Oracle® Fusion Middleware
Installing Oracle Forms and Reports

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ORACLE®

Oracle Fusion Middleware Installing Oracle Forms and Reports, 12*c* (12.2.1.3.0)

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Preface

This document covers requirements, instructions, and troubleshooting tips for installing and configuring Oracle Forms and Reports.

Audience

This guide is intended for users who are installing Oracle Fusion Middleware 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 you products will be installed. Users in UNIX systems who are installing 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

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Related Documents

You can refer the Oracle Fusion Middleware Library for additional information.

- For 12*c* Oracle Forms information, see Oracle Forms and Reports Documentation Library.
- Oracle Forms Developer Online Help, available from the Help menu in Oracle Forms Developer.
- For Oracle Forms white papers and other resources, see `http://www.oracle.com/technetwork/developer-tools/forms/documentation/index.html`
- For upgrade information, see Fusion Middleware Upgrade Documentation.
- For release-related information, see Fusion Middleware Release Notes.

Conventions

The following text conventions are used in this document:

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

1
Installation and Configuration Overview

This chapter provides a summary and roadmap for Oracle Forms and Reports installation and configuration.
The following sections are included

- Oracle Forms and Reports Components
- Secure Oracle Forms and Reports With Identity Management
- Installation and Configuration Roadmap for Oracle Forms and Reports
- Installation and Configuration Roadmap for Standalone Form Builder

1.1 Oracle Forms and Reports Components

Provides the list of Oracle Forms and Reports components which are available for installation.

The components are as follows:

- Oracle Forms
    - Oracle Forms Builder
    - Oracle Forms Deployment
- Oracle Reports
    - Oracle Reports
- Oracle HTTP Server
- Oracle Common Configuration Infrastructure
    - CIE CAM Shared Config
    - Enterprise Manager Plugin for Forms
- Infrastructure
    - Database Client Components 12.1.0.2.0
    - FMW Upgrade 12.2.1.3.0
    - OPatch version 13.9.1.0.0

1.2 Secure Oracle Forms and Reports With Identity Management

If you want to have your Oracle Forms and Reports installation protected by an Identity Management tier, you must secure Oracle Forms and Reports with Oracle Access Manager.

Your Oracle Forms and Reports installation can only be secured with Identity Management if you are configuring your components in deployment mode.

Securing Oracle Forms and Reports With Oracle Access Manager 11*g*

This release of Oracle Forms and Reports supports Oracle Internet Directory 11*g* (11.1.1.7 and 11.1.1.9) with Oracle Access Manager 11*g* Release 3 (11.1.2.3).

To install and configure Oracle Internet Directory with Oracle Access Manager, you have to perform the following task:

1. Install Oracle Identity and Access Management, as described in Preparing to Install and Configure Oracle Access Management

2. Configure a WebLogic Server domain for Oracle Access Manager, as described in Preparing to Install and Configure Oracle Access Management

3. Integrate Oracle Access Manager with Oracle Internet Directory, as described in Configuring the Oracle OAM Suite Domain

If you have an existing Oracle Internet Directory with Oracle Single Sign-On, you can upgrade to Oracle Internet Directory with Oracle Access Manager, as described in Upgrading Oracle Forms and Reports

1.3 Installation and Configuration Roadmap for Oracle Forms and Reports

This roadmap provides an overview of the steps required to install Oracle Forms and Reports.

Review the tasks you have to perform for a typical Oracle Forms and Reports installation and configuration.

> **Note:**
>
> If you are planning to use the Standalone Form Builder installation option, see Table 1-2

Table 1-1   Tasks in the Oracle Forms and Reports Installation and Configuration Flowchart

Task	Description	Optional	Additional Information
Verify your system's environment	Ensure that your system environment meets the general installation requirements for Oracle Fusion Middleware and Oracle Forms and Reports.	No	Read the information provided in Preparing to Install.

Table 1-1   (Cont.) Tasks in the Oracle Forms and Reports Installation and Configuration Flowchart

Task	Description	Optional	Additional Information
Use Identity Management	If you want Oracle Forms and Reports to be protected by an Identity Management tier then you must have Oracle Internet Directory up and running. Be sure to choose the Deployment configuration mode and then choose to install Oracle HTTP Server during the installation.	Yes	For information about installing Oracle Internet Directory with Oracle Access Manager 11*g*, see Secure Oracle Forms and Reports With Identity Management.
Obtain the software	Obtain all necessary software to install and configure Oracle Forms and Reports.	No	The software required to install Oracle Forms and Reports are describes in Obtaining the Oracle Fusion Middleware Software. For information about which software you should download and the location to obtain the software, see *Oracle Fusion Middleware Download, Installation, and Configuration Readme Files*.
Install Oracle WebLogic Server (FMW Infrastructure) and create an Oracle home	Oracle Forms and Reports requires an Oracle home directory for installation and a WebLogic Server domain during configuration.	No	Only specific versions of Oracle WebLogic Server are supported. See the certification document for your release on the Oracle Fusion Middleware Supported System Configurations page. For installation instructions, see Installing Oracle WebLogic Server (FMW Infrastructure).
Start the Oracle Forms and Reports installer	Start the Oracle Forms and Reports installer to install the software.	No	When you are ready to begin, see Starting the Oracle Forms and Reports Installer.
Install Oracle Forms and Reports	Install the components using Oracle Universal Installer.	No	Follow the steps described in Installing Using Oracle Universal Installer.
Run Repository Creation Utility	Create Oracle Fusion Middleware database schemas.	No	Follow the steps described in Using the Repository Creation Utility.
Configure Oracle Forms and Reports Using the Configuration Wizard	Use Configuration Wizard to configure your components.	No	Follow the steps described in Configuring Forms Using the Configuration Wizard and Configuring Form Builder Standalone 12*c* Using the Configuration Wizard.
Verify your environment	Verify that your installation and configuration were successful.	No	Verifying the Installation and Configuration

1.4 Installation and Configuration Roadmap for Standalone Form Builder

Review the tasks you have to perform if you are planning to use the Standalone Form Builder installation option.

Table 1-2   Tasks in the Standalone Form Builder Installation and Configuration Flowchart

Task	Description	Optional	Additional Information
Verify your system's environment	Ensure that your system environment meets the general installation requirements for Oracle Fusion Middleware and Oracle Forms and Reports.	No	Read the information in Preparing to Install.
Obtain the software	Obtain all necessary software to install and configure Oracle Forms and Reports.	No	The software required to install Oracle Forms and Reports are describes in Obtaining the Oracle Fusion Middleware Software For specific information on the distributions you need to download, see the *Oracle Fusion Middleware Download, Installation, and Configuration Readme Files* on Oracle Technology Network (OTN) page.
Start the Oracle Forms and Reports installer	Start the Oracle Forms and Reports installer to install the software.	No	When you are ready to begin, see Starting the Oracle Forms and Reports Installer.
Install Standalone Form Builder	Install the components using Oracle Universal Installer.	No	Follow the steps described in Installing Using Oracle Universal Installer.
Configure Standalone Form Builder Using the Form Builder Configuration Wizard	Use Form Builder Configuration Wizard to configure your components.	No	Follow the steps described in Configuring Form Builder Standalone 12*c* Using the Configuration Wizard.
Verify your environment	Verify that your installation and configuration were successful.	No	Verifying the Installation and Configuration.

2

Installing and Configuring Oracle Forms and Reports

This chapter describes how to install and configure Oracle Forms and Reports. The following topics are covered:

- Preparing to Install
- Installing Oracle WebLogic Server (FMW Infrastructure)
- Installing Oracle Identity and Access Management
- Installing and Configuring Oracle Forms and Reports
- Installing Oracle Forms and Reports in Silent Mode
- Oracle Forms and Reports Accessibility Information

2.1 Preparing to Install

Before you begin installing Oracle Forms and Reports, it would be helpful if you understand the installation requirements. To prepare for your Oracle Forms and Reports installation, verify that your system meets the basic requirements, then obtain the correct installation software.

You should also ensure that your environment and other software requirements are met.

- Reviewing Certification, System, and Interoperability Requirements
- Understand Oracle Fusion Middleware Concepts
- Obtaining the Oracle Fusion Middleware Software
- Installing Oracle Forms and Oracle Reports on Separate Servers
- Installing Oracle Forms and Reports in a New Oracle home
- Installing Oracle Forms and Reports as a Non-Default User
- Overview of Installation and Configuration Steps

2.1.1 Reviewing Certification, System, and Interoperability Requirements

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

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

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

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

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

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

3. **Verifying interoperability among multiple products**

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

2.1.2 Understand Oracle Fusion Middleware Concepts

If you are new to Oracle Fusion Middleware, see About Key Oracle Fusion Middleware Concepts in *Understanding Oracle Fusion Middleware* to familiarize yourself with some concepts and terminology you will encounter.

2.1.3 Obtaining the Oracle Fusion Middleware Software

Depending on your specific needs, there are multiple locations to obtain Oracle Fusion Middleware software.

For specific information on the distributions you need to download, see the Oracle Fusion Middleware Download, Installation, and Configuration Readme Files on Oracle Technology Network (OTN) page.

To install and configure Oracle Forms and Reports, you will need to download the following software:

- The installer for a certified version of Oracle WebLogic Server (FMW Infrastructure). Make sure you refer to the certification document, as described in Reviewing Certification, System, and Interoperability Requirements, to determine which version of Oracle WebLogic Server (FMW Infrastructure) you should obtain.

- The installer for Oracle Forms and Reports.

- If you want to secure your Oracle Forms and Reports installation with Identity Management, you can also download Oracle Internet Directory with Oracle Access Management.

Make a note of the directory where you download each installer; you will need this information when it is time to run the installer for each product.

2.1.4 Installing Oracle Forms and Oracle Reports on Separate Servers

You can install Oracle Forms and Reports on different server by performing specific configurations.

To install Oracle Forms and Reports on different servers, you must perform manual configuration in order for these two products to be able to communicate properly with each other, as described in Communication Between Reports and Forms When Installed on Different Instances.

2.1.5 Installing Oracle Forms and Reports in a New Oracle home

Oracle Forms and Reports must be installed inside an Oracle home directory, which is created when Oracle WebLogic Server is installed.

Oracle Forms and Reports must be installed in its own Oracle home directory that it does not share with any other Oracle Fusion Middleware products of a different version.

2.1.6 Installing Oracle Forms and Reports as a Non-Default User

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 other user require access to particular files or executables, 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.

On Windows operating systems, the user must be a member of the Windows "Admin" group. This gives the user the proper permissions required to start and stop processes after the installation, including the Builders.

2.1.7 Overview of Installation and Configuration Steps

To complete the installation and configuration of Oracle Forms and Reports, this section lists the basic steps you have to perform.

Installation and Configuration Steps

Perform the following steps to complete the installation and configuration of Oracle Forms and Reports:

- Install WebLogic Server Infrastructure.

- Install Forms and Reports.

- Run Repository Creation Utility (RCU).

- Run Configuration Wizard.

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- Start all servers to complete configuration.

2.2 Installing Oracle WebLogic Server (FMW Infrastructure)

Oracle Forms and Reports requires Oracle WebLogic Server (FMW Infrastructure), which creates the Oracle home directory during installation.

