oracle Middleware home directory, which can be created by installing Oracle WebLogic Server.

To install Oracle WebLogic Server in silent mode, refer to "Running the Installation Program in Silent Mode" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

4.3.4 Silent Product Installation

To install your Oracle Fusion Middleware product in silent mode, use the -silent mode from the command line. The full syntax for running the installer from the command line on UNIX operating systems is shown below:

```
runInstaller [-mode] [-options] [(<CommandLinevariable=Value>)*]
```

On Windows operating systems:

```
setup.exe [-mode] [-options] [(<CommandLinevariable=Value>)*]
```
Table 4–1 lists the valid command line parameters for silent installation.

Table 4–1   Installer Command Line Parameters

Parameter	Description
Installation Modes - Only One Mode Can be Specified	
-i -install	Launches the installer in GUI mode. This is the default mode and is used if no mode is specified on the command line.
-silent	Install in silent mode. The installer must be passed either a response file or command line variable value pairs.
-d -deinstall	Launches the installer in GUI mode for deinstallation. **NOTE** - this option is only available when you start the deinstaller from the *ORACLE_HOME*/oui/bin (on UNIX operating systems) or *ORACLE_HOME*\oui\bin (on Windows operating systems) directory.
-p -prerequisite	Launches the installer in GUI mode but only checks the prerequisites. No software is installed.
-v -validate	Launches the installer in GUI mode and performs all prerequisite and validation checking, but does not install any software.

Table 4–1   (Cont.) Installer Command Line Parameters

Parameter	Description
`-sv` `-silentvalidate`	Performs all prerequisite and validation checking in silent mode. You must pass the installer either a response file or a series of command line variable value pairs.
Installation Options	

`-help`
`--help`
`--usage`
	Displays the usage parameters for the `runInstaller` command.

`-invPtrLoc` *file*	Pointer to the inventory location file. Replace *file* with the full path and name of the `oraInst.loc` file.
`-response` *file* `-responseFile` *file*	Pointer to the response file. Replace *file* with the full path and name of the response file. See Section 4.2, "Understanding Response Files" for information about creating the response files.
`-jreLoc` *location*	Pointer to the location where Java Runtime Environment (JRE) is installed. Replace *location* with the full path to the `jre` directory where your JRE is installed.
`-logLevel` *level*	Specify the level of logging performed by the installer; all messages with a lower priority than the specified *level* will be recorded. Valid levels are: ■ severe ■ warning ■ info ■ config ■ fine ■ finer ■ finest
`-debug`	Obtain debug information from the installer.
`-force`	Allow the silent installation to proceed in a non-empty directory.
`-printdiskusage`	Log debugging information pertaining to disk usage.
`-printmemory`	Log debugging information pertaining to memory usage.
`-printtime`	Log debugging information pertaining to time usage. This command causes the `timeTaken`*timestamp*`.log` file to be created.
`-waitforcompletion`	Windows only - the installer will wait for completion instead of spawning the Java engine and exiting.
`-noconsole`	Messages will not be displayed to the console window.
`-ignoreSysPrereqs`	Ignore the results of the system prerequisite checks and continue with the installation.
`-executeSysPrereqs`	Execute the system prerequisite checks only, then exit.
`-paramFile` *file*	Specify the full path to the `oraparam.ini` file. This file is the initialization file for the installer. The default location of this file is `Disk1/install/`*platform* (on UNIX operation systems) or `Disk1\install\`*platform* (on Windows operation systems).
`-novalidation`	Disables all validation checking performed by the installer.

Table 4–1 (Cont.) Installer Command Line Parameters

Parameter	Description
-nodefaultinput	For the GUI install, several screens have information or default values pre-populated. Specifying this option disables this behavior so that no information or values are pre-populated.
Command Line Variables	
Installer Variables	Installer variables are specified using varName=*value*. For example, on a UNIX operating system: ORACLE_HOME=/home/Oracle/Middleware/as_1 On a Windows operating system: ORACLE_HOME=C:\products\Oracle\Middleware\as_1
Session Variables	Session variables are specified using session:varName=*value*.
Component Variables	Component variables are specified using session:compInternalName:[Version:]varName=*value*.

4.3.4.1 Sample Silent Install Commands

If this is the first time you are installing on your system (meaning there is no pre-existing Oracle Inventory location), use the following command to perform a silent installation on UNIX systems:

```
./runInstaller -silent -response file -invPtrLoc file
```

On Windows systems:

```
setup.exe -silent -response file -invPtrLoc file
```

Below is a full example of this command for UNIX systems:

```
./runInstaller -silent -response /home/Oracle/response/devSOA.rsp -invPtrLoc
/home/jdoe/oraInst.loc
```

On Windows operating systems:

```
setup.exe -silent -response C:\home\Oracle\response\devSOA.rsp -invPtrLoc
c:\home\Oracle\oraInst.loc
```

If you have already installed an Oracle product on your system and do not need to specify an inventory location, then you can use a command similar to the following on UNIX systems:

```
./runInstaller -silent -response file
```

On Windows systems:

```
setup.exe -silent -response file
```

Below is a full example of this command on a UNIX system:

```
./runInstaller -silent -response /home/Oracle/response/devSOA.rsp
```

On Windows operating systems:

```
setup.exe -silent -response c:\home\Oracle\response\devSOA.rsp
```

4.3.4.2 Sample Silent Install Output

Below is a sample output from a silent Oracle SOA Suite installation using the sampleResponse_wls.rsp template:

```
$ ./runInstaller -jreLoc /home/Oracle/Middleware/jdk160_21/ -silent -response
/home/Oracle/response/sampleResponse_wls.rsp
Platform is Linux X86 32 bit
Starting Oracle Universal Installer...

Checking if CPU speed is above 300 MHz.    Actual 2999 MHz    Passed
Checking Temp space: must be greater than 150 MB.   Actual 69669 MB    Passed
Checking swap space: must be greater than 512 MB.   Actual 1395 MB    Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2009-04-03_
10-49-20PM. Please wait ...[jdoe@examplehost Disk1]$ Log:
/home/Oracle/oraInventory/logs/install2009-04-03_10-49-20PM.log
Copyright © 1999, 2011, Oracle and/or its affiliates. All rights reserved.
Reading response file..
Expected result: One of enterprise-4,enterprise-5,redhat-4,redhat-5,SuSE-10
Actual Result: enterprise-4
Check complete. The overall result of this check is: Passed
CertifiedVersions Check: Success.
Checking for gcc-3.4.3-22.1; found gcc-3.4.6-10.0.1-i386.       Passed
Checking for gcc-c++-3.4.3-22.1; found gcc-c++-3.4.6-10.0.1-i386.      Passed
Checking for openmotif21-2.1.30-11.RHEL4.4 ; found
openmotif21-2.1.30-11.0.1.RHEL4.6-i386.     Passed
Checking for setarch-1.6-1; found setarch-1.6-1-i386.   Passed
Checking for pdksh-5.2.14-30; found pdksh-5.2.14-30.6-i386.     Passed
Checking for sysstat-5.0.5-1; found sysstat-5.0.5-19.el4-i386.   Passed
Checking for gnome-libs-1:1.4.1.2.90-44.1; found
gnome-libs-1:1.4.1.2.90-44.2-i386.     Passed
Checking for libstdc++-3.4.3-22.1 ; found libstdc++-3.4.6-10.0.1-i386.   Passed
Checking for libstdc++-devel-3.4.3-22.1; found libstdc++-devel-3.4.6-10.0.1-i386.
Passed
Checking for compat-libstdc++-296-2.96-132.7.2; found
compat-libstdc++-296-2.96-132.7.2-i386.   Passed
Checking for compat-db-4.1.25-9; found compat-db-4.1.25-9-i386. Passed
Checking for control-center-2.8.0-12; found
control-center-1:2.8.0-12.rhel4.5-i386.     Passed
Checking for glibc-common-2.3.4-2.9; found glibc-common-2.3.4-2.41-i386.
Passed
Checking for binutils-2.15.92.0.2-13; found binutils-2.15.92.0.2-25-i386.
Passed
Checking for make-1:3.80-5; found make-1:3.80-7.EL4-i386.      Passed
Checking for xscreensaver-4.18-5.rhel4.2; found
xscreensaver-1:4.18-5.rhel4.14.0.1-i386.       Passed
Check complete. The overall result of this check is: Passed
Packages Check: Success.
Checking for VERSION=2.6.9; found VERSION=2.6.9-78.0.0.0.1.ELxenU.     Passed
Checking for hardnofiles=4096; found hardnofiles=4096.  Passed
Checking for softnofiles=4096; found softnofiles=4096.  Passed
Check complete. The overall result of this check is: Passed
Kernel Check: Success.
Expected result: ATLEAST=2.3.4-2.19
Actual Result: 2.3.4-2.41
Check complete. The overall result of this check is: Passed
GLIBC Check: Success.
Expected result: 922MB
Actual Result: 4000MB
Check complete. The overall result of this check is: Passed
TotalMemory Check: Success.
Verifying data......
Copying Files...
-----------20%----------40%----------60%----------80%--------100%
```

```
The installation of Oracle SOA Suite 11g completed successfully.
```

