Oracle® Fusion Middleware

Installation Guide for Oracle SOA Suite and Oracle Business
Process Management Suite

11*g* Release 1 (11.1.1.9.0)

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Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite, 11*g* Release 1 (11.1.1.9.0)

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Contents

4   Deinstalling Oracle SOA Suite and Oracle Business Process Management Suite

A   Oracle SOA Suite and Oracle Business Process Management Suite Installation Screens

B Oracle SOA Suite and Oracle Business Process Management Suite Deinstallation Screens

C Silent Installation and Deinstallation

D Troubleshooting

Preface

The *Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite* provides information and instructions for installing, configuring, and troubleshooting Oracle SOA Suite.

Intended 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 your products will be installed. Users on UNIX systems who are installing need `root` access to run some scripts.

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Related Documents

For additional information, see the following manuals:

- *Oracle Fusion Middleware Installation Planning Guide*. This book contains useful information you should read before installing any Oracle Fusion Middleware product.

- *Oracle Fusion Middleware Concepts*. This book introduces the common terms and concepts in an Oracle Fusion Middleware environment.

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

Conventions

The following text conventions are used in this document:

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

1

Installation Overview

Oracle SOA Suite is a middleware component of Oracle Fusion Middleware. Oracle SOA Suite enables services to be created, managed, and orchestrated into SOA composite applications. Composites enable you to easily assemble multiple technology components into one SOA composite application. Oracle SOA Suite plugs into heterogeneous infrastructures and enables enterprises to incrementally adopt SOA.

Oracle Business Process Management Suite provides a complete set of tools for creating, executing, and optimizing business processes.

This chapter includes the following sections:

- Section 1.1, "Oracle SOA Suite Components"
- Section 1.2, "Oracle SOA Suite Installation Roadmap"
- Section 1.3, "Topology Summary for Oracle SOA Suite"
- Section 1.4, "Oracle SOA Suite Database Considerations"

1.1 Oracle SOA Suite Components

Oracle SOA Suite contains the following components:

- Oracle Business Process Execution Language (BPEL) Process Manager (PM), with Mediator, Rules, B2B, and Human Workflow

  Oracle BPEL is an XML-based language for enabling task sharing across multiple enterprises using a combination of Web services. BPEL is based on the XML schema, simple object access protocol (SOAP), and Web services description language (WSDL).

  Oracle BPEL Process Manager provides a framework for easily designing, deploying, monitoring, and administering processes based on BPEL standards.

- Oracle Business Activity Monitoring (BAM)

  Oracle BAM provides a framework for creating dashboards that display real-time data inflow and creating rules to send alerts under specified conditions.

- Oracle Business Process Management Suite

  This product provides a set of tools for creating, executing, and optimizing business processes.

1.2 Oracle SOA Suite Installation Roadmap

The steps you will need to perform to install and configure Oracle SOA Suite are summarized in Figure 1–1.

Figure 1–1 Oracle SOA Suite Installation and Configuration Flowchart
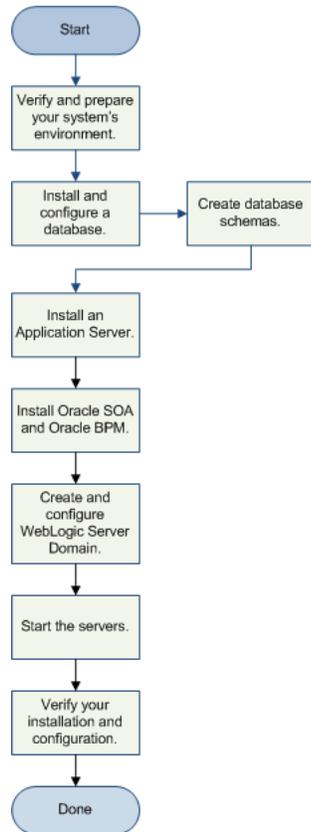
Table 1–1 provides additional information about each of the tasks in the flowchart.

Table 1–1   Tasks in the Oracle SOA Suite Installation Procedure

Tasks	Details and Documentation
Verify and prepare your system environment for installation.	Ensure that your system environment meets the general installation requirements for Oracle Fusion Middleware as well as Oracle SOA Suite and RCU.
	For hardware and software requirements, database schema requirements, minimum disk space and memory requirements, and required system libraries, packages, or patches, view the *Oracle Fusion Middleware System Requirements and Specifications* document.
	For supported 32-bit and 64-bit operating systems, databases, web servers, LDAP servers, adapters, IPv6, JDKs, and third-party products, view *System Requirements and Supported Platforms for Oracle Fusion Middleware 11gR1* on the Oracle Fusion Middleware Supported System Configurations page.
	For cross-product interoperability and compatibility, view the *Oracle Fusion Middleware Interoperability and Compatibility Guide*.
Install and configure a database.	Oracle SOA Suite and Oracle BAM require schemas that must be installed in a database. You create and load these schemas in your database by using RCU.
	The schema for Oracle BAM requires a certified Oracle database.
	For more information about the database you choose for Oracle SOA Suite, see Section 1.4, "Oracle SOA Suite Database Considerations".
Run RCU to create the necessary schemas.	See the following sections in *Oracle Fusion Middleware Repository Creation Utility User's Guide*:
	■ "Obtaining RCU" for information on where you can download RCU.
	■ "Creating Schemas" for instructions on how to create the schemas.
Install an Application Server.	Oracle SOA Suite requires an Application Server. One of the following must be installed:
	■ Oracle WebLogic Server
	■ IBM WebSphere
	Installing Oracle WebLogic Server creates the Middleware home and WebLogic home directories, which are required for an Oracle SOA Suite installation. For more information, see "Middleware Home and WebLogic Home Directories" in *Oracle Fusion Middleware Installation Planning Guide*. If you are installing Oracle WebLogic Server, see the following sections in *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*:
	■ "Product Distribution" for instructions on how to download the latest version.
	■ "Running the Installation Program in Graphical Mode" for installation instructions.
	After installing the latest version of Oracle WebLogic Server (version 10.3.6), you must install the required patches as described on the "Known Issues for Oracle SOA Products and Oracle AIA Foundation Pack" page on Oracle Technology Network:
	http://www.oracle.com/technetwork/middleware/docs/aiasoarelnotesps6-1866030.html
	If you are installing IBM WebSphere, you must create the Middleware home directory structure manually. The Middleware home has no dependency on the location of your IBM WebSphere installation. If you are installing IBM WebSphere, refer to *Oracle Fusion Middleware Third-Party Application Server Guide* for installation information.