The Oracle Fusion Middleware certification document for a specific release provides information about the minimum required Oracle WebLogic Server (FMW Infrastructure) version. See the certification document for your release on the Oracle Fusion Middleware Supported System Configurations page.

Planning Your Oracle Home Location for Oracle Reports (Windows Only)

If you are installing Oracle Reports on Microsoft Windows operating system, Oracle home directory path should not be not too long, as described in Verify Environment Variable Lengths for Oracle Reports (Windows Only)

Downloading the Correct Installer for Your Operating System

To obtain the Oracle WebLogic Server (FMW Infrastructure) installer, see Obtaining the Oracle Fusion Middleware Software.

Finding Oracle WebLogic Server (FMW Infrastructure) Installation Instructions

Follow the Oracle WebLogic Server (FMW Infrastructure) installation instructions, as described in Installing Oracle WebLogic Server and Coherence for WebLogic Server MT. The WebLogic Server installation must be completed so that an Oracle home directory is created; you do not have to create a WebLogic Server domain as the Oracle Forms and Reports installer will allow you to do this for your Oracle Forms and Reports products.

If you are installing on Microsoft Windows operating system, after your Oracle WebLogic Server (FMW Infrastructure) installation is complete, perform the steps in the following section.

Stopping Node Manager Before Installing Oracle Forms and Reports (Windows Only)

If you are installing Oracle Forms and Reports on a Microsoft Windows operating system, you must ensure that the Node Manager utility that was installed with Oracle WebLogic Server is stopped before you begin the installation:

1. Verify the Oracle WebLogic Server Node Manager utility is stopped. If it is running, end the process.

2. Determine if the `nodemanager.properties` file is present in the `WebLogic_Home\common\nodemanager` directory.

    a. If the `nodemanager.properties` file is not present, continue installing Oracle Forms and Reports.

    b. If the `nodemanager.properties` file does exist, open it and verify that the `ListenPort` parameter is included and that it is set. If the `ListenPort` parameter is not included or set, edit the `nodemanager.properties` file so that it is similar to the following, where `NODE_MANAGER_LISTEN_PORT` represents the port the Node Manager listens on, such as 5556:

    ```
    ListenPort=NODE_MANAGER_LISTEN_PORT
    ```

2.3 Installing Oracle Identity and Access Management

Oracle Identity and Access Management helps to secure Oracle Forms and Reports installation.

Your Oracle Forms and Reports installation can be protected with Identity Management (see Secure Oracle Forms and Reports With Identity Management). If you choose to secure your Oracle Forms and Reports with Oracle Internet Directory and Oracle Access Manager, you must download and install these products if you do not already have them.

Oracle Identity and Access Management must be installed in a separate Oracle home directory from your Oracle Forms and Reports installation (see Installing Oracle Forms and Reports in a New Oracle home). For performance reasons, Oracle recommends that Oracle Forms and Reports is installed on a separate machine from your Oracle Identity Management product.

See Installing and Configuring Oracle Identity and Access Management, to install and configure Oracle Identity and Access Management.

2.4 Installing and Configuring Oracle Forms and Reports

You have to perform a series of steps to install and then configure Oracle Forms using the configuration wizard.

The following sections are included:

- Starting the Oracle Forms and Reports Installer
- View the Installation Log Files
- Configuring Your Oracle Inventory (UNIX)
- Installing Using Oracle Universal Installer
- Using the Repository Creation Utility
- Configuring Forms Using the Configuration Wizard
- Configuring Reports Using the Configuration Wizard
- Configuring Form Builder Standalone 12*c* Using the Configuration Wizard

2.4.1 Starting the Oracle Forms and Reports Installer

To start the installer, navigate to the directory where you have downloaded the Forms and Reports compressed folder containing the installer files.

On Windows operating system, extract the compressed folder.

```
fmw_12.2.1.3.0_fr_win64_Disk1_1of2.zip
```
An executable **.exe** file is extracted which you have to double-click to start the installer.

```
setup_fmw_12.2.1.3.0_fr_win64.exe
```
On UNIX / Linux operating systems, an executable **.bin** file is extracted from the compressed folder, which starts the installer.

```
unzip fmw_12.2.1.3.0_fr_linux64_Disk1_1of2.zip
./fmw_12.2.1.3.0_fr_linux64.bin
```

> ✎ **Note:**
>
> • The Forms and Reports 12*c* **Disk-1** compressed installer files folder for IBM AIX operating system does not include the `rootpre.sh` script files. So, you do not need to run the `rootpre.sh` script as the root user before starting the installer. The `rootpre.sh` script was used in pervious version of `FMW` installer to load `postwait driver pw-syscall`.
>
> • Some platforms may have multiple download files or disks, such as **Disk-1** and **Disk-2**. You should extract all the files, for example executable **.exe** file, from the downloaded compressed (zipped) folder. If the downloaded compressed (zipped) folder contains another compressed (zipped) file, you should not extract that compressed file contained within the original compressed (zipped) folder. You should store all the extracted files from the compressed folder in the same directory before starting the installer.

2.4.2 View the Installation Log Files

The installer writes logs files to the `Oracle_Inventory_Location`/log (on UNIX operating systems) or `Oracle_Inventory_Location`\logs (on Windows operating systems) directory. See Installation Log Files for information about log files and their contents.

2.4.3 Configuring Your Oracle Inventory (UNIX)

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

Use the inventory screens in Table 2-1 to configure the inventory directory and group information. For more help, select the screen name in the table, or click the **Help** button in the GUI.

Table 2-1   Inventory Directory and Group Screens

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

If you do not want to use the Oracle central inventory, you can create a file called `oraInst.loc` and in this file, include the full path of the inventory directory of your choice. For example, a typical `oraInst.loc` file would contain the following:

```
inventory_loc=/home/username/oraInventory
inst_group=group
```

Then, you can start the installer and point to the `oraInst.loc` file. For example:

```
./fmw_12.2.1.3.0_fr_linux64.bin -invPtrLoc /location_of_oraInst.loc_file
```

2.4.4 Installing Using Oracle Universal Installer

Follow these instructions to install Oracle Forms and Reports using Oracle Universal Installer. After invoking Oracle Universal Installer as described in Starting the Oracle Forms and Reports Installer:

1. *Welcome* page. This page welcomes you to the installation. Click **Next**.

2. The *Auto Updates* page appears. This page enables you to choose to automatically receive software updates for your components from Oracle Corporation. Make your choices, then click **Next**.

3. The *Installation Location* page appears. Specify the Oracle home location into which you want to install the product(s). Click **Next**.

4. The *Installation Type* page appears. You can select *Standalone Forms Builder* if you want only that functionality, or choose *Forms and Reports Deployment* to install all of the products. Click **Next**.

5. The *Prerequisites Checks* page appears. This pages shows you the progress of the system checking the prerequisites on your system before installation. If you are lacking any prerequisites, a message will appear telling you so. You do not need to take any actions on this page, though you can view the log from here. Click **Next**.

6. The *Installation Summary* page appears, showing you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

7. The *Installation Progress* page appears. This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a *Summary* page). Alternatively, you can click **Finish**.

8. If you clicked **Next**, the *Installation Complete* page appears, showing you the components that have been installed. Click **Finish**.

2.4.5 Using the Repository Creation Utility

Before proceeding to the next tasks, follow the instructions in this topic to set up Repository Creation Utility (RCU) schemas for configuring Oracle Forms.

RCU is available with the Oracle Fusion Middleware Infrastructure distribution. After you install Oracle Fusion Middleware Infrastructure and create your Oracle home, you can start RCU from the `ORACLE_HOME/oracle_common/bin` directory. Follow these instructions to set up schemas.

Run `$FMW_HOME/oracle_common/bin/rcu.sh`. Unless otherwise noted, click **Next** to continue to the next screen.

Table 2-2   Schema Setup Steps

Screen	Description
Welcome	This screen introduces you to RCU.

Table 2-2   (Cont.) Schema Setup Steps

Screen	Description
Create Repository	Select **Create Repository**, then select **System Load and Product Load** (default).
Database Connection Details	Specify RCU database connection credentials.
	Click **Next** when you have specified your credentials. The Checking Prerequisites dialog window appears. It shows the progress of prerequisites checking. Click **OK**, when the database checking has passed without errors, to dismiss the dialog window, and go to the next screen.
Select Components	Select the **Create new prefix** radio button and provide a schema prefix (such as *DEMO*).
	You must remember the prefix and schema names for the components you are installing. It is recommended that you write down these values.
	Select the following components:
	• **Oracle Platform Security Services**
	• **User Messaging Service** (UMS)
	💡 **Tip:** If Forms Application Deployment Services (FADS) is also planned to be configured, include **User Messaging Services** (UMS).
	• **Audit Services**
	• **Audit Services Append**
	• **Audit Services Viewer**
	✏️ **Note:** Additional dependent components will automatically be selected.
	The Checking Prerequisites pops up box appears. It shows the progress of prerequisites checking. Click **OK**, when it is complete, to dismiss the dialog window and go to the next screen.
Schema Passwords	Leave the default **Use same passwords for all schemas** radio button selected, and enter the password in the **Password** field.
	You must remember the passwords you enter on this screen; you need this information during the configuration phase of product installation. It is recommended that you write down these values.

Table 2-2   (Cont.) Schema Setup Steps

Screen	Description
Map Tablespaces	Use this screen to configure the desired tablespace mapping for the schemas that you want to setup.
	When you click **Next**, Repository Creation Utility dialog window appears, asking you to confirm that you want to create these tablespaces. Click **OK** to proceed and dismiss the dialog window.
	A second dialog window, Creating Tablespaces appears showing the progress of tablespace creation. Click **OK**, after the tablespaces are created, to dismiss this window and go to the next screen.
Summary	Verify the information on this screen, then click **Create** to begin schema setup.
	A System Load progress dialog window appears, showing progress. The dialog window will disappear when complete.
Completion Summary	Review the information on this screen to verify that the operation was completed successfully. Click **Close** to complete the schema setup and close RCU.

2.4.6 Configuring Forms Using the Configuration Wizard

The Configuration Wizard helps and simplifies the task of configuring Oracle Form.

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

> **Note:**
>
> To complete the configuration, Windows DOS shells must be run with Administrator permissions and Unix shells must be owned by the same user who performed the installation (for example, *oracle*). Failure to follow this instruction may result in the configuration failing silently.

Performs the following steps in the Configuration Wizard:

1. Run the Configuration Wizard using *config.sh* (config.cmd on Windows) located in the `ORACLE_HOME/oracle_common/common/bin` directory.

2. Choose *Create a new domain*, and enter the desired domain home path.

3. Click **Next**. The *Templates* screen appears. Keep the default selection (*Create Domain using Product Templates*), and select *Oracle Forms – 12.2.1.3.0* [forms]. Any dependent templates will be automatically selected. Additional templates, like Oracle HTTP Server and others, can be selected based on the components desired. Refer to those individual component documents for more details.

4. Click **Next**. The *Application Location* screen appears. Keep the default value for Application location.

5. Click **Next**. The *Administrator Account* screen appears. Enter the desired WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control.