4.3.5 Silent Product Configuration for Oracle Fusion Middleware Products

The way in which you can configure your Oracle Fusion Middleware product from the command line varies depending on the type of product.

See the following sections for more information:

- Section 4.3.5.1, "Silent Configuration for Oracle Fusion Middleware System Components"
- Section 4.3.5.2, "Silent Configuration for Java Components"

4.3.5.1 Silent Configuration for Oracle Fusion Middleware System Components

If your product contains system components (for example, Oracle Web Tier, Oracle Portal, Forms, Reports and Discoverer, or Oracle Identity Management), you can use the same commands as described in Section 4.3.4, "Silent Product Installation".

These products use the same engine for both installation and configuration, so the contents of the response file determine whether you are only installing the software, only configuring existing software, or installing and configuring at the same time.

As mentioned in Section 4.2, "Understanding Response Files", the recommended way to create these response files is to run the graphical installer once and save the configuration to a response file. Each product also comes with sample response files that you can use. Refer to the product installation guides for more information.

4.3.5.2 Silent Configuration for Java Components

If your product contains Java components (for example, Oracle SOA Suite, or Oracle WebCenter), the installer and the Configuration Wizard are essentially different products and therefore you cannot configure your products silently using the same silent installation commands.

Instead, silent configuration for Java components must be done using WebLogic Scripting Tool (WLST) commands.

For more information, refer to:

- *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*
- *Oracle Fusion Middleware Oracle WebLogic Scripting Tool*

4.3.6 Silent Product Deinstallation for Oracle Fusion Middleware Products

To deinstall the Oracle Fusion Middleware product software on your system (both system and java components), use the -d or -deinstall parameter from the command line. You must start the deinstaller from the *ORACLE_HOME*/oui/bin (on UNIX operating systems) or *ORACLE_HOME*\oui\bin (on Windows operating systems) directory; this is the only directory where the -d or -deinstall parameters are accepted.

On UNIX operating systems:

```
./runInstaller -silent -deinstall -response file
```

On Windows operating systems:

```
setup.exe -silent -deinstall -response file
```

4.3.6.1 Command Line Parameters for Silent Deinstallation

Table 4–2 lists the valid command line parameters for silent deinstallation.

Table 4–2   Deinstaller Command Line Parameters

Parameter	Description
Installation Modes - Only One Mode Can be Specified	

`-d`
 	
`-deinstall`
	Launches the installer in GUI mode for deinstallation.

Installation Options	

`-help`
 	
`--help`
 	
`--usage`
	Displays the usage parameters for the `runInstaller` (on UNIX operating systems) or `setup.exe` (on Windows operating systems) command.

`-invPtrLoc` *file*	Pointer to the inventory location file. Replace *file* with the full path and name of the `oraInst.loc` file.
`-response` *file* `-responseFile` *file*	Pointer to the response file. Replace *file* with the full path and name of the response file.
`-jreLoc` *location*	Pointer to the location where Java Runtime Environment (JRE) is installed. Replace *location* with the full path to the `jre` directory where your JRE is installed.
`-logLevel` *level*	Specify the level of logging performed by the installer; all messages with a lower priority than the specified *level* will be recorded. Valid levels are: ■ severe ■ warning ■ info ■ config ■ fine ■ finer ■ finest
`-debug`	Obtain debug information from the installer.
`-force`	Allow the silent installation to proceed in a non-empty directory.
`-printdiskusage`	Log debugging information pertaining to disk usage.
`-printmemory`	Log debugging information pertaining to memory usage.
`-printtime`	Log debugging information pertaining to time usage. This command causes the `timeTaken`*timestamp*`.log` file to be created.
`-waitforcompletion`	Windows only - the installer will wait for completion instead of spawning the Java engine and exiting.
`-noconsole`	Messages will not be displayed to the console window.
`-ignoreSysPrereqs`	Ignore the results of the system prerequisite checks and continue with the installation.
`-executeSysPrereqs`	Execute the system prerequisite checks only, then exit.
`-paramFile` *file*	Specify the full path to the `oraparam.ini` file. This file is the initialization file for the installer. The default location of this file is `Disk1/install/`*platform* (on UNIX operation systems) or `Disk1\install\`*platform* (on Windows operation systems).

Table 4–2   (Cont.) Deinstaller Command Line Parameters

Parameter	Description
-novalidation	Disables all validation checking performed by the installer.
-nodefaultinput	For the GUI install, several screens have information or default values pre-populated. Specifying this option disables this behavior so that no information or values are pre-populated.

Command Line Variables

Installer Variables	Installer variables are specified using varName=*value*. For example, on a UNIX operating system: ORACLE_HOME=/home/Oracle/Middleware/as_1 On a Windows operating system: ORACLE_HOME=C:\products\Oracle\Middleware\as_1
Session Variables	Session variables are specified using session:varName=*value*.
Component Variables	Component variables are specified using session:compInternalName:[Version:]varName=*value*.

4.3.6.2 Sample Silent Deinstall Output

Below is a sample output from a silent deinstall using the deinstall_oh.rsp template:

```
$ ./runInstaller -silent -deinstall -jreLoc /home/Oracle/Middleware/jdk160_21/
-response /home/Oracle/Response/deinstall_oh.rsp
Starting Oracle Universal Installer...

Checking swap space: must be greater than 500 MB.   Actual 4047 MB    Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2010-03-26_
10-01-21AM. Please wait ...[]$ Log: /home/oraInventory/logs/deinstall2010-03-26_
10-01-21AM.log
Reading response file..
Starting silent deinstallation...
Starting Oracle Home deinstallation...
Completed deinstallation of Oracle Home.
```

4.4 End-to-End Silent Installation and Configuration for Oracle Identity Manager

The following sections provide an example of how you can perform the end-to-end installation and configuration of the Oracle Identity Manager software using a series of silent installation tools, product-specific scripts, and command-line procedures.

> **Note:** The procedures in this section apply only to Oracle Identity Manager. For the other Oracle Identity and Access Management products, refer to Section 4.3, "Typical Silent Installation Procedures for Oracle Fusion Middleware Products".

Refer to the following sections for more information:

- Section 4.4.1, "Preparing for an Oracle Identity Manager Silent Installation"

- Section 4.4.2, "Performing the Silent Installation and Configuration for Oracle Identity Manager on a Single Host"

■ Section 4.4.3, "Performing the Silent Installation and Configuration for an Oracle Identity Manager Cluster on Multiple Hosts"

4.4.1 Preparing for an Oracle Identity Manager Silent Installation

Before you can begin the automated silent installation procedure, you must:

1. Download the required software you will be installing in this chapter.

   For more information, see "Obtaining the Oracle Fusion Middleware Software" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

2. Install and configure an instance of a supported Oracle Database.

   The database is required for the Oracle Identity and Access Management product schemas.

   For more information about the supported database releases, see the *Oracle Fusion Middleware Supported System Configurations*.