Table 1–1   (Cont.) Tasks in the Oracle SOA Suite Installation Procedure

Tasks	Details and Documentation
Install Oracle SOA Suite and Oracle Business Process Management Suite.	Use the installer to install the software. This creates the following directories inside the Middleware home: ■ SOA Oracle home (`Oracle_SOA1` by default) ■ Oracle Common home (`oracle_common`). See Section 2.2.1, "Obtaining the Software" for information on where to obtain the software. See Section 2.2.2, "Starting the Installer" for information on how to start the Oracle SOA Suite installer. See Section 2.2.4, "Following the Installation Screens and Instructions" for installation instructions.
Create and configure your Oracle WebLogic Server Domain.	Use the Oracle Fusion Middleware Configuration Wizard to create your WebLogic domain and configure your Oracle SOA Suite components. You will be asked for the location of the Domain home directory, which is where the Administration Server and Managed Servers reside. You will also be asked for the location of the Application home directory, which is where your applications reside. Both of these directories can be located anywhere on your system. After the domain is created, you can extend it later if you want to add more components to the domain. See Chapter 3, "Configuring Oracle SOA Suite and Oracle Business Process Management Suite" for instructions on starting the Configuration Wizard and creating your WebLogic Domain.
Start the servers.	Start the Administration Server and Managed Servers. See Section 3.5, "Starting the Servers" for instructions on how to start the Administration Server and Managed Servers.
Verify your installation and configuration.	See Section 3.7, "Verifying the Installation and Configuration".

1.3 Topology Summary for Oracle SOA Suite

Figure 1–2 shows the directory structure of a simple Oracle SOA Suite installation on a single host, using all of the default values.

Figure 1–2   Directory Structure of a Completed Oracle SOA Suite Installation
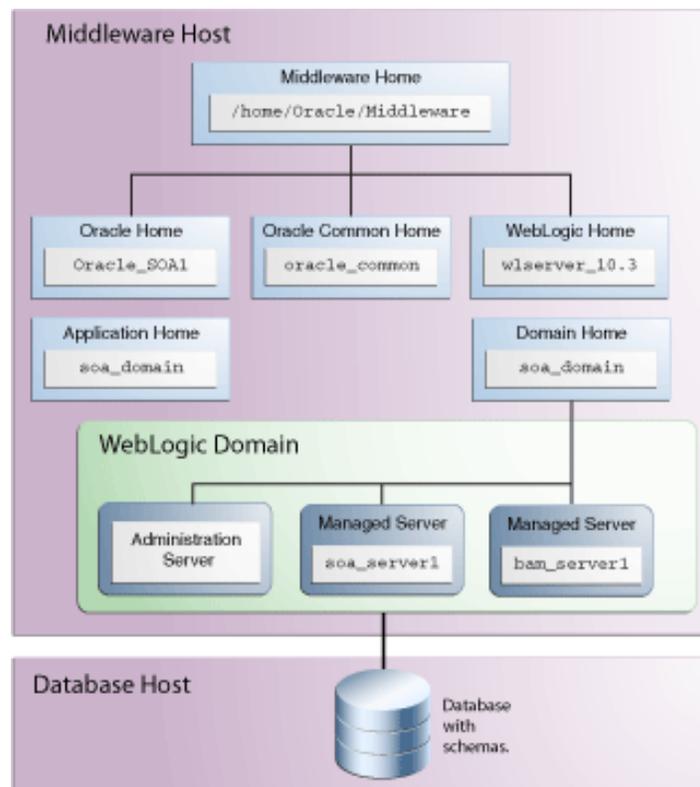
1.4 Oracle SOA Suite Database Considerations

The Oracle SOA Suite database requires adequate memory to be available in order to support the specific needs of a given installation. To calculate the total memory requirements on the machine where the database is installed, the following demands must be taken into account:

- Oracle Database overhead.

- Size of System Global Area (SGA).

- Number of concurrent users (PGA).

- Any non-Oracle software that has to run on the machine.

In carrying out the above calculations, you should aim to allow for any expected growth in usage over the planned lifetime of the Oracle SOA Suite system. The usage of Oracle Real Application Clusters (Oracle RAC) and related technologies provides additional options for scaling a system to meet additional requirements, typically by adding another machine.

For more information, see "Managing Database Growth" in *Oracle Fusion Middleware Administrator's Guide for Oracle SOA Suite and Oracle Business Process Management Suite*.

2

Installing Oracle SOA Suite and Oracle Business Process Management Suite

This chapter describes how to install the Oracle SOA Suite run-time components.

See Section 2.3, "Installing Oracle SOA Suite Design-Time Components" for information about installing Oracle JDeveloper and installing the Oracle SOA Suite extensions in Oracle JDeveloper. These extensions provide the functionality and online documentation for designing SOA composite applications.