6. Click **Next**. The *Domain Mode and JDK* screen appears. Select the *Domain Mode* (either **Development** or **Production**). To ensure the highest degree of security, selecting **Production** is recommended. Leave the default JDK selection as it appears, unless using another version of the JDK desired.

7. Click **Next**. The *Database Configuration Type* screen appears. Enter the RCU DB connection information. This information was created when running the Repository Creation Utility (RCU) in an earlier step. After entering the requested information, click **Get RCU Configuration**. Verify that a successful message is presented in the Results Log panel. If an indication of success is not indicated, check the databases entries made in this step. Mostly it will only be necessary to enter data for *DBMS/Service*, *Host Name*, *Port*, *Schema Owner*, and *Schema Password*. Other entries can remain as the default value.

8. Click **Next**. The *JDBC Component Schema* screen appears. These instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords.

9. Click **Next**. The *JDBC Component Schema Test* screen appears. If any tests fail, it may be necessary to go back and make corrections.

10. Click **Next**. The *Advanced Configuration* screen appears. Select *Topology* and *System Components*. Depending on the level of customization desired, other selections may be used.

> **Tip:**
>
> If you want to configure server templates and dynamic server, see:
> - Using Server Templates in *Understanding Domain Configuration for Oracle WebLogic Server*.
> - Creating and Configuring Dynamic Clusters in *Administering Clusters for Oracle WebLogic Server*.

11. Click **Next**. The *Managed Servers* screen appears. Verify that the Server Groups is set to *FORMS-MAN-SVR* (for Forms). This screen can also be used to add additional managed servers if desired.

12. Click **Next**. The *Clusters* screen appears. Default entries will be acceptable mostly, unless adding new clusters is desirable.

13. Click **Next**. The *Assign Servers to Clusters* screen appears. The default values will be appropriate for most cases. However, if new managed servers were added in the previous step, they should be added to the cluster here.

14. Click **Next**. The *Coherence Clusters* screen appears. The default values will be appropriate for most cases.

15. Click **Next**. The *Machines* screen appears. Use this screen to override the machine name or add addition machine names for extend domain scenarios (add remote Forms nodes).

16. Click **Next**. The *Assign Servers to Machines* screen appears. Move the AdminServer to the AdminServerMachine by clicking the **>** button.

17. Click **Next**. The *Virtual Targets* screen appears. Used with WebLogic Server Partitions. Refer to the WebLogic Server documentation for details.

18. Click **Next**. The *Partitions screen* appears. Use this screen to add Weblogic Partitions if desired. Refer to the WebLogic Server documentation for details on how to use Partitions.

19. Click **Next**. The *System Components* screen appears. The default values will be appropriate for most cases. You can add additional Forms or other System Component instances on this screen (for example, extending a domain).

    a. If Oracle HTTP Server (OHS) was selected in the *Templates* screen, the OHS component would need to be added in this step.

    b. Click the *Add* button to add the OHS component and then click *Next* button.

    c. Accept the default settings for the OHS Server component and then click *Next* button.

20. The *Assign System Components to Machines* screen appears. The default values will be appropriate for most cases. If OHS added in the previous step, move it to the *Machines* column under the Admin Server using the **>** button.

> ✏️ **Note:**
>
> In case of extend domain scenario; assign the Forms System Component to the relevant Machine.

21. Click **Next**. The *Configuration Summary* screen appears.

22. Click **Create**. The *Configuration Progress* screen appears.

23. Depending on the location and performance of the Repository database, this process may take a few minutes. Click **Finish**. The *End of Configuration* screen appears.

To complete the Configuration, Node Manager and the Admin Server must be successfully started.

On Unix/Linux platforms, the shell used to start these servers the first time, must be the installation owner's (for example, *oracle*).

On Microsoft Windows, the DOS shell used to start these servers the first time must have Administrator permissions. To enable an Administrator shell session, right-click the Command Prompt shortcut and select **Run as Administrator**. The shell that opens will indicate that it has Administrator privileges in its title bar.

Figure 2-1   Command Prompt with Administrator Privileges
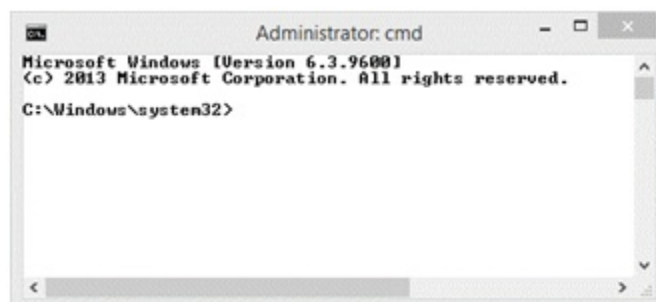
2.4.7 Configuring Reports Using the Configuration Wizard

You have to also perform a series of steps to configure Oracle Reports using the Configuration Wizard.

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

> **✎ Note:**
>
> To complete the configuration, Windows DOS shells must be run with Administrator permissions and Unix shells must be owned by the same user who performed the installation (for example, *oracle*). Failure to follow this instruction may result in the configuration failing silently.

Perform the following steps in the Configuration Wizard:

1. Run the Configuration Wizard using config.sh located in the Run the Configuration Wizard using config.sh located in the `ORACLE_HOME/oracle_common/common/bin` directory.

2. Choose one of the following options, and enter the desired domain home path:

    - *Create a new domain*:

        to add reports to a new domain

    - *Update an existing domain*:

        to add reports to an existing domain

3. Click **Next**. The *Templates* screen appears. Select *Reports Server*, *Reports Tools*, *Reports Bridge*, *Reports Application*, and *OHS*. Skip *Reports Upgrade Only Template*; this is only used for upgrades.

4. Click **Next**. The *Application Location* screen appears. Keep the default value for Application location.

5. Click **Next**. The *Administrator Account* screen appears. Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control.

6. Click **Next**. The *Domain Mode and JDK* screen appears. Select the Domain Mode (either **Development** or **Production**). For our purposes, select **Production**. Leave the default JDK selection as it appears, unless using another version of the JDK desired.

7. Click **Next**. The *Database Configuration Type* screen appears. Enter the RCU DB connection information.

    - Select Vendor and *Driver* from the drop-down lists.

    - Enter *DBMS/Service*, *Host Name* and *Port*.

        Enter the *Schema Owner* and *Schema Password*. *Schema Owner* value refers to the schemas created while running the Repository Creation Utility (RCU) in a previous step of the installation process. The trailing _*STB* should be included along with the prefix value chosen at the time RCU was run

previously. For example, if the prefix you provided during the Repository creation was *DEMO* then the entry for Schema Owner will be *DEMO_STB*.

Click **Get RCU Configuration**. You should receive a success message.

8. Click **Next**. The *JDBC Component Schema* screen appears. These instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords.

9. Click **Next**. The *JDBC Component Schema Test* screen appears. The tests are run and the results given.

10. Click **Next**. The *Advanced Configuration* screen appears. Select *Administration Server, Node Manager, Managed Server*s, *Clusters* and *Deployment and Services*.

11. Click **Next**. The *Administration Server* screen appears. The default values will be appropriate for most cases.

12. Click **Next**. The *Managed Servers* screen appears. Create WLS_REPORTS. Verify that the Server Groups is set to REPORTS-APP-SERVERS. The Listen address is All Local Addresses. Add WLS_REPORTS to reports_cluster.

13. Click **Next**. The *Clusters* screen appears. Default entries will be acceptable mostly, unless adding new clusters is desirable.

14. Click **Next**. The *Assign Servers to Clusters* screen appears. The default values will be appropriate for most cases. However, if new managed servers were added in the previous step, they should be added to the cluster here.

15. Click **Next**. The *Coherence Clusters* screen appears. The default values will be appropriate for most cases.

16. Click **Next**. The *Machines* screen appears. Add a machine, for example: *AdminServerMachine* (default).

17. Click **Next**. The *Assign Servers to Machines* screen appears. Add AdminServer and WLS_REPORTS to *AdminServerMachine* by clicking the **>** button. The Reports App is targeted to WLS_REPORTS by default.

Development Configuration can be used for development mode where sufficient system resources are not available. To perform this configuration, follow these steps:

a. In the *Admin Server* screen, in **Server groups** drop down list, select *REPORTS-APP-SVR* as one of the groups. This will configure AdminServer with reports.

b. The rest of the steps are the same as before.

> **Note:**
>
> One ReportsTools component is compulsory. Reports Server and Reports Bridge are optional.
>
> This configuration is not supported for use with production, multiuser environments. It is further not recommended in cases where sufficient system resources are available. This configuration should only be used on development environments where adequate resources such as system memory are limited.
>
> Oracle Forms is not supported for use in this configuration.

18. Click **Next**. The *System Components* screen appears. The default values will be appropriate for most cases. You can add additional Forms or other System Component instances on this screen (for extend domain scenario). For example, if adding OHS, it would appear here.

19. Click **Next**. The *Assign System Components* screen appears. The default values will be appropriate for most cases.

> **Note:**
>
> In case of extend domain scenario; assign the Forms System Component to the relevant Machine.

20. Click **Next**.The *Deployment Targeting* screen appears.

21. Click **Next**.The *Service Targeting* screen appears.

22. Click **Next**. The *Configuration Summary* screen appears.

23. Click **Create**. The *Configuration Progress* screen appears.

2.4.7.1 Creating Reports Tool Components

This section describes running the ReportsToolsInstance command after you have finished installing and running Configuration Wizard for Oracle Reports 12*c*.

After installing and running Configuration Wizard for Oracle Reports 12*c* and while trying to start in-process or newly created standalone reports server, you may encounter the following errors:

- **REP-54005**: The cache directory `DOMAIN_HOME\reports\cache` cannot be created.

- **REP-52266**: The in-process Reports Server `rep_wls_reports_xxxxxxx` failed to start.`oracle.reports.RWException: IDL:oracle/reports/RWException:1.0.`

To resolve this errors, the first step you should complete after running the Configuration Wizard in a new environment with Oracle Reports 12*c,* is to run the following WLST command:

- `createReportsToolsInstance()`: This command will create all the components at file system level required for Oracle Reports.

  For example:

- Execute `wlst.cmd/wlst.sh` from `ORACLE_HOME/oracle_common/common/bin`.

- Connect to AdminServer.

  ```
  connect("weblogic","weblogic_password","hostname:7001")
  ```

- Run the following wlst command.

  ```
  createReportsToolsInstance(instanceName='reptools1',machine='AdminServerMachine')
  ```

The following are some of the key folders that will be created for Oracle Reports 12*c* after the third steps in the preceding example:

- `DOMAIN_HOME/reports/bin`

- `DOMAIN_HOME/reports/cache`

- `DOMAIN_HOME/reports/fonts`

- `DOMAIN_HOME/reports/plugins`

- `DOMAIN_HOME/reports/server`

The Oracle Reports environment is now complete and ready to be used.

2.4.7.2 Resolving Report Server access error

This section describes solutions to resolve problems when you try to access the Reports Server.

When you try to access the Reports server, you may encounter the following errors:

- **REP-51002**: Bind to Reports Server `<rep_server_name>` failed. This error is encountered when you try to access Reports Server using `getserverinfo` or `showjobs`.

- **REP-50503**: No server found in the network. Then error also occurs when running the command `rwdiag.sh -findAll`.