3. Install the required Java Development Kit (JDK).

   For more information about the supported Java Development Kit releases, see the *Oracle Fusion Middleware Supported System Configurations*.

4.4.2 Performing the Silent Installation and Configuration for Oracle Identity Manager on a Single Host

The following sections describes how to a use set of command line scripts and utilities to install and configure the Oracle Identity Manager software on a single host computer:

■ Section 4.4.2.1, "About the Silent Installation and Configuration on a Single Host"

■ Section 4.4.2.2, "Conventions Used in the Silent and Installation and Configuration Procedure on Multiple Hosts"

■ Section 4.4.2.3, "Performing the Silent Installation and Configuration on a Single Host"

4.4.2.1 About the Silent Installation and Configuration on a Single Host

The command-line steps described here correspond to the standard installation steps described in "Installation and Configuration Roadmap for Oracle Identity Manager" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

Each of the tools and utilities that you use to install and configure Oracle Identity Management has its own command-line or silent operation features. This procedure shows how you can use these tools and features together to perform a complete, end-to-end silent installation of Oracle Identity Management on a single host computer.

4.4.2.2 Conventions Used in the Silent and Installation and Configuration Procedure on Multiple Hosts

The key directory locations referenced in the single-host, silent installation and configuration instructions include the following:

■ The Oracle home created during the Oracle Identity and Access Management installation. This is the location of the Oracle Identity and Access Management binary software files.

This directory is identified by the variable, IAM_HOME. When referenced, replace this variable with the complete path to the Oracle Identity and Access Management Oracle home.

- The Oracle SOA Suite Oracle home created when you install the Oracle SOA Suite software. This directory is identified by the variable SOA_HOME.

- The MW_HOME, which refers to the Middleware home, which is where the Oracle Identity Manager and Oracle SOA Suite Oracle homes reside.

- The JDK_HOME, which refers to the location of the JDK used to install the Oracle Identity Management software. Replace this variable with the full path to your supported JDK.

  For more information, see Section 4.4.1, "Preparing for an Oracle Identity Manager Silent Installation".

- The DOWNLOADS_DIR, which refers to the location where you downloaded and unpacked the software archives. This is location from which you run the installer.

- The DOMAIN_HOME directory, which refers to the Oracle WebLogic Server domain home directory, which is created when you initially configure the domain.

4.4.2.3 Performing the Silent Installation and Configuration on a Single Host

The end-to-end process of installing and configuring Oracle Identity Manager on a single host involves the following steps:

- Step 1, "Download and Edit the Required Domain Configuration Scripts"
- Step 2, "Create or Edit a Response File for Each Installation and Configuration Tool"
- Step 3, "Silently Install Oracle WebLogic Server"
- Step 4, "Silently Install Oracle SOA Suite 11g Release 1 (11.1.1.7)"
- Step 5, "Silently Install the Oracle Identity Manager Software"
- Step 6, "Apply Mandatory Patches for Oracle SOA Suite 11g Release 1 (11.1.1.7)"
- Step 7, "Silently Create the Required Schemas in a Supported Database"
- Step 8, "Silently Upgrade the OPSS Schema Using the Patchset Upgrade Assistant"
- Step 9, "Silently Create an Oracle WebLogic Server Domain for Oracle Identity Manager"
- Step 10, "Configure the OPSS Security Store"
- Step 11, "Start the Oracle WebLogic Server Domain and SOA Managed Server"
- Step 12, "Silently Configure Oracle Identity Manager"
- Step 13, "Restart the Administration Server and SOA Managed Server"
- Step 14, "Start the Oracle Identity Manager Server"
- Step 15, "Verify the Installation and Configuration"

Step 1 Download and Edit the Required Domain Configuration Scripts

The end-to-end silent installation of Oracle Identity Manager requires a set of custom Python scripts, which are used to configure the Oracle Identity Manager domain.

Use the following procedure to download and edit the custom scripts:

1. Refer to "Mandatory Patches Required for Installing Oracle Identity Manager" in the Oracle Fusion Middleware Release Notes for information on where and how to download the Oracle Identity Manager domain configuration scripts.

   The download archive contains the scripts listed in Table 4–3.

2. Open each of the scripts in Table 4–3 with a text editor and follow the instructions in the file.

   The instructions in each script identify the variables that you must modify to match the values required for your specific Oracle Identity Manager environment. Each variable you must edit is marked with angle brackets, such as `<HOST_NAME>`. In this example, replace the variable with the name of the host on which you are performing the specific action.

   Replace each of these variables with the actual values required for your Oracle Identity Manager installation.

Table 4–3   Oracle WebLogic Server Domain Configuration Scripts

Script Name	Description
create_domain.py	Creates the initial Oracle WebLogic Server domain for the Oracle Identity Manager software.
config_jrf.py	Configures the domain with Java Required Files (JRF) software, which provides a set of libraries and other technologies required by Fusion Middleware products.
config_em.py	Configures the domain for Oracle Enterprise Manager Fusion Middleware Control, which is used to managed the Fusion Middleware products in the domain.
config_opss.py	Configures the domain for Oracle Platform Security Servers (OPSS).
config_wsm.py	Configures the domain for Oracle Web Services Manager (OWSM).
config_soa.py	Configures the domain for Oracle SOA Suite 11*g* Release 1 (11.1.1.7).
config_oim.py	Prepares the domain for use with Oracle Identity Manager.

Step 2 Create or Edit a Response File for Each Installation and Configuration Tool

Each of the Oracle Identity Manager installation and configuration tools requires a response file when it is run in silent mode. The response file contains the values to be used when selecting specific options and features within each tool.

You can create the response files yourself by running the tool, selecting the options you require, and then saving the response file at the end of the session.

Alternatively, a set of response files for each tool is included with the custom domain configuration scripts described in Step 1. These response files are listed in Table 4–4. The table describes each sample response file provided, as well as where to find information about creating the files yourself.

Table 4–4   Response and Input Files Required by the Oracle Identity Manager Silent Installation

Sample Response or Input File Name	Used for...	More Information
WLSsilent.xml	Silent installation of Oracle WebLogic Server.	"Creating a silent.xml File for Silent-Mode Installation" in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*

Table 4–4 (Cont.) Response and Input Files Required by the Oracle Identity Manager Silent Installation

Sample Response or Input File Name	Used for...	More Information
SOAResponseFile.txt	Silent installation of Oracle SOA Suite 11*g* Release 1 (11.1.1.7); created by saving the response file from the Oracle SOA Suite installer.	Section 4.2.1, "Creating a Response File"
IDMInstallResponseFile.txt	Silent installation of Oracle Identity Manager, which is part of the Oracle Identity and Access Management software download	Section 4.2.1, "Creating a Response File"
RCUpwd.txt	The passwords required for connecting to the database and the passwords you want to assign to each schema being created. **Note:** It is important that the first password in the file is the database connection password (for the SYS user), followed by the password for each schema.	"Using the -silent Command" in the *Oracle Fusion Middleware Repository Creation Utility User's Guide*
response_psa.txt	Upgrading the Oracle Platform Security Services (OPSS) schema with the Oracle Fusion Middleware Patchset Assistant; created by saving the response file from the Oracle Fusion Middleware Patchset Assistant.	Section 4.2.1, "Creating a Response File"
OIMPostConfig.txt	Configuring Oracle Identity Manager; created by saving the response file from the Oracle Identity Manager Configuration Wizard.	Section 4.2.1, "Creating a Response File"

Step 3 Silently Install Oracle WebLogic Server

Use the following command to silently install Weblogic Server in a new Oracle home:

```
JDK_HOME/bin/java -Xms512m
 -Xmx1024m
 -XX:CompileThreshold=8000 \
 -XX:PermSize=256m
 -XX:MaxPermSize=512m \
 -Djava.io.tmpdir=TMP_DIR \
 -jar wls_generic.jar \
 -mode=silent \
 -silent_xml=WLSsilent.xml \
 -log=LOG_FILE_LOC \
 -log_priority=info
```