The following topics are covered in this chapter:

- Section 2.1, "Preparing to Install"
- Section 2.2, "Installation Instructions"
- Section 2.3, "Installing Oracle SOA Suite Design-Time Components"

2.1 Preparing to Install

Before continuing, make sure you have completed the following tasks as described in Table 1–1 in Section 1.2, "Oracle SOA Suite Installation Roadmap":

- Verify and prepare your system environment for installation.
- Install and configure a database.
- Run RCU to create the necessary database schemas.
- Install an Application Server.

If you are installing Oracle SOA Suite in a clustered environment, be aware that Oracle SOA uses Quartz, which is an open source job-scheduling framework. When you are setting up clusters on multiple systems, Quartz requires that the clocks on all the systems be synced up. For more information, refer to the following URL:

`http://www.opensymphony.com/quartz/wikidocs/TutorialLesson11.html`

Also refer to the *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle SOA Suite* and *Oracle Fusion Middleware High Availability Guide* for more information about clustering in advanced topologies.

2.2 Installation Instructions

Oracle BAM and Oracle SOA Suite are both installed onto your system by default. After the products are installed, you must run the Configuration Wizard to configure the product(s) of your choice.

This section contains the following topics:

2.2.1 Obtaining the Software

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

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

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

2.2.2 Starting the Installer

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

On UNIX operating systems:

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

On Windows operating systems:

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

The installer requires the full path to the location of a Java Runtime Environment (JRE) on your system, which must be specified using the `-jreLoc` parameter. When you installed Oracle WebLogic Server, a JRE was installed on your system in the `jdk160_version` directory inside the Middleware home. You can use this location as the *JRE_LOCATION* to start the installer.

Refer to Section D.2.1, "Installation Log Files" for more information about the log files that are created by the installer and their contents.

2.2.3 Configuring Your Oracle Inventory (UNIX Only)

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

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

Table 2–1   Inventory Directory and Group Screens

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

2.2.4 Following the Installation Screens and Instructions

Follow the instructions in Table 2–2 to install the Oracle SOA Suite components.

If you need additional help with any of the installation screens, refer to Appendix A, "Oracle SOA Suite and Oracle Business Process Management Suite Installation Screens" or click **Help** to access the online help.

Table 2–2   Installation Flow for Oracle SOA Suite

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

After the installation is complete, you are ready to run the Configuration Wizard to configure your domain for Oracle SOA Suite products. Go to Chapter 3, "Configuring Oracle SOA Suite and Oracle Business Process Management Suite" for instructions.

2.3 Installing Oracle SOA Suite Design-Time Components

Oracle SOA Suite is not automatically installed with Oracle JDeveloper. Before you can create a SOA application and project, you must install Oracle JDeveloper and the SOA Suite extension for JDeveloper.

For instructions on installing SOA Suite extension for JDeveloper, see *Oracle Fusion Middleware Installation Guide for Oracle JDeveloper*.

3

Configuring Oracle SOA Suite and Oracle Business Process Management Suite

This chapter describes how to configure Oracle SOA Suite and Oracle Business Process Management Suite after the components have already been installed.

The following topics are covered:

- Section 3.1, "Configuration Instructions"
- Section 3.2, "Using Oracle Business Process Management Suite with Oracle WebCenter Portal: Spaces"
- Section 3.3, "Manual Configuration for Oracle BAM"
- Section 3.4, "Applying Java Required Files (JRF)"
- Section 3.5, "Starting the Servers"
- Section 3.6, "Starting Node Manager"
- Section 3.7, "Verifying the Installation and Configuration"

3.1 Configuration Instructions

After the installation is complete, you must configure a new WebLogic domain, and choose the products that you want to configure in that domain.

If you are using Oracle WebLogic Server as your application server, you create a domain by running the Oracle Fusion Middleware Configuration Wizard. For IBM WebSphere application server users, refer to *Oracle Fusion Middleware Configuration Guide for IBM WebSphere*.

Depending on the options you choose during configuration, this new domain will contain the Administration Server and may contain one or more Managed Servers.

After you have created a new domain, you can later extend that domain if you want to add more products to that domain.

3.1.1 Using Default Settings for Managed Servers

During the configuration, the Oracle Fusion Middleware Configuration Wizard automatically creates Managed Servers in the domain to host the Fusion Middleware system components. Oracle recommends that you use the default configuration settings for these Managed Servers. If you modify the default configuration settings, then you will have to perform some manual configuration steps before the Fusion Middleware environment can be started.

Depending on your selections, the following Managed Servers (default names shown) are created:

- `soa_server1` - Hosts Oracle SOA

- `bam_server1` - Hosts Oracle BAM

Managed Server properties can be configured on the Configure Managed Servers screen.

3.1.2 Shutting Down Running Managed Servers When Extending a Domain

If you are extending an existing WebLogic Server domain (Section 3.1.6, "Extending an Existing Domain"), you must shut down any Managed Servers that are currently running in the domain before you start the Configuration Wizard. If you do not, validation of your Managed Servers will fail due to port number conflicts from the Managed Servers that are currently running.

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

3.1.3 Running the Configuration Wizard with an Oracle RAC Database

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

For more information about configuring your data sources with an Oracle RAC database, see "Configuring Data Sources" in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.

3.1.4 Starting the Oracle Fusion Middleware Configuration Wizard

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

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

1. Set the `JAVA_HOME` environment variable to the location of the JDK you want to use (in this case, the Sun JDK). For example, you can set it to the Sun JDK that was installed with Oracle WebLogic Server in the `jdk160_version` directory in the Middleware home.

2. Set the `JAVA_VENDOR` environment variable to "Sun."

To start the Configuration Wizard:

On UNIX operating systems:

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

On Windows operating systems:

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

To create a log file for your configuration session, see the instructions in Section D.2, "Installation and Configuration Log Files".