This is firewall permission related problem, because the Reports server trace files shows Reports server is up and running. There are no errors in the trace files.

To resolve this problem, perform the following steps:

1. Open the `rwnetwork UDP` port on the firewall to allow the Reports Server to be accessible.

   a. Run command: `rwdiag.sh -findAll`

   b. From output, check what value is used for Channel port.

      For example:

      Broadcast mechanism used to locate servers

      Channel address = ###.###.###.###

      Channel port = 14021

   c. Open the channel port on the firewall.

      As per the example in the previous step, it is port 14021.

2. In the firewall, authorize requests from your host's IP address to ###.###.###.###.

   The Channel address as shown in the example in the first step.

The above steps will solve the Reports server access related problem.

> **Note:**
>
> It the above steps do not solve the problem, add the name of the machine where Reports Server is located and the IP for that machine to the hosts file (`/etc/hosts` or `C:\WINDOWS\system32\drivers\etc\hosts`).

2.4.7.3 Provisioning a Machine

Follow these steps to provision a machine for Oracle Reports.

1. Start Node manager

    ```
    $DOMAIN_HOME/bin/startNodeManager.sh
    ```

2. Start Adminserver

    ```
    $DOMAIN_HOME/bin/startWebLogic.sh
    ```

3. Use WLST to create Reports Components

    *   Create a reports tools targeted to machine 'AdminServerMachine' - <reportsToolsName>

    *   Create a reports server targeted to machine 'AdminServerMachine' - <reportsServerName> (optional)

        give credentials of adminserver to connect

        ```
        connect("weblogic","welcome1", "localhost:7001")

        createReportsToolsInstance(instanceName='<reportsToolsName>',
        machine='AdminServerMachine')

        createReportsServerInstance(instanceName='<reportsServerName>',
        machine='AdminServerMachine')

        exit()
        ```

4. Start WLS_REPORTS

    `$DOMAIN_HOME/bin/startManagedWebLogic.sh WLS_REPORTS` (Inprocess server starts)

    Create a reports tools targeted to machine 'AdminServerMachine'- reptools1

    Create a reports server targeted to machine 'AdminServerMachine' - repsvr_<hostname>

2.4.7.4 Configure Reports Builder as Run to web

To configure Reports Builder as "Run to web", follow these steps.

1. Locate the directory.

    ```
    $DOMAIN_HOME/servers/WLS_REPORTS/tmp/_WL_user/reports_12.2.1/
    <random_number>/war
    ```

2. Add it to builder config file (below element, <pluginParam> as shown below.

    ```
    $DOMAIN_HOME/config/fmwconfig/components/ReportsToolsComponent/reptools1/
    rwbuilder.conf
    ```

```
</pluginParam>
```

```
<webLayout port="9002" docroot="/scratch/rrpai/wls2/user_projects/domains/
test1/servers/WLS_REPORTS/tmp/_WL_user/reports_12.2.1/5ah7s6/war"/>
```

The port is the OHS port. If OHS is not there, it should be the WLS_REPORTS port.

2.4.8 Configuring Form Builder Standalone 12*c* Using the Configuration Wizard

Before you begin installing the Form Builder Standalone 12*c* software, you should complete the Oracle Forms or Reports software has been successfully installed.

Perform the following steps to configure Form Builder Standalone 12*c* software:

1. Install the Form Builder Standalone 12*c* software.

2. Launch the Form Builder Configuration Assistant using one of the following methods:

   a. Choose to run it after the Form Builder Standalone software installation.

      After the installation is complete, check the **Automatically Launch Forms Builder Configuration Wizard** option and click **Finish**.

   b. Launch the configuration tool later from the location: `$FMW_HOME/forms/common/bin/config_builder.sh`.

      `config_builder.cmd` for Microsoft Windows.

   Figure 2-2   Launching the Configuration Tool in Windows
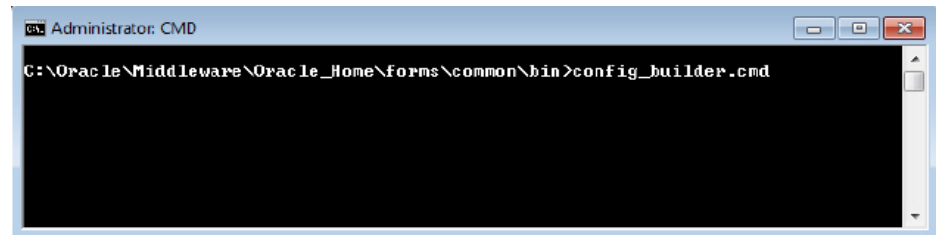
> **Note:**
>
> To complete the configuration, Windows DOS shells must be run with Administrator permissions and UNIX shells must be owned by the same user who performed the installation (for example, *oracle*). Failure to follow this instruction may result in the configuration failing silently.

3. Enter a name for the **Form Builder Instance** path in the Configuration Wizard, Instance Configuration screen. Click **Next**.

4. After configuration is complete, the Configuration Progress screen shows Configuration Succeeded message. Click **Next**.

5. End of Configuration screen shows the Oracle Home and Form Builder Instance location. Click **Finish** to exit the installer.

2.4.9 Verifying the Installation and Configuration

After you complete the installation and configuration of Oracle Forms and Reports, verify it was successful by performing a series of tasks.

You can verify the status of your installation by performing the tasks in any combination.

- Reviewing the Installation Logs
- Reviewing the Domain Server Logs
- Checking the Installed Products and Product Versions
- Checking Browser URLs
- Performing Basic Administration Tasks

2.4.9.1 Reviewing the Installation Logs

Check for the presence of installation log files in `logs` directory inside your Oracle Inventory directory.

On UNIX operating systems, if you do not know the location of your Oracle Inventory directory, you can find it in the `ORACLE_HOME/oraInst.loc` file.

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

For information about installation log files, see Installation Log Files.

2.4.9.2 Reviewing the Domain Server Logs

You can check the domain server logs, which are located in the `servers` directory inside the domain home directory.

On UNIX operating systems:

`DOMAIN_HOME/servers/server_name`

On Windows operating systems:

`DOMAIN_HOME\servers\server_name`

2.4.9.3 Checking the Installed Products and Product Versions

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

Check the products and product version numbers by running the opatch lsinventory -detail command from the `ORACLE_HOME/OPatch` directory.

2.4.9.4 Checking Browser URLs

To verify the installed products URLs are provided.

The Installation Complete screen contains URLs that can be used to access your installed and configured products, as described in the following table.

Table 2-3   Oracle Forms and Reports Product URLs

Product or Component	URL
Administration Server Console	`http://host:port/console`
Enterprise Manager Console	`http://host:port/em`
Oracle Forms	`http://host:port/forms/frmservlet`
Oracle Reports	`http://host:port/reports/rwservlet`

> **✎ Note:**
>
> If you installed in development mode, there would not be an Enterprise
> Manager Console URL to verify, and your Oracle Forms and Reports URLs
> would use the Administration Server port. In deployment mode, Enterprise
> Manager Console and EMAgent would use the Administration Server port,
> while Oracle Forms and Reports could be verified using their respective
> Managed Server ports or the Oracle HTTP Server port number.

Additionally, if your Oracle Forms and Reports are protected by Oracle Identity
Management, then you will be prompted to provide login credentials when you attempt
to access the Oracle Forms and Oracle Reports URLs.

2.4.9.5 Performing Basic Administration Tasks

After running the installer and configuration tool, all of your system components, the
Administration Server, and Managed Servers should be manually started in order to
complete the configuration process.

In the event that some of your servers or components are stopped unexpectedly, you
can restart your Oracle Fusion Middleware environment by following the instructions,
as described in Starting an Oracle Fusion Middleware Environment.

Your Oracle Fusion Middleware environment can also be stopped, as described in
Stopping an Oracle Fusion Middleware Environment.

2.5 Installing Oracle Forms and Reports in Silent Mode

This section describes how to install Oracle Forms and Reports from the command
line in silent mode.

You can use the silent installation mode to bypass the need to monitor your product
installation because no graphical output is displayed and no input by the user is
required. To install Oracle Forms and Reports in silent mode, use the `-silent` flag on
the command line when you start the installer.

Silent installation does not include configuration. That is, you cannot configure Oracle
Forms and Reports silently using the same silent installation commands and response
file. In Oracle Fusion Middleware 11*g* release, you could use the content of the
response file for both installing and configuring the product. But in 12*c* release, product

configuration is a separate process. The Configuration Wizard cannot be run in silent mode (or used with response files) in 12*c*.

See the following sections in *Installing Software with the Oracle Universal Installer*, for details on silent mode:

- About Silent Installation

- About Response Files

- Running the Oracle Universal Installer in Silent Mode

After you have completed the installation in silent mode, perform the separate step-by-step process in the following sections to configure Oracle Forms and Reports using the Configuration Wizard:

- Configuring Forms Using the Configuration Wizard

- Configuring Reports Using the Configuration Wizard

- Configuring Form Builder Standalone 12*c* Using the Configuration Wizard

Deinstalling in Silent Mode

Follow the instructions in Running the Oracle Universal Installer for Silent Deinstallation, to deinstall Oracle Forms and Reports in silent mode.

2.6 Oracle Forms and Reports Accessibility Information

This topic provides links to information about accessibility features and related information for Oracle Forms and Reports.

Oracle Forms

You can configure you system and use features supporting accessibility while running Forms. Oracle Forms Builder 12*c* also supports a range of features that are designed to support accessibility. The Oracle Forms 12*c* runtime is accessible if coded based on the instructions provided in the following link. Information is also provided about the minimum requirement that assistive technology must meet to run with Oracle Forms. See: Accessibility Features and Tips for Oracle Forms.

Oracle Reports

Accessible enterprise reports can be created using features and options available in Oracle Reports. You can also use specific techniques for designing reports to increase accessibility of report output, see: Accessibility Features and Tips for Oracle Reports

3

Deinstalling Oracle Forms and Reports

Follow the instruction in this chapter to deinstall Oracle Forms and Reports.
It is recommended that you always use the instructions provided in this chapter to remove the software. If you try to remove the software manually, you may encounter problems when you try to reinstall the software again at a later time. Following the procedures in this chapter will ensure that the software is properly removed. If you need to remove a particular product component, you must remove the entire domain containing the component. It is not possible to remove a single product from a domain containing multiple products.

The following topics are covered:

- Preparing to Deinstall Oracle Forms and Reports
- Dropping the Associated Repository
- Deinstalling the Software
- Removing the Oracle Home Directory Manually
- Removing the Program Shortcuts on Windows Operating Systems
- Removing the Domain and Application Data
- Reinstalling the Software

3.1 Preparing to Deinstall Oracle Forms and Reports

Before deinstalling Oracle Fusion Middleware software components, it is recommended that you stop all servers and processes associated with the Oracle home you are going to remove..

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

3.2 Dropping the Associated Repository

If you do not need the repository and is not shared, you can drop the associated repository.

Before running the Oracle Forms and Reports deinstaller, you should drop the repository by following the instructions as described in Dropping Schemas in *Creating Schemas with the Repository Creation Utility*.

Starting Repository Creation Utility (RCU)

You can start RCU, by navigating to the `ORACLE_HOME/oracle_common/bin` directory.