For example:

```
disk01/java/linux64/jdk6/bin/java -Xms512m -Xmx1024m
 -XX:CompileThreshold=8000 \
 -XX:PermSize=256m -XX:MaxPermSize=512m \
 -Djava.io.tmpdir=/dua0/logs/tmpDir \
 -jar /downloads/wls_generic.jar \
 -mode=silent \
 -silent_xml=/myResponseFiles/WLSsilent.xml \
 -log=/dua0/logs/install.log \
 -log_priority=info
```

Step 4 Silently Install Oracle SOA Suite 11*g* Release 1 (11.1.1.7)

Oracle SOA Suite is required by the Oracle Identity Manager software. Use the following command to install Oracle SOA Suite in silent mode:

1. Unzip the Oracle SOA Suite download archives into a local directory.

    For example:

    ```
    unzip -o '/downloads/soa/shiphome/soa*.zip' -d /installers/Oracle_SOA
    ```

2. Install the Oracle SOA Suite software:

    ```
    DOWNLOADS_DIR/Disk1/runInstaller \
     -jreLoc JDK_HOME \
     -printtime \
     -printmemory \
     -printdiskusage \
     -invPtrLoc INVENTORY_LOC \
     -novalidation \
     -ignoreSysPrereqs \
     -nocheckForUpdates \
     -force \
     -silent \
     -response RESP_FILE_LOC \
     -waitforcompletion
    ```

    For example:

    ```
    /dua0/installers/Oracle_SOA/Disk1/runInstaller \
     -jreLoc /dua0/java/linux64/jdk6 \
     -printtime \
     -printmemory \
     -printdiskusage \
     -invPtrLoc /dua0/oraInventory/oraInst.loc \
     -novalidation \
     -ignoreSysPrereqs \
     -nocheckForUpdates \
     -force \
     -silent \
     -response /dua0/myResponseFiles/SOAResponseFile.txt \
     -waitforcompletion
    ```

Step 5 Silently Install the Oracle Identity Manager Software

Use the following command to silently install the Oracle Identity Manager software:

1. Unzip Oracle Identity and Access Management download archive in local directory.

    For example:

    ```
    $ unzip -o '/downloads/iam/iamsuite*.zip' -d /installers/IAM
    ```

2. Install the Oracle Identity Manager software:

    ```
    DOWNLOADS_DIR/Disk1/runInstaller \
     -jreLoc JDK_HOME \
     -printtime \
     -printmemory \
     -printdiskusage \
     -invPtrLoc INVENTORY_LOC \
     -longterm \
     -ignoreSysPrereqs \
     -nocheckForUpdates \
    ```

```
-force \
-silent \
-response RESP_FILE_LOC \
-waitforcompletion
```

For example:

```
/dua0/installers/IAM/Disk1/runInstaller \
 -jreLoc /dua0/java/linux64/jdk6 \
 -printtime \
 -printmemory \
 -printdiskusage \
 -invPtrLoc /dua0/oraInventory/oraInst.loc \
 -longterm \
 -ignoreSysPrereqs \
 -nocheckForUpdates \
 -force \
 -silent \
 -response /dua0/myResponseFiles/IDMInstallResponseFile.txt \
 -waitforcompletion
```

Step 6 Apply Mandatory Patches for Oracle SOA Suite 11*g* Release 1 (11.1.1.7)

After installing Oracle SOA Suite 11*g* Release 1 (11.1.1.7), you must apply a set of mandatory SOA patches before installing Oracle Identity Manager. These patches are included in a ZIP file in the Oracle Identity and Access Management installation download.

For more information, see "Mandatory Patches Required for Installing Oracle Identity Manager" topic in the 11*g* Release 2 *Oracle Fusion Middleware Release Notes*.

Use the following procedure to apply the Oracle SOA Suite patches that are included with the Oracle Identity and Access Management software download:

1. Change directory to the Disk1 directory of the unpacked Oracle Identity and Access Management software archive.

   For example:

   ```
   cd /installers/IAM/Disk1
   ```

2. Unzip the ZIP that includes the required Oracle SOA Suite patches:

   ```
   unzip OIM_11.1.2.2_SOAPS6_PREREQS.zip
   ```

3. When you unzip the `OIM_11.1.2.2_SOAPS6_PREREQS.zip` file, a directory called `SOAPATCH` is created.

   Move to the SOAPATCH directory, and use the OPatch software that is installed in the Oracle SOA Suite Oracle home to apply the mandatory patches in the SOAPATCH directory:

   ```
   cd /installers/IAM/Disk1/SOAPATCH
   SOA_HOME/OPatch/opatch napply \
    -oh SOA_ORACLE_HOME \
    -verbose \
    -silent
   ```

For example:

```
/dua0/Oracle/products/mw_home/Oracle_SOA1/OPatch/opatch napply \
 -oh /dua0/Oracle/products/mw_home/Oracle_SOA1 \
 -verbose \
 -silent
```

Step 7 Silently Create the Required Schemas in a Supported Database

Use the Oracle Fusion Middleware Repository Creation Utility (RCU) command-line to create the required Oracle Identity and Access Management schemas in a supported Oracle database.

Note the following before you perform this step:

- You must have an existing, supported Oracle Database instance available, as described in Section 4.4.1, "Preparing for an Oracle Identity Manager Silent Installation".

- The example in this section assumes you created an RCU password file, which contains the values required for the Custom Variables screen in RCU. For more information, see "Using the -silent Command" in the *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

To run RCU in silent mode:

1. Unzip RCU shiphome to a local directory.

   For example:

   ```
   unzip DOWNLOADS_DIR/installers/rcuHome.zip -d /LOCAL_DISK/installers/RCU
   ```

2. Use RCU to create the required schemas in the database.

   ```
   RCU_HOME/bin/rcu \
    -silent \
    -createRepository -connectString DB_HOST:DB_PORT:DB_SID \
    -dbUser sys \
    -dbRole sysdba \
    -schemaPrefix <PREFIX> \
    -component MDS \
    -component OPSS \
    -component OIM \
    -component IAU \
    -component SOAINFRA \
    -component ORASDPM \
    -f < RCU_PWD_FILE_LOC
   ```

   For example:

   ```
   /dua0/installers/RCU/bin/rcu \
    -silent \
    -createRepository \
    -connectString db42.example.com:1521:orcl.example.com \
    -dbUser sys \
    -dbRole sysdba \
    -schemaPrefix DEV \
    -component MDS \
    -component OPSS \
    -component OIM \
    -component IAU \
    -component SOAINFRA \
    -component ORASDPM \
    -f < RCUpwd.txt
   ```

Step 8 Silently Upgrade the OPSS Schema Using the Patchset Upgrade Assistant

Before you can configure the Oracle WebLogic Server domain for Oracle Identity Manager, you must upgrade OPSS Schema you installed with the Oracle Fusion Middleware Metadata Repository Creation Utility (RCU).

You perform this step using the Patchset Upgrade Assistant (PSA).

To perform this step using a response file, use the following command:

```
IAM_HOME/bin/psa -response RESP_FILE_LOC
```

For example:

```
/dua0/Oracle/products/mw_home/Oracle_IDM1/bin/psa \
 -response /dua0/myResponseFiles/response_psa.txt
```

Step 9 Silently Create an Oracle WebLogic Server Domain for Oracle Identity Manager

To make it easier to create an Oracle WebLogic Server domain for Oracle Identity Manager, Oracle provides a set to Python scripts, which can be run from the WebLogic Scripting Tool (WLST) command shell.

The required Python scripts are listed in Table 4–3.