If this is a new installation and you need to create a new WebLogic domain, follow the instructions in Section 3.1.5, "Creating a New Domain with Oracle SOA Suite Components". You can also run the Configuration Wizard to extend an existing WebLogic domain, as described in Section 3.1.6, "Extending an Existing Domain".

3.1.5 Creating a New Domain with Oracle SOA Suite Components

After you have started the Configuration Wizard (Section 3.1.4, "Starting the Oracle Fusion Middleware Configuration Wizard"), select one of the following for information about creating a WebLogic Domain based on the needs of your specific environment:

- Section 3.1.5.1, "Oracle BPM Suite"

- Section 3.1.5.2, "Oracle BPM Suite for Developers"

- Section 3.1.5.3, "Oracle SOA Suite"

- Section 3.1.5.4, "Oracle SOA Suite for Developers"

- Section 3.1.5.5, "Oracle Business Activity Monitoring"

These sections contain information about specific selections you should make during the configuration and domain creation process. For full instructions about all the Configuration Wizard screens, see "Creating a WebLogic Domain" in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.

> **Note:** If you are using a Microsoft SQL Server database for your Oracle SOA Suite schemas, you must configure XA support in both the Microsoft SQL Server database and Microsoft Windows operating system to test the SOA Infrastructure connection during domain creation and to successfully start the SOA Infrastructure.
>
> For more information, see Section D.7, "XA Configuration Required to Start the SOA Infrastructure on Microsoft SQL Server".

> **Note:** Do not select the "Basic WebLogic SIP Server Domain" product template from the Select Domain Source screen in the Configuration Wizard. This product is not compatible with the Oracle SOA Suite.
>
> Additionally, you should not select any domain template that is not required for your domain configuration; some templates are not compatible with each other and will cause domain creation to fail. Select only the required templates needed to configure your domain.

> **Note:** The version number of the configuration templates you will see on the screens is "11.1.1.0" even though the version number of your software may be different. The configuration template version numbers are not updated for patch set releases.

3.1.5.1 Oracle BPM Suite

To create a domain configured with Oracle BPM Suite, select the following on the Select Domain Source screen:

- **Oracle BPM Suite - 11.1.1.0 [*SOA_ORACLE_HOME*]**

- **Oracle Enterprise Manager - 11.1.1.0 [oracle_common]**

Oracle Enterprise Manager is needed in any domain with Oracle SOA Suite as it is used to monitor and test SOA composite applications.

For more information about this screen, see Select Domain Source in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.
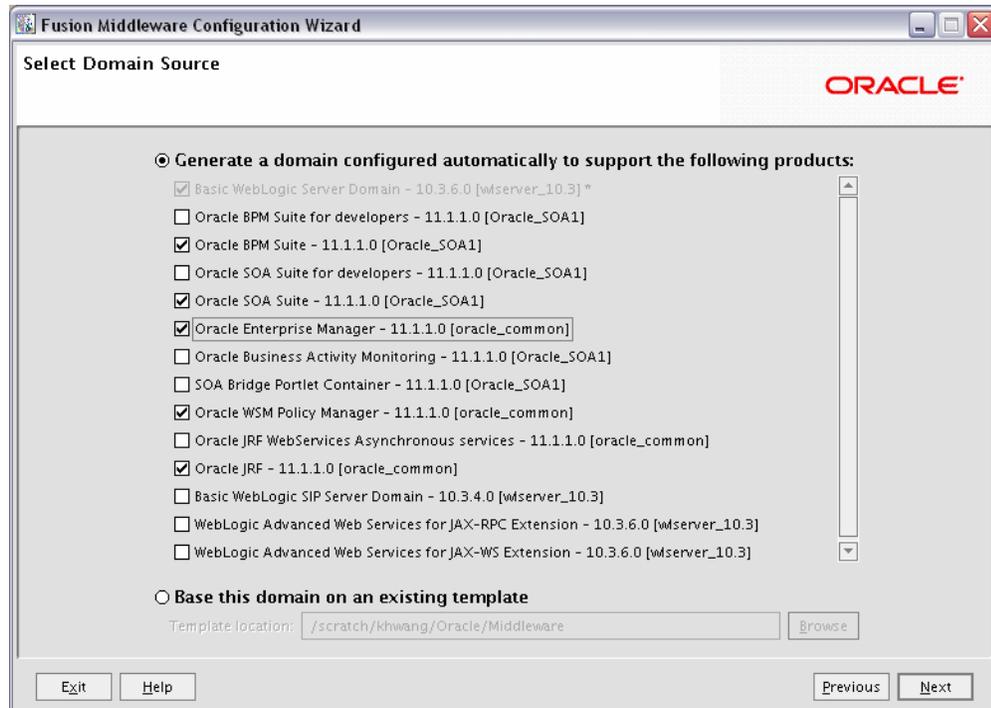
The following templates are selected as dependencies:

- Oracle SOA Suite - 11.1.1.0 [*SOA_ORACLE_HOME*]

- Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]

- Oracle JRF - 11.1.1.0 [oracle_common]

The following servers are created:

- Administration Server

- `soa_server1`

3.1.5.2 Oracle BPM Suite for Developers

To create a domain configured with Oracle BPM Suite for developers, select the following on the Select Domain Source screen:

- **Oracle BPM Suite for developers - 11.1.1.0 [*SOA_ORACLE_HOME*]**

- **Oracle Enterprise Manager - 11.1.1.0 [oracle_common]**

Oracle Enterprise Manager is needed in any domain with Oracle SOA Suite as it is used to monitor and test SOA composite applications.