On UNIX operating systems:

```
cd ORACLE_HOME/oracle_common/bin
./rcu
```

On Windows operating systems:

```
cd ORACLE_HOME\oracle_common\bin
rcu.bat
```

> **✎ Note:**
>
> Schemas should not be dropped if the associated domain will be used for other components. Only drop schemas when the domain is to be deleted. Dropping the repository schemas will also delete all data stored in them.

3.3 Deinstalling the Software

This section contains instructions to start the product deinstaller and remove Oracle Forms and Reports.

When you start the deinstaller from Oracle home, be sure that no system components are using the Oracle home you want to remove.

If you want to perform a silent (command-line) deinstallation, see Running the Oracle Universal Installer for Silent Deinstallation in *Installing Software with the Oracle Universal Installer*.

3.3.1 Starting the Deinstallation Program

Follow the instructions to start the Oracle Forms and Reports deinstaller.

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

To start the deinstaller:

1. On UNIX

   On the command line, enter the following commands:

   ```
   cd ORACLE_HOME/oui/bin
   ./deinstall.sh
   ```

2. On Windows

   Do one of the following:

   a. Use a file manager window to navigate to the `ORACLE_HOME\oui\bin` directory and double-click `deinstall.cmd`.

   b. Open a command prompt and enter the following commands:

      ```
      cd %ORACLE_HOME%\oui\bin
      deinstall.cmd
      ```

   c. From the **Start** menu, select **All Programs**, then **Oracle**, then **OracleHome**, and then **Uninstall Oracle Software**.

The **Oracle Forms and Reports Deinstaller** opens.

3.3.2 Navigating the Deinstallation Screens

The deinstaller displays a series of screens to confirm the deinstallation of Oracle Forms and Reports.

If you need help on screens listed in the following table, click **Help** on the screen.

Table 3-1   Deinstallation Screens and Descriptions

Screen	Description
Welcome	Introduces you to the product deinstaller. The deinstallation Welcome screen contains a navigation pane on the left that summarizes the tasks the deinstaller will help you complete.
Deinstallation Summary	Shows the Oracle home directory and its contents that will be deinstalled. Verify that this is the correct directory.
	If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. You can use the response file later during a silent deinstallation. See Running the Oracle Universal Installer for Silent Deinstallation in *Installing Software with the Oracle Universal Installer*.
	Click **Deinstall**, to begin removing the software.
Deinstallation Progress	Shows the deinstallation progress.
Deinstallation Complete	Appears when the deinstallation is complete. Review the information on this screen, then click **Finish** to close the deinstaller.

You should repeat the steps in Starting the Deinstallation Program and this section, for each product (Forms, Reports) in the Oracle home you want to deinstall.

3.4 Removing the Oracle Home Directory Manually

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

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

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

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

3.5 Removing the Program Shortcuts on Windows Operating Systems

On Windows operating systems, you must also manually remove the program shortcuts from the `Start Menu\Programs` folder; the deinstaller does not remove them.

To remove the program shortcuts on Windows:

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

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

> **Note:**
>
> The program shortcuts and folder names on your system may be different; you have to remove them from `C:\ProgramData\Microsoft\Windows\Start Menu\Programs`.

Rebooting Your System (Windows Operating Systems)

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

3.6 Removing the Domain and Application Data

After you deinstall the software, you must manually remove your domain and application data.

To remove the domain and application data:

1. Remove your Domain home directory. Use your normal operating system commands to remove your Domain home directory, for example:

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

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

   ```
   rm -rf frs_domain
   ```

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

2. Remove your Application home directory. For example:

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

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

```
rm -rf frs_domain
```

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

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

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

Save and exit the file when you are finished.

3.7 Reinstalling the Software

You can reinstall your software into the same Oracle home as a previous installation only if you deinstalled the software according to the instructions in this chapter, including manually removing the Oracle home directory.

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

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

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

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

  1. Select a different installation type. In this case, only the feature sets that do not exist in the Oracle home directory are installed.

  2. Select a different Oracle home directory.

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

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

  1. Deinstall your software from the Oracle home as described in this chapter and then remove the Oracle home directory. After you deinstall the software and remove the Oracle home directory, you can reinstall and reuse the same Oracle home location, using the instructions in Installing and Configuring Oracle Forms and Reports. Any domain or application data that was in the Oracle home must be re-created.

  2. Select a different Oracle home directory.

4

Upgrading Oracle Forms and Reports

This chapter describes how to upgrade Oracle Forms and Reports from 11*g* or previous 12*c* version to the latest version.
Upgrading Oracle Form and Reports from a previous release is an in-place upgrade performed by using the Upgrade Assistant.

The following topics are covered:

- Planning an Upgrade of Oracle Forms
- Preparing to Upgrade Oracle Forms from 11*g*
- Create Copy of Oracle Forms Template Files
- Upgrading Oracle Forms from 11*g* to 12*c*
- Upgrading Oracle Forms from a Previous 12*c* Release
- Post-Upgrade Steps after Upgrading Oracle Forms
- Planning an Upgrade of Oracle Reports
- Preparing to Upgrade Oracle Reports
- Upgrading Oracle Reports
- Post-Upgrade Steps after Upgrading Oracle Reports
- Upgrading Forms and Reports Together from 11*g* to 12*c*

4.1 Planning an Upgrade of Oracle Forms

Upgrading Oracle Forms to 12*c* requires careful preparation, planning, and performing series of steps.

If you are running any of the following versions, follow the steps provided in this chapter to upgrade Oracle Forms:

- Oracle FMW 11*g* (Release 1) Forms to Oracle Forms 12*c* (12.2.1.3.0)
- Oracle FMW 11*g* (Release 2) Forms to Oracle Forms 12*c* (12.2.1.3.0)
- Oracle FMW 12*c* (12.2.1.0) Forms to Oracle Forms 12*c* (12.2.1.3.0)
- Oracle FMW 12*c* (12.2.1.1.0) Forms to Oracle Forms 12*c* (12.2.1.3.0)
- Oracle FMW 12*c* (12.2.1.2.0) Forms to Oracle Forms 12*c* (12.2.1.3.0)

4.2 Preparing to Upgrade Oracle Forms from 11*g*

Before you begin to upgrade to the current version from Oracle Forms 11g, you must run the Forms upgrade extension script on the remote Forms nodes to extract Forms configuration residing on the remote nodes.

Note: You are required to perform these steps only if you have any remote Forms nodes, which you may have added using extend domain or expand cluster scenario.

To run Forms upgrade extension on the remote Forms nodes:

1. Run the `forms-upgrade-ext.sh` (`forms-upgrade-ext.bat`) script on each remote node and pass it **collect** option. It will extract and package Forms configuration files on that remote node.

   The `forms-upgrade-ext.sh` is installed in the following directory:

   `$ORACLE_HOME/forms/plugins/upgrade`

2. Copy the artifacts from all the remote nodes to the Admin Server node.

3. Run the forms-upgrade-ext.sh (forms-upgrade-ext.bat) script on the Admin Server node and pass it the **apply** option. It will extract the Forms configuration from the remote node artifacts and apply it to the Domain.

4.3 Create Copy of Oracle Forms Template Files

Before you start an upgrade to the latest 12*c* release, it is recommended that you create copies of existing Forms template files.

This includes all files in the following directory: `ORACLE_HOME\user_projects\domains\base_domain\config\fmwconfig\components\FORMS\instances\<INSTANCE NAME>\server`. If you are upgrading from a previous 12*c* release to the latest release, the files are located in the same directory as mentioned in the previous line. If you are upgrading Oracle Forms from a release earlier than 12*c* (for example, 11*g*) to the latest 12*c* release, the files may be located in different directory.

The copy of template files will help you to restore user-specific customization in the new forms template files.

After have you completed the upgrade process, you should manually copy or merge user-specific customizations created in the earlier version to the new Forms template files.

4.4 Upgrading Oracle Forms from 11*g* to 12*c*

Before you begin the upgrade, it is important to make sure you have read the complete upgrade process so that your existing setup is not impacted during or after the upgrade.

The upgrade process for Oracle Forms from 11*g* to 12*c* includes two steps.

• Reconfiguring the 11*g* Domain using the WLS Reconfiguration Wizard

• Using the Upgrade Assistant

4.4.1 Reconfiguring the 11*g* Domain using the WLS Reconfiguration Wizard

You have to use the WLS 12*c* Reconfiguration Wizard for configuring the 11*g* Domain.

To reconfigure the 11*g* Domain:

1. Run the Reconfiguration Wizard from the following location:

   `$ORACLE_HOME/oracle_common/common/bin/reconfig.sh`

2. Provide the location of the 11*g* FMW Domain for upgrade.

3. Enter the RCU schema information.

4. Select only the Topology option in the *Advanced Configuration* in the Reconfiguration Wizard.

   Do not select the system components option. Those will be automatically configured/upgraded by the Upgrade Assistant.

5. Leave the default selections on the Node Manager screen. Enter user name and password if needed.

6. Select JRF-MAN-SVR and FORMS-MAN-SVR server groups for all the Forms managed servers, including the default Forms managed servers WLS_FORMS, WLS_FORMS1, etc., and any other Forms managed servers users that may have been added after the 11*g* installation.

7. Click **Next** until you get to the last screen of the Reconfiguration Wizard.

> **Note:**
>
> In 11*g*, Forms do not require the Repository Creation Utility (RCU) schemas, but starting with 12*c* all the WebLogic Server 12*c* domains require RCU schemas to be setup. Hence, before you perform these steps, ensure that you create the required schemas (see Configuring the Oracle Fusion Middleware Infrastructure Domain) in RCU before you run the WLS Reconfiguration Wizard.

4.4.2 Using the Upgrade Assistant

To complete the upgrade from 11*g* to 12*c*, you have to run the 12.2.1.3.0 Upgrade Assistant.