To use these scripts to create the domain:

1. Create the Oracle WebLogic Server domain, use the `create_domain.py` script:

    ```
    IAM_HOME/common/bin/wlst.sh create_domain.py > CREATE_DOMAIN_LOG
    ```

    For example:

    ```
    /dua0/Oracle/products/Middleware/Oracle_IDM1/common/bin/wlst.sh \
     /dua0/myResponseFiles/create_domain.py > /dua0/logs/create_domain.log
    ```

2. Configure the prerequisite Oracle Fusion Middleware software in the domain, by using the following scripts.

    All of these software components are required before you can configure Oracle Identity Manager in the domain, so you must run the following scripts to prepare the domain for Oracle Identity Manager:

    ```
    IAM_HOME/common/bin/wlst.sh config_jrf.py > CONFIG_JRF_LOG_FILE
    IAM_HOME/common/bin/wlst.sh config_em.py > CONFIG_EM_LOG_FILE
    IAM_HOME/common/bin/wlst.sh config_opss.py > CONFIG_OPSS_LOG
    IAM_HOME/common/bin/wlst.sh config_wsm.py > CONFIG_WSM_LOG
    IAM_HOME/common/bin/wlst.sh config_soa.py > CONFIG_SOA_LOG
    IAM_HOME/common/bin/wlst.sh config_oim.py > CONFIG_OIM_LOG
    ```

Step 10 Configure the OPSS Security Store

Before you start the Oracle WebLogic Server domain and configure Oracle Identity Manager, you must configure the Oracle Platform Security Services (OPSS) security store.

Note that the `configureSecurityStore.py` script referenced in this step is not part of the download archive that contains the custom domain creation scripts and sample response files for this procedure. Instead, the `configureSecuriryStore.py` script is installed on disk automatically as part of the Oracle Identity and Access Management installation.

Run the following command to configure security store:

```
IDM_HOME/common/bin/wlst.sh IDM_HOME/common/tools/configureSecurityStore.py \
 -d DOMAIN_HOME \
 -c IAM
 -m create
 -p OPSS_SCHEMA_PASSWORD
```

For an explanation of the command-line arguments to the configureSecurityStore script, see "Configuring Database Security Store for an Oracle Identity and Access Management Domain" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

Step 11 Start the Oracle WebLogic Server Domain and SOA Managed Server

Start the Oracle WebLogic Server domain:

1. Run the following command to start Administration Server in the Oracle WebLogic Server domain:

    ```
    DOMAIN_HOME/startWeblogic.sh \
     -Dweblogic.management.username=WLS_ADMIN_USER_NAME \
     -Dweblogic.management.password=WLS_ADMIN_PWD
    ```

2. Run the following command to start SOA Managed Server

    ```
    DOMAIN_HOME/bin/startManagedWeblogic.sh soa_server1 WLS_URL \
     -Dweblogic.management.username=WLS_ADMIN_USER_NAME \
     -Dweblogic.management.password=WLS_ADMIN_PWD
    ```

    For example:

    ```
    DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1 \
     http://hostname:7003 \
     -Dweblogic.management.username=weblogic \
     -Dweblogic.management.password=weblogic1
    ```

    For more information about the startManagedWebLogic.sh script, see "Starting Managed Servers with a Startup Script" in the *Oracle Fusion Middleware Managing Server Startup and Shutdown for Oracle WebLogic Server*.

Step 12 Silently Configure Oracle Identity Manager

Run the following command to configure Oracle Identity Management:

```
IAM_HOME/bin/config.sh \
 -jreLoc JDK_HOME \
 -printtime \
 -printmemory \
 -printdiskusage \
 -invPtrLoc INVENTORY_LOC \
 -longterm \
 -ignoreSysPrereqs \
 -force \
 -silent \
 -response RESP_FILE_LOC \
 -waitforcompletion
```

Replace *RESP_FILE_LOC* with the complete path to the Oracle Identity Manager Configuration Wizard response file. This can be a response file you created by running the Configuration Wizard, or it can be an edited copy of the OIMPostConfig.txt file, described in Table 4–4.

Step 13 Restart the Administration Server and SOA Managed Server

After you configure Oracle Identity Manager, you must restart the SOA Managed Servers by stopping them and then starting them again.

If you used the startWebLogic.sh script to start the Administration Server, you can stop the server by pressing Ctrl/C in the terminal window where you are running the

`startWebLogic.sh` command. Start the Administration Server by running the startWebLogic.sh script again.

Use the following command to stop the SOA Managed Server:

```
DOMAIN_HOME/bin/stopManagedWebLogic.sh soa_server1
```

Use the following command to start the Managed Server:

```
DOMAIN_HOME/bin/startManagedWeblogic.sh server_name \
 WLS_URL \
 -Dweblogic.management.username=WLS_USER_NAME \
 -Dweblogic.management.password=WLS_PWD
```

For example:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1 \
 http://hostname:7003 \
 -Dweblogic.management.username=weblogic \
 -Dweblogic.management.password=weblogic1
```

Step 14 Start the Oracle Identity Manager Server

Use the following command to start the Managed Server:

```
DOMAIN_HOME/bin/startManagedWeblogic.sh server_name \
 WLS_URL \
 -Dweblogic.management.username=WLS_USER_NAME \
 -Dweblogic.management.password=WLS_PWD
```

For example:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh oim_server1 \
 http://hostname:7003 \
 -Dweblogic.management.username=weblogic \
 -Dweblogic.management.password=weblogic1
```

Step 15 Verify the Installation and Configuration

To verify the successful installation, configuration, and startup of the Oracle Identity Manager environment, refer to "Verifying the Oracle Identity Manager Installation" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*

4.4.3 Performing the Silent Installation and Configuration for an Oracle Identity Manager Cluster on Multiple Hosts

The following procedure describes how to use a set of command line scripts and utilities to install and configure the Oracle Identity Manager software in a typical cluster environment, where two instances of Oracle Identity Management are installed on two separate host computers.

Refer to the following sections for more information:

- Section 4.4.3.1, "About the End-to-End Silent Installation and Configuration on Multiple Hosts"

- Section 4.4.3.2, "Conventions Used in the Silent and Installation and Configuration Procedure on Multiple Hosts"

- Section 4.4.3.3, "Performing the Silent Installation and Configuration on Multiple Hosts"

4.4.3.1 About the End-to-End Silent Installation and Configuration on Multiple Hosts

The command-line steps described here are similar to the standard installation steps described in "Installation and Configuration Roadmap for Oracle Identity Manager" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*. However, they include steps for performing these steps on multiple host computers.

In addition, they involve the use of standard Oracle WebLogic Server and Oracle Fusion Middleware 11*g* high availability procedures and best practices, such as the pack and unpack commands used to propagate domain configuration settings from one host to another. For more information about these features, refer to the following resources:

- *Oracle Fusion Middleware High Availability Guide*

- "Overview of the Pack and Unpack Commands" in the *Oracle Fusion Middleware Creating Templates and Domains Using the Pack and Unpack Commands*

4.4.3.2 Conventions Used in the Silent and Installation and Configuration Procedure on Multiple Hosts

In the multi-host, silent installation and configuration instructions, note the following:

- The instructions assume you are installing and configuring Oracle Identity Management on two host computers. The example here can be used as a guideline for performing these steps on more than two hosts.

- The instructions refer to the two host computers are HOST1 and HOST2. HOST1 is the host computer where the Oracle WebLogic Server Administration Server is installed and configured.

- The key directory locations referenced in the single-host, silent installation and configuration instructions include the following:

    - The Oracle home created during the Oracle Identity and Access Management installation. This is the location of the Oracle Identity and Access Management binary software files.

        This directory is identified by the variable, IAM_HOME. When referenced, replace this variable with the complete path to the Oracle Identity and Access Management Oracle home.

    - The Oracle SOA Suite Oracle home created when you install the Oracle SOA Suite software. This directory is identified by the variable SOA_HOME.

    - The JDK_HOME, which refers to the location of the JDK used to install the Oracle Identity Management software. Replace this variable with the full path to your supported JDK.

        For more information, see Section 4.4.1, "Preparing for an Oracle Identity Manager Silent Installation".

    - The DOWNLOADS_DIR, which refers to the location where you downloaded and unpacked the software archives. This is location from which you run the installer.

    - The DOMAIN_HOME directory, which refers to the Oracle WebLogic Server domain home directory, which is created when you initially configure the domain.