For more information about this screen, see Select Domain Source in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.
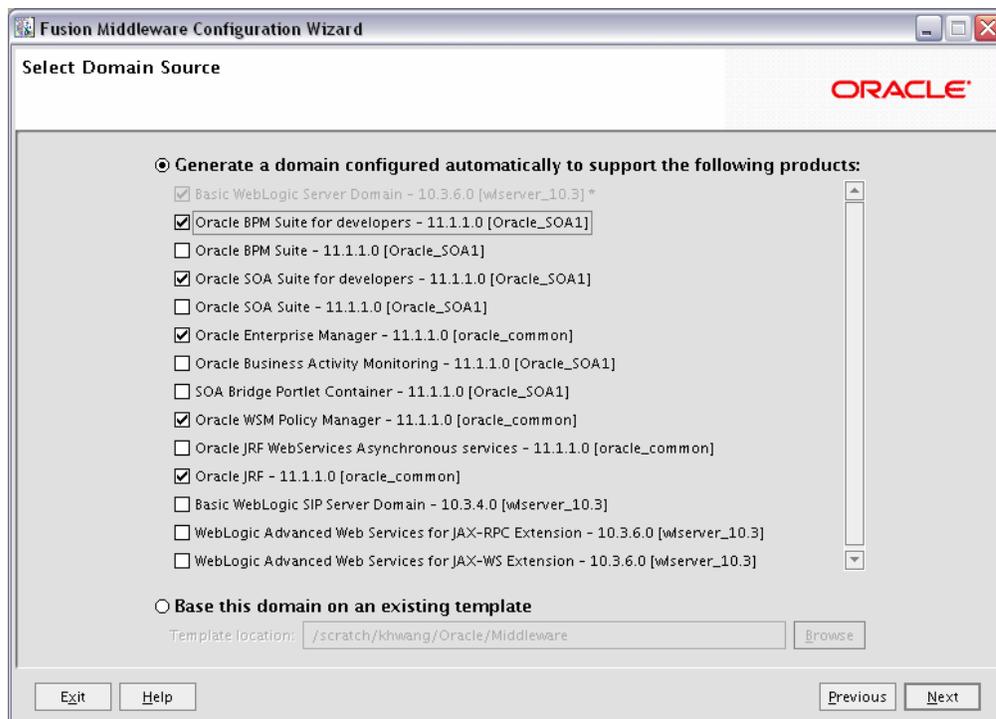
The following templates are selected as dependencies:

- Oracle SOA Suite for developers - 11.1.1.0 [*SOA_ORACLE_HOME*]
- Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]
- Oracle JRF - 11.1.1.0 [oracle_common]

The "for developers" templates do not create any Managed Servers; only a single Administration Server is created for the domain.

3.1.5.3 Oracle SOA Suite

To create a domain configured with Oracle SOA Suite, select the following on the Select Domain Source screen:

- **Oracle SOA Suite - 11.1.1.0 [*SOA_ORACLE_HOME*]**
- **Oracle Enterprise Manager - 11.1.1.0 [oracle_common]**

Oracle Enterprise Manager is needed in any domain with Oracle SOA Suite as it is used to monitor and test SOA composite applications.

For more information about this screen, see Select Domain Source in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.
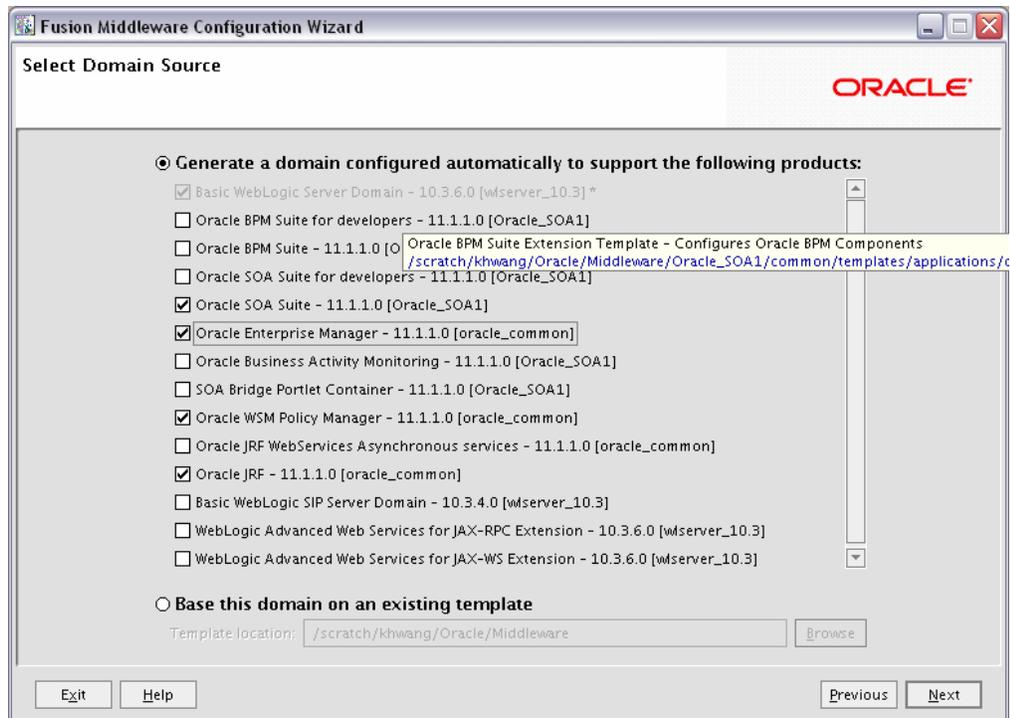
The following templates are selected as dependencies:

- Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]

- Oracle JRF - 11.1.1.0 [oracle_common]

The following servers are created:

- Administration Server

- `soa_server1`

Note that this configuration does not create an Oracle BAM Managed Server on your system; if you want an Oracle BAM server, you must also select **Oracle Business Activity Monitoring - 11.1.1.0 [*SOA_ORACLE_HOME*]** on the Select Domain Source screen.