To upgrade:

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   ```
   $ORACLE_HOME/oracle_common/upgrade/bin/ua
   ```

2. Select the *All Configuration Used by the Domain* option.

3. Provide the location of the reconfigured 12*c* domain.

4. Select the prerequisite check boxes.

5. Click **Upgrade**

4.5 Upgrading Oracle Forms from a Previous 12*c* Release

This section describes the process to upgrade Oracle Forms to the latest 12*c* from a previous Oracle Forms 12*c* release.

The information in this section assumes that you have read and performed the required pre-upgrade tasks.

The following topics are included in this section:

- Upgrading to Oracle Forms 12*c* (12.2.1.3.0) from 12*c* (12.2.1)

- Upgrading to Oracle Forms 12*c* (12.2.1.3.0) from 12*c* (12.2.1.1.0)
- Upgrading to Oracle Forms 12*c* (12.2.1.3.0) from 12*c* (12.2.1.2.0)

4.5.1 Upgrading to Oracle Forms 12*c* (12.2.1.3.0) from 12*c* (12.2.1)

To upgrade Oracle Forms 12.2.1.3.0 from 12.2.1 you have to complete three main steps.

The steps are as follows:

- Running the Upgrade Assistant to upgrade the Domain Schema
- Reconfiguring the 12.2.1 Domain using the WLS Reconfiguration Wizard
- Running the Upgrade Assistant to upgrade the Forms installation

> ✎ **Note:**
>
> Running `forms-upgrade-ext.sh` on remote nodes is **not required** when upgrading from 12.2.1.

4.5.1.1 Running the Upgrade Assistant to upgrade the Domain Schema

Perform the steps required to run the 12.2.1.3.0 Upgrade Assistant for upgrading the Domain Schema.

To upgrade the Domain Schema:

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   `$ORACLE_HOME/oracle_common/upgrade/bin/ua`

2. Select the *All Schemas Used by the Domain* option.
3. Select the Schema components to Upgrade.
4. Provide the location of the reconfigured 12*c* domain.
5. Select the prerequisite check boxes
6. Provide the RCU Database connection information.
7. Click **Next**.
8. Click **Finish**.

4.5.1.2 Reconfiguring the 12.2.1 Domain using the WLS Reconfiguration Wizard

You have to reconfigure the 12.2.1 Domain using the WLS Reconfiguration Wizard.

To reconfigure the 12.2.1 Domain:

1. Run the Reconfiguration Wizard from the following location:

   `$ORACLE_HOME/oracle_common/common/bin/reconfig.sh`

2. Provide the location of the 12.2.1 FMW Domain for upgrade.

3. Enter the RCU schema information.

4. Select only the Topology option in the *Advanced Configuration* in the Reconfiguration Wizard.

   Do not select the System Components option. Those will be automatically configured/upgraded by the Upgrade Assistant.

5. Leave the default selections on the *Node Manager* screen. Enter user name and password if needed.

6. Select JRF-MAN-SVR and FORMS-MAN-SVR server groups for all the Forms managed servers, including the default Forms managed servers WLS_FORMS, WLS_FORMS1, etc., and any other Forms managed servers users that may have been added after the 11*g* installation.

7. Click **Next** until you get to the last screen of the Reconfiguration Wizard.

4.5.1.3 Running the Upgrade Assistant to upgrade the Forms installation

You have complete series of steps by using the 12.2.1.3.0 Upgrade Assistant to upgrade the Forms installation.

To upgrade the Forms installation:

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   ```
   $ORACLE_HOME/oracle_common/upgrade/bin/ua
   ```

2. Select the *All Configuration Used by the Domain* option.

3. Provide the location of the reconfigured 12.2.1.3.0 domain.

4. Select the prerequisite check boxes.

5. Click **Upgrade**.

4.5.2 Upgrading to Oracle Forms 12*c* (12.2.1.3.0) from 12*c* (12.2.1.1.0)

To upgrade Oracle Forms 12.2.1.3.0 from 12.2.1.1.0 you have to complete three steps.

The steps are as follows:

- Running the Upgrade Assistant to upgrade the Domain Schema
- Reconfiguring the 12.2.1.1.0 Domain using the WLS Reconfiguration Wizard
- Running the Upgrade Assistant to upgrade the Forms installation

4.5.2.1 Running the Upgrade Assistant to upgrade the Domain Schema

Perform the steps required to run the 12.2.1.3.0 Upgrade Assistant for upgrading the Domain Schema.

To upgrade the Domain Schema:

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   ```
   $ORACLE_HOME/oracle_common/upgrade/bin/ua
   ```

2. Select the *All Schemas Used by the Domain* option.

3. Select the Schema components to Upgrade.

4. Provide the location of the reconfigured 12*c* domain.

5. Select the prerequisite check boxes

6. Provide the RCU Database connection information.

7. Click **Next**.

8. Click **Finish**.

4.5.2.2 Reconfiguring the 12.2.1.1.0 Domain using the WLS Reconfiguration Wizard

You have to reconfigure the 12.2.1.1.0 Domain using the WLS Reconfiguration Wizard.

To reconfigure the 12.2.1.1.0 Domain:

1. Run the Reconfiguration Wizard from the following location:

   ```
   $ORACLE_HOME/oracle_common/common/bin/reconfig.sh
   ```

2. Provide the location of the 12.2.1.1.0 FMW Domain for upgrade.

3. Enter the RCU schema information.

4. Select only the Topology option in the *Advanced Configuration* in the Reconfiguration Wizard.

   Do not select the System Components option. Those will be automatically configured/upgraded by the Upgrade Assistant.

5. Leave the default selections on the *Node Manager* screen. Enter user name and password if needed.

6. Select JRF-MAN-SVR and FORMS-MAN-SVR server groups for all the Forms managed servers, including the default Forms managed servers WLS_FORMS, WLS_FORMS1, etc., and any other Forms managed servers users that may have been added after the 11*g* installation.

7. Click **Next** until you get to the last screen of the Reconfiguration Wizard.

4.5.2.3 Running the Upgrade Assistant to upgrade the Forms installation

You have complete series of steps by using the 12.2.1.3.0 Upgrade Assistant to upgrade the Forms installation.

To upgrade the Forms installation

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   ```
   $ORACLE_HOME/oracle_common/upgrade/bin/ua
   ```

2. Select the *All Configuration Used by the Domain* option.

3. Provide the location of the reconfigured 12.2.1.3.0 domain.

4. Select the prerequisite check boxes.

5. Click **Upgrade**.

4.5.3 Upgrading to Oracle Forms 12*c* (12.2.1.3.0) from 12*c* (12.2.1.2.0)

To upgrade Oracle Forms 12.2.1.3.0 from 12.2.1.2.0 you have to complete three steps.

The steps are as follows:

- Running the Upgrade Assistant to upgrade the Domain Schema
- Reconfiguring the 12.2.1.2.0 Domain using the WLS Reconfiguration Wizard
- Running the Upgrade Assistant to upgrade the Forms installation

4.5.3.1 Running the Upgrade Assistant to upgrade the Domain Schema

Perform the steps required to run the 12.2.1.3.0 Upgrade Assistant for upgrading the Domain Schema.

To upgrade the Domain Schema:

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   `$ORACLE_HOME/oracle_common/upgrade/bin/ua`

2. Select the *All Schemas Used by the Domain* option.

3. Select the Schema components to Upgrade.

4. Provide the location of the reconfigured 12*c* domain.

5. Select the prerequisite check boxes

6. Provide the RCU Database connection information.

7. Click **Next**.

8. Click **Finish**.

4.5.3.2 Reconfiguring the 12.2.1.2.0 Domain using the WLS Reconfiguration Wizard

You have to reconfigure the 12.2.1.2.0 Domain using the WLS Reconfiguration Wizard.

To reconfigure the 12.2.1.2.0 Domain:

1. Run the Reconfiguration Wizard from the following location:

   `$ORACLE_HOME/oracle_common/common/bin/reconfig.sh`

2. Provide the location of the 12.2.1.2.0 FMW Domain for upgrade.

3. Enter the RCU schema information.

4. Select only the Topology option in the *Advanced Configuration* in the Reconfiguration Wizard.

   Do not select the System Components option. Those will be automatically configured/upgraded by the Upgrade Assistant.

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5. Leave the default selections on the *Node Manager* screen. Enter user name and password if needed.

6. Select JRF-MAN-SVR and FORMS-MAN-SVR server groups for all the Forms managed servers, including the default Forms managed servers WLS_FORMS, WLS_FORMS1, etc., and any other Forms managed servers users that may have been added after the 11*g* installation.

7. Click **Next** until you get to the last screen of the Reconfiguration Wizard.

4.5.3.3 Running the Upgrade Assistant to upgrade the Forms installation

You have complete series of steps by using the 12.2.1.3.0 Upgrade Assistant to upgrade the Forms installation.

To upgrade the Forms installation

1. Run the 12.2.1.3.0 Upgrade Assistant from the following location:

   ```
   $ORACLE_HOME/oracle_common/upgrade/bin/ua
   ```

2. Select the *All Configuration Used by the Domain* option.

3. Provide the location of the reconfigured 12.2.1.3.0 domain.

4. Select the prerequisite check boxes.

5. Click **Upgrade**.

4.6 Post-Upgrade Steps after Upgrading Oracle Forms

You have to perform series of post-upgrade tasks after using the Upgrade Assistant to upgrade Oracle Forms.

You have to complete the following tasks:

- When upgrading from 11*g* Forms, regenerate the Forms application files: fmx's, mmx's, and plx's to run on Oracle Forms Services 12.2.1.3.0. This is not required when upgrading from Oracle Forms 12.2.1.

- If you deployed the Oracle Forms Services J2EE custom application ear file (`formsapp.ear`) file to override the context root or Forms servlet alias, you should perform similar steps in the 12.2.1.3.0 Oracle WebLogic Server domain, see Custom Deployment of Forms Java EE Application.

- Manually copy any customizations to the shell scripts in the source Oracle home to the equivalent shell scripts that reside in Oracle Fusion Middleware 12*c* (12.2.1.3.0) Oracle instance directory.

- Oracle Fusion Middleware 12*c* (12.2.1.3.0) does not support Java Runtime Environment (JRE) 1.6 or older. If necessary, upgrade your client JRE to 7u55 or 8u77 to run Oracle Forms 12.2.1.1.0.

4.7 Planning an Upgrade of Oracle Reports

Similar to Oracle Forms, upgrading Oracle Reports to 12*c* also requires careful preparation, planning, and performing series of steps.

If you are running any of the following versions, follow the steps provided in this chapter to upgrade Oracle Reports.

- Oracle FMW 11*g* (Release 1) Reports to Oracle Reports 12*c* (12.2.1.3.0).
- Oracle FMW 11*g* (Release 2) Reports to Oracle Reports 12*c* (12.2.1.3.0).

4.8 Preparing to Upgrade Oracle Reports

Before you begin to upgrade to Oracle Reports 12*c* (12.2.1.3.0), you must run Reports upgrade extension on the remote Reports nodes to extract Reports configuration residing on the remote nodes.

Note: You are required to perform these steps only if you have any remote Reports nodes, which you may have added using extend domain or expand cluster scenario.

To run Reports upgrade extension on the remote Reports nodes:

1. Run the `reports-upgrade-ext.sh` (`reports-upgrade-ext.bat`) script on each remote node in **extract** mode. It will extract and package Reports configuration files on that remote node.

   The `reports-upgrade-ext.sh` script is installed in the following directory:

   `$ORACLE_HOME/reports/plugins/upgrade`

2. Copy the artifacts from all the remote nodes to the Admin Server node.

3. Run the reports-upgrade-ext.sh (reports-upgrade-ext.bat) script on the Admin Server node in **apply** mode. It will extract the Reports configuration from the remote node artifacts and apply it to the Domain.

4. Run the Upgrade Assistant in readiness mode and ensure that it is working properly.

   `$ORACLE_HOME/oracle_common/upgrade/bin/ua -readiness`

4.9 Upgrading Oracle Reports

To upgrade Oracle Reports 12*c* you have to complete three main steps.

The steps are as follows

- Re-Configuring the 11*g* Domain Using the WLS Reconfiguration Wizard
- Using the Upgrade Assistant to Perform an Upgrade

4.9.1 Re-Configuring the 11*g* Domain Using the WLS Reconfiguration Wizard

You have to reconfigure the 11*g* Domain using the WLS Reconfiguration Wizard.