4.4.3.3 Performing the Silent Installation and Configuration on Multiple Hosts

The end-to-end process of installing and configuring Oracle Identity Manager on multiple hosts involves the following steps:

- Step 1, "Download and Edit the Required Domain Configuration Scripts"

- Step 2, "Create or Edit a Response File for Each Installation and Configuration Tool"

- Step 3, "Silently Install Oracle WebLogic Server (HOST1 and HOST2)"

- Step 4, "Silently Install Oracle SOA Suite 11g Release 1 (11.1.1.7) (HOST1 and HOST2)"

- Step 5, "Silently Install the Oracle Identity Manager Software"

- Step 6, "Apply Mandatory Patches for Oracle SOA Suite 11g Release 1 (11.1.1.7) (HOST1 and HOST2)"

- Step 7, "Silently Create the Required Schemas in a Supported Database (HOST1)"

- Step 8, "Silently Upgrade the OPSS Schema Using the Patchset Upgrade Assistant (HOST1)"

- Step 9, "Silently Create an Oracle WebLogic Server Domain for Oracle Identity Manager (HOST1)"

- Step 10, "Configure the OPSS Security Store (HOST1)"

- Step 11, "Start the Node Manager (HOST1)"

- Step 12, "Configure Oracle Coherence for Oracle SOA Suite (HOST1)"

- Step 13, "Start the Oracle WebLogic Server Domain and SOA Managed Server (HOST1)"

- Step 14, "Silently Configure Oracle Identity Manager (HOST1)"

- Step 15, "Restart the Administration Server and SOA Managed Server (HOST1)"

- Step 16, "Pack the Domain (HOST1)"

- Step 17, "Unpack the Domain (HOST2)"

- Step 18, "Copy the SOA Composites from HOST1 to HOST2"

- Step 19, "Configure Oracle Coherence for Oracle SOA Suite (HOST2)"

- Step 20, "Start the Node Manager (HOST2)"

- Step 21, "Start the SOA Managed Server (HOST2)"

- Step 22, "Start the Oracle Identity Manager Server (HOST1 and HOST2)"

- Step 23, "Verify the Installation and Configuration"

Step 1 Download and Edit the Required Domain Configuration Scripts

The end-to-end silent installation of Oracle Identity Manager requires a set of custom Python scripts, which are used to configure the Oracle Identity Manager domain.

Use the following procedure to download and edit the custom scripts:

1. Refer to "Mandatory Patches Required for Installing Oracle Identity Manager" in the Oracle Fusion Middleware Release Notes for information on where and how to download the Oracle Identity Manager domain configuration scripts.

   The download archive contains the scripts listed in Table 4–3.

2. Open each of the scripts in Table 4–3 with a text editor and follow the instructions in the file.

   The instructions in each script identify the variables that you must modify to match the values required for your specific Oracle Identity Manager environment. Each variable you must edit is marked with angle brackets, such as <HOST_NAME>. In this example, replace the variable with the name of the host on which you are performing the specific action.

   Replace each of these variables with the actual values required for your Oracle Identity Manager installation.

Step 2 Create or Edit a Response File for Each Installation and Configuration Tool

Each of the Oracle Identity Manager installation and configuration tools requires a response file when it is run in silent mode. The response file contains the values to be used when selecting specific options and features within each tool.

You can create the response files yourself by running the tool, selecting the options you require, and then saving the response file at the end of the session.

Alternatively, a set of response files for each tool is included with the custom domain configuration scripts described in Step 1. These response files are listed in Table 4–4. The table describes each sample response file provided, as well as where to find information about creating the files yourself.

Step 3 Silently Install Oracle WebLogic Server (HOST1 and HOST2)

Use the following command to silently install Weblogic Server in a new Oracle home.

Perform this command first while logged in to HOST1, and then again while logged in to HOST2. Be sure to use the same user account and the same privileges on each host.

```
JDK_HOME/bin/java -Xms512m
 -Xmx1024m
 -XX:CompileThreshold=8000 \
 -XX:PermSize=256m
 -XX:MaxPermSize=512m \
 -Djava.io.tmpdir=TMP_DIR \
 -jar wls_generic.jar \
 -mode=silent \
 -silent_xml=WLSsilent.xml \
 -log=LOG_FILE_LOC \
 -log_priority=info
```

For example:

```
disk01/java/linux64/jdk6/bin/java -Xms512m -Xmx1024m
 -XX:CompileThreshold=8000 \
 -XX:PermSize=256m -XX:MaxPermSize=512m \
 -Djava.io.tmpdir=/dua0/logs/tmpDir \
 -jar /downloads/wls_generic.jar \
 -mode=silent \
 -silent_xml=/myResponseFiles/WLSsilent.xml \
 -log=/dua0/logs/install.log \
 -log_priority=info
```

Step 4 Silently Install Oracle SOA Suite 11*g* Release 1 (11.1.1.7) (HOST1 and HOST2)

Oracle SOA Suite is required by the Oracle Identity Manager software. Use the following command to install Oracle SOA Suite in silent mode.

Perform this command first while logged in to HOST1, and then again while logged in to HOST2. Be sure to use the same user account and the same privileges on each host.

1. Unzip the Oracle SOA Suite download archives into a local directory.

    For example:

    ```
    unzip -o '/downloads/soa/shiphome/soa*.zip' -d /installers/Oracle_SOA
    ```

2. Install the Oracle SOA Suite software:

    ```
    DOWNLOADS_DIR/Disk1/runInstaller \
     -jreLoc JDK_HOME \
     -printtime \
     -printmemory \
     -printdiskusage \
     -invPtrLoc INVENTORY_LOC \
     -novalidation \
     -ignoreSysPrereqs \
     -nocheckForUpdates \
     -force \
     -silent \
     -response RESP_FILE_LOC \
     -waitforcompletion
    ```

    For example:

    ```
    /dua0/installers/Oracle_SOA/Disk1/runInstaller \
     -jreLoc /dua0/java/linux64/jdk6 \
     -printtime \
     -printmemory \
     -printdiskusage \
     -invPtrLoc /dua0/oraInventory/oraInst.loc \
     -novalidation \
     -ignoreSysPrereqs \
     -nocheckForUpdates \
     -force \
     -silent \
     -response /dua0/myResponseFiles/SOAResponseFile.txt \
     -waitforcompletion
    ```

Step 5 Silently Install the Oracle Identity Manager Software

Use the following command to silently install the Oracle Identity Manager software.

Perform this command first while logged in to HOST1, and then again while logged in to HOST2. Be sure to use the same user account and the same privileges on each host.

1. Unzip Oracle Identity and Access Management download archive in local directory.

    For example:

    ```
    $ unzip -o '/downloads/iam/iamsuite*.zip' -d /installers/IAM
    ```

2. Install the Oracle Identity Manager software:

    ```
    DOWNLOADS_DIR/Disk1/runInstaller \
     -jreLoc JDK_HOME \
    ```

```
-printtime \
-printmemory \
-printdiskusage \
-invPtrLoc INVENTORY_LOC \
-longterm \
-ignoreSysPreqreqs \
-nocheckForUpdates \
-force \
-silent \
-response RESP_FILE_LOC \
-waitforcompletion
```

For example:

```
/dua0/installers/IAM/Disk1/runInstaller \
 -jreLoc /dua0/java/linux64/jdk6 \
 -printtime \
 -printmemory \
 -printdiskusage \
 -invPtrLoc /dua0/oraInventory/oraInst.loc \
 -longterm \
 -ignoreSysPreqreqs \
 -nocheckForUpdates \
 -force \
 -silent \
 -response /dua0/myResponseFiles/IDMInstallResponseFile.txt \
 -waitforcompletion
```

Step 6 Apply Mandatory Patches for Oracle SOA Suite 11*g* Release 1 (11.1.1.7) (HOST1 and HOST2)

After installing Oracle SOA Suite 11*g* Release 1 (11.1.1.7), you must apply a set of mandatory SOA patches before installing Oracle Identity Manager. These patches are included in a ZIP file in the Oracle Identity and Access Management installation download.

For more information, see "Mandatory Patches Required for Installing Oracle Identity Manager" topic in the 11*g* Release 2 *Oracle Fusion Middleware Release Notes*.