3.1.5.4 Oracle SOA Suite for Developers

To create a domain configured with Oracle SOA Suite for developers, select the following on the Select Domain Source screen:

- **Oracle SOA Suite for developers - 11.1.1.0 [*SOA_ORACLE_HOME*]**

- **Oracle Enterprise Manager - 11.1.1.0 [oracle_common]**

Oracle Enterprise Manager is needed in any domain with Oracle SOA Suite as it is used to monitor and test SOA composite applications.

For more information about this screen, see Select Domain Source in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.
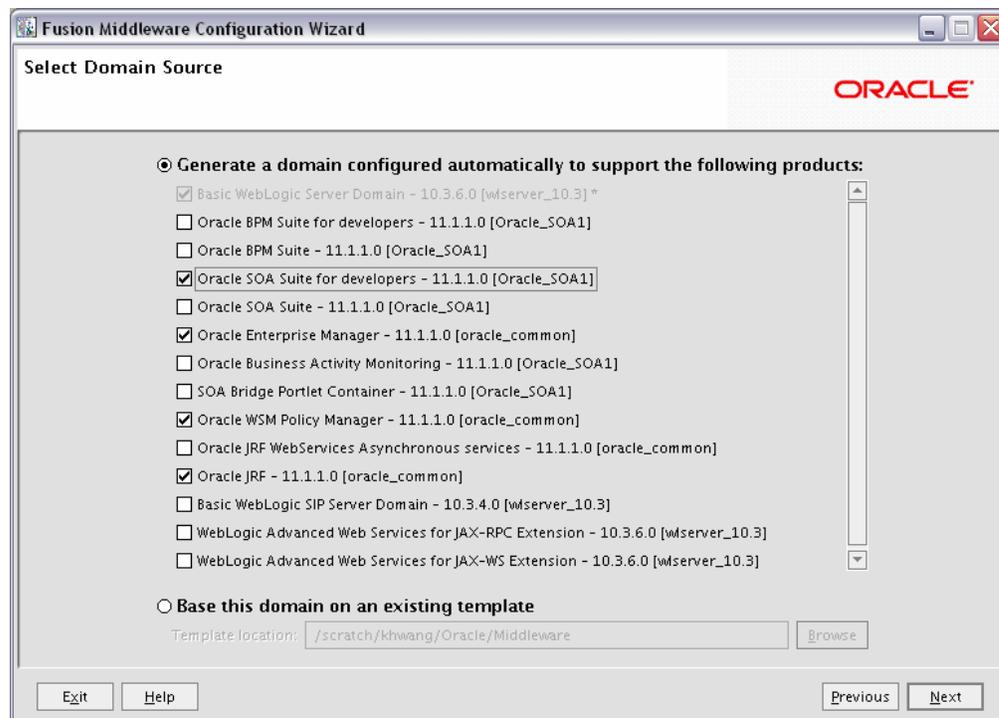
The following templates are selected as dependencies:

■ Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]

■ Oracle JRF - 11.1.1.0 [oracle_common]

The "for developer" templates do not create any Managed Servers; only a single Administration Server is created for the domain.

3.1.5.5 Oracle Business Activity Monitoring

To create a domain configured with Oracle Business Activity Monitoring, select **Oracle Business Activity Monitoring - 11.1.1.0 [*SOA_ORACLE_HOME*]** on the Select Domain Source screen.

For more information about this screen, see Select Domain Source in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.
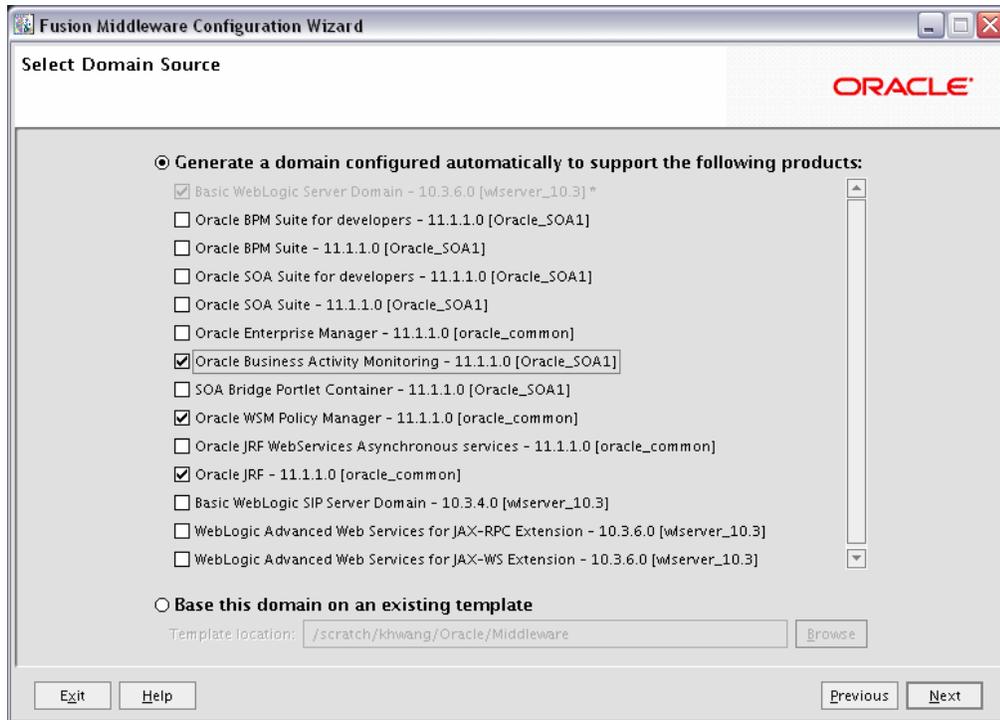
The following templates are selected as dependencies:

■   Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]

■   Oracle JRF - 11.1.1.0 [oracle_common]

The following servers are created:

■   Administration Server

■   `bam_server1`

3.1.6 Extending an Existing Domain

While creating your WebLogic domain, if you chose not to configure all of the components in Oracle SOA Suite, you can add these components at a later date by extending your domain. If this is a first time installation or you do not want to add more components, you can skip this section and move to the next section.