To reconfigure the 11*g* Domain:

1. Run the Reconfiguration Wizard from the following location:

   `$ORACLE_HOME/oracle_common/common/bin/reconfig.sh`

2. Provide the location of the 11*g* FMW Domain for upgrade.

3. Enter the RCU schema information.

4. Select only the Managed Servers in the wizard.

Do not select the system components option. Those will be automatically configured/upgraded by the Upgrade Assistant.

5. Leave the default selections on the Node Manager screen. Enter user name and password if needed.

6. Select JRF-MAN-SVR and REPORTS-APP-SERVERS server groups for all the Reports managed servers, including the default Reports managed servers WLS_REPORTS, WLS_REPORTS1, etc., and any other Reports managed servers users that may have been added after the 11*g* installation.

7. Click **Next** until you get to the last screen of the Reconfiguration Wizard.

> **✎ Note:**
>
> In 11*g*, Reports do not require the Repository Creation Utility (RCU) schemas, but starting with 12*c* all the WebLogic Server 12*c* domains require RCU schemas to be setup. Hence, before you perform these steps, ensure that you create the required schemas (see Configuring the Oracle Fusion Middleware Infrastructure Domain) in RCU before you run the WLS Reconfiguration Wizard.

4.9.2 Using the Upgrade Assistant to Perform an Upgrade

Run the Upgrade Assistant to complete the upgrade of Oracle Reports from a 11*g* or previous 12*c* release to the latest release.

Complete the Examine Phase

Perform the following steps to complete the Examine phase. This task should be performed before you starting the upgrade process in the Upgrade Summary screen.

1. Start the Upgrade Assistant.

2. On the Examine screen, review the status of the Upgrade Assistant as it examines each component. You can verify information about components in 11*g* but missing in 12*c*, or undeployed reports. Make a note of the component names and types.

3. Cancel the upgrade now, and create component/deploy reports 12*c* applications.

4. Create reports components in 11*g* on to 12*c* using WLST commands: Start node manager, AdminServer.

5. Use WLST commands to create reports tools, reports servers, reports bridges. Use the same names available in the above step. For information about Provisioning, see Provisioning a Machine.

6. Start Reports managed servers. This will cause reports 12*c* applications to be deployed automatically.

7. Shutdown Nodemanager / AdminServer / Reports managed servers.

Start the Upgrade Process

To start the upgrade process in Upgrade Assistant:

1. Go to the `oracle_common/upgrade/bin` directory.

2. Start the Upgrade Assistant: `./ua`.

3. Provide the location of the reconfigured 12*c* domain.

4. Select the prerequisite check boxes.

5. On the Upgrade Summary screen, review the summary of the options you have selected for component configuration upgrade.

   The response file collects and stores all the information that you have entered, and enables you to perform a silent upgrade at a later time. The silent upgrade performs exactly the same function that the Upgrade Assistant performs, but you do not have to manually enter the data again. If you want to save these options to a response file, click **Save Response File** and provide the location and name of the response file.

   Click **Upgrade** to start the upgrade process.

4.10 Post-Upgrade Steps after Upgrading Oracle Reports

The post upgrade steps are only required for Oracle Reports when 11*g* domains span multiple machines.

You have to perform series of post-upgrade tasks after using the Upgrade Assistant to upgrade Oracle Reports.

Complete the following tasks:

- For WLS:
  - Pack/Unpack domain for Remote machines.
  - Start remote managed servers, so that Reports 12*c* applications gets deployed there.
  - Shutdown remote managed servers.

- For Reports:
  - In AdminServer machine--Extract reports upgraded files meant to be on remote machines.

    ```
    $ORACLE_HOME/reports/plugins/upgrade/reports-upgrade-ext.sh extractRemote
    <domainHome> <wlsName> <jarFileName>
    ```

  - Repeat for each reports managed server which is targeted to remote machine.

  - Copy the respective jars to remote machine where that managed server is targeted.

    ```
    $ORACLE_HOME/reports/plugins/upgrade/reports-upgrade-ext.sh applyRemote
    <domainHome> <instanceHome> <wlsName> <jarFileName>
    ```

- Regenerate the Reports application files: rep's and rdf's (optional), to run on Oracle Reports Server 12*c* (12.2.1.3.0).

- Manually copy any customizations to the shell scripts in the source Oracle home to the equivalent shell scripts that reside in Oracle Fusion Middleware 12*c* (12.2.1.3.0) Oracle instance directory.

> **✎ Note:**
>
> To start Oracle Reports server and components after upgrading to 12*c*, see Starting and Stopping Oracle Reports Services.

4.11 Upgrading Forms and Reports Together from 11*g* to 12*c*

Before you begin upgrading Forms and Reports together, it is important to read the complete upgrade process and performed the pre-upgrade tasks.

For a complete list of pre-upgrade tasks, see:

- Preparing to Upgrade Oracle Forms from 11*g*
- Preparing to Upgrade Oracle Reports

The following tasks must be completed to upgrade Oracle Forms and Reports together from 11*g* to 12*c*:

- Reconfiguring the 11*g* Domain using the WLS Reconfiguration Wizard
- Using the Upgrade Assistant
- Performing Post-Upgrade Procedures

Reconfiguring the 11*g* Domain using the WLS Reconfiguration Wizard

You have to reconfigure the 11*g* domain using the WLS Reconfiguration Wizard. To reconfigure the 11*g* domain:

1. Go to the `oracle_common/common/bin` directory. Start the Reconfiguration Wizard: `./reconfig.sh`.
2. Provide the location of the 11*g* FMW domain for upgrade.
3. Enter the RCU schema information.
4. Select
   - For Forms: Only the Topology option on the Advanced Configuration screen.
   - For Reports: Only the Managed Servers.

   Do not select the system components option. Those will be automatically configured/upgraded by the Upgrade Assistant.
5. Leave the default selections on the Node Manager screen. Specify the username and password if required.
6. Select `JRF-MAN-SVR` and
   - For Forms: `FORMS-MAN-SVR` server groups for all the Forms managed servers, including the default Forms managed servers `WLS_FORMS`, `WLS_FORMS1`, etc., and any other Forms managed servers users that may have been added after the 11*g* installation.
   - For Reports: `REPORTS-MAN-SVR` server groups for all the Reports managed servers, including the default Reports managed servers `WLS_REPORTS`,

WLS_REPORTS1, etc., and any other Reports managed servers users that may have been added after the 11*g* installation.

7. Click **Next** until you get to the Reconfiguration Progress screen.

8. The Reconfiguration Progress screen displays the progress of the reconfiguration process.

9. The End of Configuration screen indicates whether the reconfiguration process completed successfully or failed.

   If the reconfiguration process did not complete successfully, an error message is displayed indicates the reason. Take appropriate action to resolve the issue.

> **✎ Note:**
>
> In 11*g*, Forms and Reports do not require the Repository Creation Utility (RCU) schemas, but starting with 12*c* all the WebLogic Server 12*c* domains require RCU schemas to be setup. Hence, before you perform these steps, ensure that you create the required schemas (see Configuring the Oracle Fusion Middleware Infrastructure Domain) in RCU before you run the WLS Reconfiguration Wizard.

Using the Upgrade Assistant

Run the Upgrade Assistant to complete the upgrade from 11*g* to 12*c*.

To complete the upgrade from 11*g* to 12*c*, you have to run the Upgrade Assistant by performing the following steps:

1. Go to the `oracle_common/upgrade/bin` directory. Start the Upgrade Assistant: `./ua`.

2. Select the All Configuration Used by the Domain option.

3. Provide the location of the reconfigured 12*c* domain.

4. Select the prerequisite check boxes.

5. Click **Upgrade** to start the upgrade process.

6. On the Upgrade Progress screen, monitor the status of the upgrade.

   If any components are not upgraded successfully, refer to the Upgrade Assistant log files for detailed information.

   Click **Next**.

7. If the upgrade is successful: On the Upgrade Success screen, click **Close** to complete the upgrade and close the wizard.

   If the upgrade fails: On the Upgrade Failure screen, click **View Log** to view and troubleshoot the errors.

Performing Post-Upgrade Procedures

You have to complete additional post-upgrade tasks after using the Upgrade Assistant to upgrade to Oracle Forms and Reports 12*c*. See:

• Post-Upgrade Steps after Upgrading Oracle Forms

• Post-Upgrade Steps after Upgrading Oracle Reports

A

Integrating Oracle Internet Directory with Oracle Access Manager

This appendix describes post-installation enablement of a centralized LDAP store for use with Oracle Access Manager. Oracle Internet Directory is featured in this discussion. However, tasks are the same regardless of your chosen LDAP provider. Oracle Access Manager addresses each user population and LDAP directory store as an identity domain. Each identity domain maps to a configured LDAP User Identity Store that is registered with Oracle Access Manager. Multiple LDAP stores can be used with each one relying on a different supported LDAP provider.

During initial WebLogic Server domain configuration, the Embedded LDAP is configured as the one and only User Identity Store for Oracle Access Manager. Within the Embedded LDAP, the Administrators group is created, with `weblogic` seeded as the default Administrator:

- Only the User Identity Store designated as the System Store is used to authenticate Administrators signing in to use the Oracle Access Manager, remote registration, and custom administrative commands in WLST.

- Users attempting to access an Oracle Access Manager-protected resource can be authenticated against any store, not necessarily the only one designated as the Default User Identity Store.

- Oracle Security Token Service uses only the Default User Identity Store. When adding User constraints to a Token Issuance Policy, for instance, the identity store from which the users are to be chosen must be Default User Identity Store.

After registering a User Identity Store with Access Manager, administrators can reference the store in one or more authentication modules, which form the basis for Oracle Access Manager Authentication Schemes and Policies. When you register a partner (either using the Oracle Access Manager Console or the remote registration tool), an application domain can be created and seeded with a policy that uses the designated default Authentication Scheme. When a user attempts to access an Oracle Access Manager-protected resource, she is authenticated against the store designated by the authentication module.

The following topics are covered:

- Installing and Setting Up Required Components
- Defining Authentication in Oracle Access Manager for Oracle Internet Directory
- Managing Oracle Access Manager Policies that rely on your LDAP Store
- Validating Authentication and Access

A.1 Installing and Setting Up Required Components

You have to complete series of tasks when integrating Oracle Internet Directory 11.1.1.7 or newer with Oracle Access Manager 11.1.2.3 or newer.

Before you follow the steps to prepare your environment for this integration, see

- Configuring Access Manager for Windows Native Authentication

- For Installing Oracle Internet Directory 11.1.1.9, see Installing and Configuring Oracle Identity Management.

- For Installing and setting up Oracle Access Manager with the desired LDAP directory, see Managing Data Sources and Configuring Oracle Internet Directory.

- For Extending the LDAP directory schema for Access Manager and create Users and Groups in the LDAP directory, see Configuring Oracle Identity Manager Server.

To integrate Integrating Oracle Internet Directory 11.1.1.9 with Oracle Access Manager 11.1.2.3:

1. Prepare your environment for this integration:

   a. Install Oracle Internet Directory 11.1.1.9.

   b. Install and set up Oracle Access Manager with the desired LDAP directory.

   c. Extend the LDAP directory schema for Access Manager and create Users and Groups in the LDAP directory.