Use the following procedure to apply the Oracle SOA Suite patches that are included with the Oracle Identity and Access Management software download.

Perform this command first while logged in to HOST1, and then again while logged in to HOST2. Be sure to use the same user account and the same privileges on each host.

1. Change directory to the Disk1 directory of the unpacked Oracle Identity and Access Management software archive.

   For example:

   ```
   cd /installers/IAM/Disk1
   ```

2. Unzip the ZIP that includes the required Oracle SOA Suite patches:

   ```
   unzip OIM_11.1.2.2_SOAPS6_PREREQS.zip
   ```

3. When you unzip the `OIM_11.1.2.2_SOAPS6_PREREQS.zip` file, a directory called `SOAPATCH` is created.

   Move to the SOAPATCH directory, and use the OPatch software that is installed in the Oracle SOA Suite Oracle home to apply the mandatory patches in the SOAPATCH directory:

```
cd /installers/IAM/Disk1/SOAPATCH
SOA_HOME/OPatch/opatch napply \
 -oh SOA_ORACLE_HOME \
 -verbose \
 -silent
```

For example:

```
/dua0/Oracle/products/mw_home/Oracle_SOA1/OPatch/opatch napply \
 -oh /dua0/Oracle/products/mw_home/Oracle_SOA1 \
 -verbose \
 -silent
```

Step 7 Silently Create the Required Schemas in a Supported Database (HOST1)

Use the Oracle Fusion Middleware Repository Creation Utility (RCU) command-line to create the required Oracle Identity and Access Management schemas in a supported Oracle database.

Note the following before you perform this step:

- You must have an existing, supported Oracle Database instance available, as described in Section 4.4.1, "Preparing for an Oracle Identity Manager Silent Installation".

- The example in this section assumes you created an RCU password file, which contains the values required for the Custom Variables screen in RCU. For more information, see "Using the -silent Command" in the *Oracle Fusion Middleware Repository Creation Utility User's Guide*.

Perform this command while logged in to HOST1 only.

To run RCU in silent mode:

1. Unzip RCU shiphome to a local directory.

   For example:

   ```
   unzip LOCAL_DIR/downloads/rcuHome.zip -d /LOCAL_DISK/installers/RCU
   ```

2. Use RCU to create the required schemas in the database.

   ```
   RCU_HOME/bin/rcu \
    -silent \
    -createRepository -connectString DB_HOST:DB_PORT:DB_SID \
    -dbUser sys \
    -dbRole sysdba \
    -schemaPrefix <PREFIX> \
    -component MDS \
    -component OPSS \
    -component OIM \
    -component IAU \
    -component SOAINFRA \
    -component ORASDPM \
    -f < RCU_PWD_FILE_LOC
   ```

   For example:

   ```
   /dua0/installers/RCU/bin/rcu \
    -silent \
    -createRepository \
    -connectString db42.example.com:1521:orcl.example.com \
    -dbUser sys \
    -dbRole sysdba \
   ```

```
-schemaPrefix DEV \
-component MDS \
-component OPSS \
-component OIM \
-component IAU \
-component SOAINFRA \
-component ORASDPM \
-f < RCUpwd.txt
```

Step 8 Silently Upgrade the OPSS Schema Using the Patchset Upgrade Assistant (HOST1)

Before you can configure the Oracle WebLogic Server domain for Oracle Identity Manager, you must upgrade OPSS Schema you installed with the Oracle Fusion Middleware Metadata Repository Creation Utility (RCU).

You perform this step using the Patchset Upgrade Assistant (PSA).

Perform this command while logged in to HOST1 only:

```
IAM_HOME/bin/psa -response RESP_FILE_LOC
```

For example:

```
/dua0/Oracle/products/mw_home/Oracle_IDM1/bin/psa \
 -response /dua0/myResponseFiles/response_psa.txt
```

Step 9 Silently Create an Oracle WebLogic Server Domain for Oracle Identity Manager (HOST1)

To make it easier to create an Oracle WebLogic Server domain for Oracle Identity Manager, Oracle provides a set to Python scripts, which can be run from the WebLogic Scripting Tool (WLST) command shell.

The required Python scripts are listed in Table 4–3.

To use the scripts to create the domain on HOST1 only:

1. Create the Oracle WebLogic Server domain, use the `create_domain.py` script:

   ```
   IAM_HOME/common/bin/wlst.sh create_domain.py > CREATE_DOMAIN_LOG
   ```

   For example:

   ```
   /dua0/Oracle/products/Oracle_IDM1/common/bin/wlst.sh \
    /dua0/myResponseFiles/create_domain.py > /dua0/logs/create_domain.log
   ```

2. Configure the prerequisite Oracle Fusion Middleware software in the domain, by using the following scripts.

   All of these software components are required before you can configure Oracle Identity Manager in the domain, so you must run the following scripts to prepare the domain for Oracle Identity Manager:

   ```
   IAM_HOME/common/bin/wlst.sh config_jrf.py > CONFIG_JRF_LOG_FILE
   IAM_HOME/common/bin/wlst.sh config_em.py > CONFIG_EM_LOG_FILE
   IAM_HOME/common/bin/wlst.sh config_opss.py > CONFIG_OPSS_LOG
   IAM_HOME/common/bin/wlst.sh config_wsm.py > CONFIG_WSM_LOG
   IAM_HOME/common/bin/wlst.sh config_soa.py > CONFIG_SOA_LOG
   IAM_HOME/common/bin/wlst.sh config_oim.py > CONFIG_OIM_LOG
   ```

Step 10 Configure the OPSS Security Store (HOST1)

Before you start the Oracle WebLogic Server domain and configure Oracle Identity Manager, you must configure the Oracle Platform Security Services (OPSS) security store.

Perform this step on HOST1 only.

Run the following command to configure security store:

```
IDM_HOME/common/bin/wlst.sh IDM_HOME/common/tools/configureSecurityStore.py \
 -d DOMAIN_HOME \
 -c IAM
 -m create
 -p OPSS_SCHEMA_PASSWORD
```

For an explanation of the command-line arguments to the `configureSecurityStore` script, see "Configuring Database Security Store for an Oracle Identity and Access Management Domain" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*.

Step 11 Start the Node Manager (HOST1)

To start the Managed Server(s) using the WebLogic Administration console, you must start the Node Manager. In order to start the Node Manager, you must set the property `StartScriptEnabled` in the `nodemanager.properties` file to `true`. Run the following command to set the property `StartScriptEnabled=true`:

```
On UNIX: ORACLE_COMMON_HOME/common/bin/setNMProps.sh
On Windows: ORACLE_COMMON_HOME\common\bin\setNMProps.cmd
```

Start the Node Manager on HOST1 by running the following command:

```
On UNIX: MW_HOME/wlserver_10.3/server/bin/startNodeManager.sh
On Windows: MW_HOME\wlserver_10.3\server\startNodeManager.cmd
```

Step 12 Configure Oracle Coherence for Oracle SOA Suite (HOST1)

To configure Oracle Coherence for Oracle SOA Suite:

1. Locate the following file and open it with a text editor:

   ```
   DOMAIN_HOME/bin/setDomainEnv.sh
   ```

2. Search for the following entry in the `setDomainEnv.sh` file:

   ```
   JAVA_OPTIONS="${JAVA_OPTIONS} ${JAVA_PROPERTIES} \
   ```

   Append the following entries at the end of the `JAVA_OPTIONS` entry in the `setDomainEnv.sh` file:

   On HOST1:

   ```
    -Dtangosol.coherence.wka1=SOAHOST1 \
    -Dtangosol.coherence.wka2=SOAHOST2"
    -Dtangosol.coherence.localhost=SOAHOST1
   ```

   Be sure to include this entry all on one line, with no line breaks. Note the single quotation marks in the entry.

   Replace `SOAHOST1` with the actual names of the host computers in you environment.