Note: Before proceeding, make sure that schemas exist in your database for the components you are configuring when you extend the domain. For example, if you are planning to extend the domain and configure Oracle BAM, then make sure the required schemas for Oracle BAM (for example, *prefix*_MDS, *prefix*_ORASDPM, and *prefix*_ORABAM) exist in your database before you continue.

Follow the instructions in "Extending WebLogic Domains" in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard* to extend an existing domain.

> **Note:** If you are running the Configuration Wizard to extend a
> domain that was created with a previous version of Oracle Fusion
> Middleware, the Configure JDBC Component Schema screen will
> have all components un-selected by default. You should leave the
> components un-selected and click **Next** to advance to the next screen
> and skip the JDBC connection testing.
>
> If you select a component on the Configure JDBC Component Schema
> screen, the data source connection for that component will be tested
> and you may receive an error message. If this happens, you can ignore
> the error message and continue with your domain extension
> operation.

Refer to the *Oracle Fusion Middleware Enterprise Deployment Guide for Oracle SOA Suite* for more information about extending domains to create more complex topologies.

3.2 Using Oracle Business Process Management Suite with Oracle WebCenter Portal: Spaces

This section contains information about using Oracle Business Process Management Suite with Oracle WebCenter Portal products:

- Section 3.2.1, "Using Oracle Business Process Management Suite with Oracle WebCenter Portal: Spaces"

- Section 3.2.2, "Granting Access to the bpm-services.jar File for Oracle WebCenter Portal"

3.2.1 Using Oracle Business Process Management Suite with Oracle WebCenter Portal: Spaces

If you want to access some of the Oracle Business Process Management Suite functionality through Oracle WebCenter Portal: Spaces, then you must install Process Portal on Oracle WebCenter Portal: Spaces. However, doing so requires that Oracle WebCenter Portal is either configured with Oracle WebCenter Portal's Discussions and Content Server, or that a Discussions and Content server should exist somewhere to which the Process Portal installation can configure connections.

For more information, see "Enabling Process Spaces in a Patched Domain" in *Oracle Fusion Middleware Patching Guide*.

3.2.2 Granting Access to the bpm-services.jar File for Oracle WebCenter Portal

Both Oracle WebCenter Portal and Oracle SOA Suite install a file called `oracle.soa.workflow.jar`, which contain a reference to `bpm-services.jar` in the respective product Oracle home directory. When Oracle WebCenter Portal is installed after Oracle SOA Suite, the existing `oracle.soa.workflow.jar` file from the Oracle SOA Suite installation is not modified, meaning that the reference to `bpm-services.jar` is not updated to use the Oracle WebCenter Portal Oracle home directory.

To fix this, you must edit the `system-jazn-data.xml` file and change the path of `bpm-services.jar` to point to the Oracle WebCenter Portal Oracle home, rather than the Oracle SOA Suite Oracle home.

3.3 Manual Configuration for Oracle BAM

Depending on your configuration options and environment, Oracle BAM may require some custom configuration steps, as described in this section:

- Section 3.3.1, "Configuring Oracle BAM with Custom Port Numbers"
- Section 3.3.2, "Deploying Oracle SOA and Oracle BAM on Different Servers"
- Section 3.3.3, "Configuring Oracle SOA and Oracle BAM Against an External LDAP Server"

3.3.1 Configuring Oracle BAM with Custom Port Numbers

The default port number of the Oracle BAM managed server (`bam_server1`) is 9001. If, during configuration, you changed this port number or specified a listen address using the WebLogic Configuration Wizard, you must make the following changes:

1. Manually change the port number from 9001 to the new port number in the *SOA_ORACLE_HOME*/bam/config/BAMICommandConfig.xml (on UNIX operating systems) or *SOA_ORACLE_HOME*\bam\config\BAMICommandConfig.xml (on Windows operating systems) file. The parameter that needs to be changed is shown below:

   ```
   <ServerPort>9001</ServerPort>
   ```

2. Oracle BAM single-instance web application configuration information is maintained in the *DOMAIN_HOME*/servers/*BAM_server_name*/tmp/_WL_user/oracle-bam_11.1.1/yhryfp/APP-INF/classes/config (on UNIX operating systems) or *DOMAIN_HOME*\servers*BAM_server_name*\tmp_WL_user\oracle-bam_11.1.1\yhryfp\APP-INF\classes\config (on Windows operating systems) directory. The properties in these files can be modified by using the MBeans exposed in the Oracle Enterprise Manager Fusion Middleware Control. See "Getting Started Using the Fusion Middleware Control MBean Browsers" in *Oracle Fusion Middleware Administrator's Guide* for more information about how to do this.