2. Create Authentication Providers for your LDAP provider and Configure WebLogic Server to use them to avoid multiple login pages when accessing the Oracle Access Manager Console. Whether you authenticate through Oracle Access Manager Console or directly through the WebLogic Server Administration Console, confirm that all authentication providers are set to SUFFICIENT for single sign-on:

   a. Click **Security Realms**, **myrealm**, then click **Providers**.

   b. Click **New**, enter a name, and select a type.

   For example:
   Name: `OID Authenticator`

   Type: `OracleInternetDirectoryAuthenticator`

   OK

   c. In the Authentication Providers table, click the newly added authenticator.

   d. On the **Settings** page, click **Common** tab, set the Control Flag to **SUFFICIENT**, then click **Save**.

   e. Click **Provider Specific** tab, then specify the following values for your deployment:

   Host: LDAP host. For example: `example`

   Port: LDAP host listening port. `3060`

   Principal: LDAP administrative user. For example: `cn=*********`

   Credential: LDAP administrative user password. `********`

User Base DN: Same search base as the LDAP user.

All Users Filter: For example: `(&(uid=*)(objectclass=person))`

User Name Attribute: Set as the default attribute for username in the LDAP directory. For example: `uid`

Group Base DN: The group searchbase (same as User Base DN)

> ✎ **Note:**
>
> Do not set the All Groups filter; the default works fine as is.

Click **Save**.

3. Set DefaultIdentityAsserter:

   a. From **Security Realms**, **myrealm**, **Providers**, click **Authentication**, click **DefaultIdentityAsserter** to see the configuration page.

   b. Click **Common** tab and set the Control Flag to SUFFICIENT.

   c. Click **Save**.

4. Reorder Providers:

   a. On **Summary** page, where providers are listed, click **Reorder**.

   b. On **Reorder Authentication Providers** page, select a provider name and use the arrows beside the list to order the providers as follows:

   WebLogic Provider

   IAMSuiteAgent

   OracleInternetDirectoryAuthenticator

   DefaultIdentityAsserter

   c. Click **OK**, to save your changes.

5. **Activate Changes**: In the Change Center, click **Activate Changes**, then Restart Oracle WebLogic Server.

6. Proceed to the next section.

A.2 Defining Authentication in Oracle Access Manager for Oracle Internet Directory

You have to set up an LDAP Authentication Method that points to your registered User Identity Store and an Authentication Scheme that uses this LDAP module for Form or Basic authentication.

`OAMAdminConsoleScheme` is used in this example on the presumption that you designated your new LDAP store as the System Store. Your environment might be different.

As a prerequisite, see Installing and Setting Up Required Components.

Ensure that the designated User Identity Store contains any user credentials required for authentication.

> **✏ Note:**
>
> Before you perform the steps to use the identity store for authentication with Access Manager, for
>
> - Registering Oracle Internet Director, see Registering and Managing User Identity Stores
>
> - Defining Authentication Modules and Plug-ins, see Native LDAP Authentication Modules and Orchestrating Multi-Step Authentication with Plug-in Based Modules
>
> - Defining Authentication Scheme Challenge Methods, see Creating an Authentication Scheme

To use your identity store for authentication with Access Manager perform the following steps.

1. **Register Oracle Internet Directory** with Oracle Access Manager.

2. **Define Authentication Modules and Plug-ins**: From System Configuration tab, Access Manager Settings section, expand the Authentication Modules node.

   a. **LDAP Modules**: Open **LDAP Authentication** module, select your User Identity Store, and click **Apply**.

   b. **Custom Authentication Modules**: In `LDAPPlugin` Steps (stepUI, `UserIdentificationPlugIn`), specify your KEY_IDENTITY_STORE_REF, and click **Apply**.

      For example,

      Authentication Modules

      Custom Authentication module

      LDAPPlugin

      Steps tab

      stepUI `UserIdentificationPlugIn`

      Repeat this step for the stepUA `UserAuthenticationPlugIn` plug-in, and Apply your changes, as shown here:

3. **Define Authentication Scheme Challenge Methods**: Form and Basic Challenge Methods require a reference to the LDAP Authentication Module or Plug-in that points to your User Identity Store.

   For example:

   Oracle Access Manager Console

   Policy Configuration tab

   Shared Components node

   Authentication Schemes node

   DesiredScheme (`OAMAdminConsoleScheme` or any Form or Basic scheme)

   a. Confirm that the Authentication Module references the LDAP module or plug-in that points to your Identity Store.

    b. Click **Apply** to submit the changes (or close the page without applying changes).

    c. Dismiss the Confirmation window.

4. Proceed to the next section.

A.3 Managing Oracle Access Manager Policies that rely on your LDAP Store

Oracle Access Manager policies protect specific resources. The policies and resources are organized in an Application Domain.

You have perform series of steps to configure authentication policies to use the Authentication Scheme that points to your User Identity Store.

As a prerequisite, see Defining Authentication in Oracle Access Manager for Oracle Internet Directory

> ✏️ **Note:**
>
> Before you perform the steps to create an application domain and policies that use LDAP authentication, for
>
> - Resource Definitions, see Adding and Managing Policy Resource Definitions.
>
> - Authentication Policies, see Defining Authentication Policies for Specific Resources.
>
> - Authorization Policies, see Defining Authorization Policies for Specific Resources.
>
> - Token Issuance Policies. See Managing Token Issuance Policies, Conditions, and Rules.

To create an application domain and policies that use LDAP authentication:

1. From the Oracle Access Manager Console, open:

Oracle Access Manager Console

Policy Configuration tab

Application Domains node

2. Locate and open the desired Application Domain (or click **Create** (+), enter a unique name, and save it).

3. Define Resources and Policies: Define (or edit) the following elements for your application domain and environment.

    a. **Resource Definitions**: Before you can add a resource to a policy, you must define the resource within the Application Domain.

    b. **Authentication Policies**: On the Policy page, select the scheme that references the LDAP module or plug-in that points to your registered Oracle

Internet Directory User Identity Store. Add specific resources and complete the policy for your environment.

c. **Authorization Policies**: Create or modify an Authorization Policy for specific resources and include any Responses and Constraints you need.

d. **Token Issuance Policies**: Choose the desired User Identity Store when setting Identity Conditions in Token Issuance Policies.

4. Proceed to the next section.

A.4 Validating Authentication and Access

The procedure here provides several methods for confirming that Agent registration and authentication and authorization policies are operational. The procedures are nearly identical for both OAM Agents and OSSO Agents (`mod_osso`). However, OSSO Agents use only the authentication policy and not the authorization policy.

To verify authentication and access:

1. Using a Web browser, enter the URL for an application protected by the registered Agent to confirm that the login page appears (proving that the authentication redirect URL was specified appropriately). For example:

   `http://myWebserverHost.example.com:8100/resource1.html`

2. Confirm that you are redirected to the login page.

3. On the Sign In page, enter a valid username and password when asked, and click Sign In.

4. Confirm that you are redirected to the resource and proceed as follows:

   • **Success**: If you authenticated successfully and were granted access to the resource; the configuration is working properly.

   • **Failure**: If you received an error during login or were denied access to the resource, check the following:

     – Authentication Failed: Sign in again using valid credentials.

     – **Access to URL... denied**: This userID is not authorized to access this resource.

     – **Resource not Available**: Confirm that the resource is available.

     – **Wrong Redirect URL**: Verify the redirect URL in the Oracle Access Manager Console.

B

Troubleshooting

This appendix describes solutions to common problems that you might encounter when installing Oracle Forms and Reports.
The following sections are included:

- General Troubleshooting Tips

- Installation and Configuration Log Files

- Verify Environment Variable Lengths for Oracle Reports (Windows Only)

If this Troubleshooting appendix does not solve the problem you encountered, try looking for a solution on My Oracle Support, see `https://support.oracle.com/` (formerly Oracle *MetaLink*). You can also raise a service request, if you are unable to find a solution for your problem.

B.1 General Troubleshooting Tips

You may encounter errors during installing and configuring Oracle Forms and Reports.

Follow the tips to resolve the errors:

- To complete the configuration, Windows DOS shells must be run with Administrator permissions and UNIX shells must be owned by the same user who performed the installation (for example, *oracle*). Failure to follow this instruction may result in the configuration failing silently.

- See Install and Configure in *Release Notes for Oracle Fusion Middleware Infrastructure* for the latest updates and issues related to Oracle Fusion Middleware product installation and configuration.

- Verify that your computer meets the requirements specified in the Oracle Fusion Middleware System Requirements and Specifications. Select the document that is applicable for your release.

- Verify that your environment meets the certification requirements for your release and platform, as specified on the Oracle Fusion Middleware Supported System Configurations page.

- To review the latest Oracle Fusion Middleware Release Notes for other products, see: http://www.oracle.com/technetwork/middleware/fusion-middleware/documentation/index.htm. Select the documentation library for your specific product release to view the release notes.

- If you entered incorrect information on one of the installation screens, return to previous screen by clicking **Back** until you see the specific screen, or by using the navigation pane on the left side of the screen.

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

  1. Note the error and review the installation log files.

  2. Remove the failed installation.

  3. Correct the issue that caused the error.

    4. Restart the installation.

B.2 Installation and Configuration Log Files

Log files are created when running the Oracle Forms and Reports installer and the configuration tool.

The following log files contains information that can help you to troubleshoot problems during installation or configuration:

- Installation Log Files
- Configuration Log Files

B.2.1 Installation Log Files

The log files generated during your installation help you determine whether any problems occurred during installation.

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

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

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

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

- `install`*date-time-stamp*`.log`

  This is the main log file.

- `install`*date-time-stamp*`.out`

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

- `installActions`*date-time-stamp*`.log`

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

- `installProfile`*date-time-stamp*`.log`

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

- `oraInstall`*date-time-stamp*`.log`

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

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

- `timeTaken`*date-time-stamp*`.log`

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

- `time`*`date-time-stamp`*`.log`

  This file contains time information for the copy session.

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

B.2.2 Configuration Log Files

To create a log file of your configuration session, start the configuration tool with the `-log` option.

For specific operating systems use the following `-log` option.

On UNIX operating systems:

```
% ./config.sh -log=log_filename
```

On Windows operating systems:

```
G:\ config.cmd -log=log_filename
```

If you specify an absolute path with your *log_filename* then your log file will be created there. If you only specify a file name with no path, then the log files are created in the `ORACLE_HOME`/common/bin (on UNIX operating systems) or `ORACLE_HOME`\common\bin (on Windows operating systems) directory.

B.3 Verify Environment Variable Lengths for Oracle Reports (Windows Only)

Oracle Reports will generate errors if the environment variable contains too many characters.

If an environment variable used by `startManagedWebLogic.cmd` (for example, *PATH* or *CLASSPATH*) contains too many characters, Oracle Reports will generate errors when you try to start its Managed Server.

To work around this issue, you can try to convert all directory names longer than eight characters to the Windows short name format. For example, `C:\Oracle11g\Middleware` can be converted to `C:\Oracle~1\Middle~1` wherever you define your environment variables that use this path.

You can also reinstall Oracle WebLogic Server to a location where the directory path is shorter than its current location.

For information about the character limits of the environment variables on your Windows system, see Article 830473 (`http://support.microsoft.com/kb/830473`) on the Microsoft Support website, or refer to your operating system documentation.