Step 13   Start the Oracle WebLogic Server Domain and SOA Managed Server (HOST1)

Start the Oracle WebLogic Server domain:

1. Run the following command to start Administration Server in the Oracle WebLogic Server domain:

```
DOMAIN_HOME/startWeblogic.sh \
 -Dweblogic.management.username=WLS_ADMIN_USER_NAME \
 -Dweblogic.management.password=WLS_ADMIN_PWD
```

2. Run the following command to start SOA Managed Server

```
DOMAIN_HOME/bin/startManagedWeblogic.sh soa_server1 WLS_URL \
 -Dweblogic.management.username=WLS_ADMIN_USER_NAME \
 -Dweblogic.management.password=WLS_ADMIN_PWD
```

For example:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1 \
 http://hostname:7003 \
 -Dweblogic.management.username=weblogic \
 -Dweblogic.management.password=weblogic1
```

For more information about the startManagedWebLogic.sh script, see "Starting Managed Servers with a Startup Script" in the *Oracle Fusion Middleware Managing Server Startup and Shutdown for Oracle WebLogic Server*.

Step 14   Silently Configure Oracle Identity Manager (HOST1)

Run the following command on SOAHOST1 to configure Oracle Identity Management:

```
IAM_HOME/bin/config.sh \
 -jreLoc JDK_HOME \
 -printtime \
 -printmemory \
 -printdiskusage \
 -invPtrLoc INVENTORY_LOC \
 -longterm \
 -ignoreSysPrereqs \
 -force \
 -silent \
 -response RESP_FILE_LOC \
 -waitforcompletion
```

Replace RESP_FILE_LOC with the complete path to the Oracle Identity Manager Configuration Wizard response file. This can be a response file you created by running the Configuration Wizard, or it can be an edited copy of the OIMPostConfig.txt file, described in Table 4–4.

Step 15   Restart the Administration Server and SOA Managed Server (HOST1)

After you configure Oracle Identity Manager, you must restart the Administration Server and SOA Managed Servers on HOST1 by stopping them and then starting them again.

If you used the startWebLogic.sh script to start the Administration Server, you can stop the server by pressing Ctrl/C in the terminal window where you are running the startWebLogic.sh command. Start the Administration Server by running the startWebLogic.sh script again.

Use the following command to stop the SOA Managed Server:

```
DOMAIN_HOME/bin/stopManagedWebLogic.sh soa_server1
```

Use the following command to start the Managed Server:

```
DOMAIN_HOME/bin/startManagedWeblogic.sh server_name \
 WLS_URL \
 -Dweblogic.management.username=WLS_USER_NAME \
 -Dweblogic.management.password=WLS_PWD
```

For example:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1 \
 http://hostname:7003 \
 -Dweblogic.management.username=weblogic \
 -Dweblogic.management.password=weblogic1
```

Step 16 Pack the Domain (HOST1)

After you create the Oracle WebLogic Server domain on HOST1, you can then copy the domain configuration to HOST2, using the Oracle WebLogic Server pack and unpack commands.

For more information, see "Overview of the Pack and Unpack Commands" in the *Oracle Fusion Middleware Creating Templates and Domains Using the Pack and Unpack Commands*.

To pack up the domain configuration on HOST1:

1. Log in to HOST1 as the same user who installed and configured the domain.

2. Run the following command to create a template jar file that contains the configuration data for the domain:

   ```
   MW_HOME/oracle_common/bin/pack.sh \
    -managed=true
    -domain=DOMAIN_HOME \
    -template=TEMPLATE_LOC \
    -template_name=TEMPLATE_NAME
   ```

   In this example, replace the variables as follows:

   - Replace *MW_HOME* with the complete path to the Middleware home, in which the Oracle Identity and Access Management Oracle home resides.

   - Replace *DOMAIN_HOME* with the complete path to the Domain home directory.

   - Replace *TEMPLATE_LOC* with the complete path and name of the template jar file you want to create.

   - Replace *TEMPLATE_NAME* with the name of the template you are about to create; for example, `oim_domain_template.jar`.

Step 17 Unpack the Domain (HOST2)

Use this step to copy the domain configuration information to HOST2:

1. Copy the domain template jar file you created in Step 16 to HOST2.

2. Log in to HOST2 and unpack the domain configuration template jar file into the domain directory on HOST2:

   ```
   MW_HOME/oracle_common/bin/unpack.sh \
   -domain=DOMAIN_HOME \
   -template=TEMPLATE_LOC
   ```

In this example, replace the variables as follows:

- Replace *MW_HOME* with the complete path to the Middleware home, in which the Oracle Identity and Access Management Oracle home resides.

- Replace *DOMAIN_HOME* with the complete path to the Domain home directory.

- Replace *TEMPLATE_LOC* with the complete path and name of the template jar file you are unpacking.

Step 18 Copy the SOA Composites from HOST1 to HOST2

Use a copy or FTP to copy the SOA composites from HOST1 to HOST2.

Copy them from the following location in Domain home on HOST1 to the same location within the Domain home on HOST2:

```
DOMAIN_HOME/soa/
```

If you are using a copy utility, then be sure to copy the directories within the directory recursively, so all the SOA composite artifacts are copied.

Step 19 Configure Oracle Coherence for Oracle SOA Suite (HOST2)

To configure Oracle Coherence for Oracle SOA Suite:

1. Locate the following file and open it with a text editor:

    ```
    DOMAIN_HOME/bin/setDomainEnv.sh
    ```

2. Search for the following entry in the `setDomainEnv.sh` file:

    ```
    JAVA_OPTIONS="${JAVA_OPTIONS} ${JAVA_PROPERTIES} \
    ```

    Append the following entries at the end of the `JAVA_OPTIONS` entry in the `setDomainEnv.sh` file:

    On HOST2:

    ```
     -Dtangosol.coherence.wka1=SOAHOST1 \
     -Dtangosol.coherence.wka2=SOAHOST2"
     -Dtangosol.coherence.localhost=SOAHOST2
    ```

    Be sure to include this entry all on one line, with no line breaks. Note the single quotation marks in the entry.

    Replace `SOAHOST2` with the actual names of the host computers in you environment.

Step 20 Start the Node Manager (HOST2)

To start the Managed Server(s) using the WebLogic Administration console, you must start the Node Manager. In order to start the Node Manager, you must set the property `StartScriptEnabled` in the `nodemanager.properties` file to `true`. Run the following command to set the property `StartScriptEnabled=true`:

```
On UNIX: ORACLE_COMMON_HOME/common/bin/setNMProps.sh
On Windows: ORACLE_COMMON_HOME\common\bin\setNMProps.cmd
```

Start the Node Manager on HOST2 by running the following command:

```
On UNIX: MW_HOME/wlserver_10.3/server/bin/startNodeManager.sh
On Windows: MW_HOME\wlserver_10.3\server\startNodeManager.cmd
```

Step 21 Start the SOA Managed Server (HOST2)

Use the following command to start the Managed Server:

```
DOMAIN_HOME/bin/startManagedWeblogic.sh server_name \
 WLS_URL \
 -Dweblogic.management.username=WLS_USER_NAME \
 -Dweblogic.management.password=WLS_PWD
```

For example:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server2 \
 http://hostname:7003 \
 -Dweblogic.management.username=weblogic \
 -Dweblogic.management.password=weblogic1
```

Step 22 Start the Oracle Identity Manager Server (HOST1 and HOST2)

Use the following command to start the Managed Servers.

Perform this task on both HOST1 and then on HOST2:

```
DOMAIN_HOME/bin/startManagedWeblogic.sh server_name \
 WLS_URL \
 -Dweblogic.management.username=WLS_USER_NAME \
 -Dweblogic.management.password=WLS_PWD
```

For example:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh oim_server1 \
 http://hostname:7003 \
 -Dweblogic.management.username=weblogic \
 -Dweblogic.management.password=weblogic1
```

Step 23 Verify the Installation and Configuration

To verify the successful installation, configuration, and startup of the Oracle Identity Manager environment, refer to "Verifying the Oracle Identity Manager Installation" in the *Oracle Fusion Middleware Installation Guide for Oracle Identity and Access Management*