   The properties exposed through MBeans are specific to each server:

   > **Note:** The folder name under `oracle-bam_11.1.1` is randomly generated (in this case, it is `yhryfp`). When you are looking for this directory on your system, be aware that the name of the directory on your system may not match the name of the directory shown in the documentation.

   a. Changes in `BAMCommonConfig.xml`:

      The `<ApplicationURL>` parameter should contain the new URL.

   b. Changes in `BAMServerConfig.xml`:

      ```
      <ADCServerName>localhost</ADCServerName>
      <ADCServerPort>9001</ADCServerPort>
      ```

   c. Changes in `BAMWebConfig.xml`:

      ```
      <ServerName>localhost</ServerName>
      <ServerPort>9001</ServerPort>
      ```

3.3.2 Deploying Oracle SOA and Oracle BAM on Different Servers

Oracle SOA and Oracle BAM are configured in their own Managed Servers by default (`soa_server1` for Oracle SOA and `bam_server1` for Oracle BAM). If you are configuring your domain for a development environment (Section 3.1.5.2, "Oracle BPM Suite for Developers" or Section 3.1.5.4, "Oracle SOA Suite for Developers"), no Managed Servers are created and both `soa_server1` and `bam_server1` are configured on the `AdminServer`.

If you have already configured both `soa_server1` and `bam_server1` and then choose to configure Oracle SOA on `AdminServer` by deleting `soa_server1` Managed Server, and if Oracle BAM is also selected for configuration, then Oracle BAM also needs to be targeted on `AdminServer` by deleting the `bam_server1` Managed Server.

Managed Servers can be deleted on the "Configure Managed Servers" screen of the Configuration Wizard. Refer to the *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard* for more information.

3.3.3 Configuring Oracle SOA and Oracle BAM Against an External LDAP Server

If you are configuring Oracle SOA and Oracle BAM against an external LDAP server, make sure the following are present in the external LDAP server:

- OracleSystemUser (a user in the external LDAP server)

- OracleSystemGroup (a group in the external LDAP server)

- OracleSystemUser must be a part of the OracleSystemGroup

3.4 Applying Java Required Files (JRF)

Java Required Files (JRF) consists of those components not included in the Oracle WebLogic Server installation and that provide common functionality for Oracle business applications and application frameworks.

JRF consists of a number of independently developed libraries and applications that are deployed into a common location (the Oracle Common home or `oracle_common` directory). The components that are considered part of Java Required Files include: Oracle Application Development Framework, Oracle Fusion Middleware Audit Framework, Dynamic Monitoring Service, Infrastructure Security, Java Object Cache, Oracle Platform Security Services, logging, MDS, Oracle Web Services, and Oracle Web Services Manager.

If you are creating or extending a domain and JRF is the only component selected on the Select Domain Source or Select Extension Source screens, you must manually apply JRF to a Managed Server or cluster. To do so:

1. Start the Configuration Wizard (see Section 3.1.4, "Starting the Oracle Fusion Middleware Configuration Wizard").

2. When you reach the Select Optional Configuration screen, select **Deployments and Services**.

3. On the Target Services to Servers or Clusters screen, target the `mds-owsm` data source to the Administration Server (by default, it is not targeted to any server).

4. Finish the domain creation or extension.

3.5 Starting the Servers

To get your deployments up and running, you must start the Administration Server and the Managed Servers that were created during domain creation:

1. To start the Administration Server, run the `startWebLogic.sh` (on UNIX operating systems) or `startWebLogic.cmd` (on Windows operating systems) script in the directory where you created your new domain.

   On UNIX operating systems:

   `DOMAIN_HOME/startWebLogic.sh`

   On Windows operating systems:

   `DOMAIN_HOME\startWebLogic.cmd`

   You entered the domain name and location on the Specify Domain Name and Location Screen in the Configuration Wizard.

2. To start the Managed Servers, run the `startManagedWebLogic.sh` (on UNIX operating systems) or `startManagedWebLogic.cmd` (on Windows operating systems) script in the `bin` directory inside the directory where you created your domain. These Managed Servers must be started from the command line.

   This command also requires that you specify a server name. The default Managed Servers for Oracle SOA and Oracle BAM that need to be started are:

   - `soa_server1` (Oracle SOA Server)
   - `bam_server1` (Oracle BAM Server)

   For example, to start Oracle SOA Server on a UNIX operating system:

   `DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1`

   On Windows operating systems:

   `DOMAIN_HOME\bin\startManagedWebLogic.cmd soa_server1`

   Before the managed server is started, you will be prompted for the WebLogic Server user name and password. These were provided on the Configure Administrator Username and Password screen in the Configuration Wizard.

   > **Note:** If this is the first time that both Oracle SOA Server and Oracle BAM Server are being started after installation and configuration, you must make sure that your startup of Oracle SOA Server is complete before starting Oracle BAM Server.

> **Note:** If this is the first time that Oracle BAM Server is being started after installation and configuration, you might see warnings in the log that are similar to the following:
>
> ```
> "ORA-00001: unique constraint (name_ORASDPM.SYS_C00148609)
> violated".
> ```
>
> These warnings only occur the first time the server is started after installation. The warnings are issued because multiple Oracle User Messaging Service (UMS) drivers are starting up at the same time after installation and all are attempting to register the same queue information. One driver should succeed in the registration attempt, so the other warnings can be safely ignored.

If your Administration Server is using a non-default port, or resides on a different host than your managed servers (in a distributed environment), you must also specify the URL to access your Administration Server.

On UNIX operating systems:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1 http://administration_
server_host:administration_server_port
```

On Windows operating systems:

```
DOMAIN_HOME\bin\startManagedWebLogic.cmd soa_server1 http://administration_
server_host:administration_server_port
```

Instead of being prompted for the Administration Server user name and password, you can also specify them directly from the command lime.

On UNIX operating systems:

```
DOMAIN_HOME/bin/startManagedWebLogic.sh soa_server1 http://administration_
server_host:administration_server_port -Dweblogic.management.username=user_name
-Dweblogic.management.password=password
```

On Windows operating systems:

```
DOMAIN_HOME\bin\startManagedWebLogic.cmd soa_server1 http://administration_
server_host:administration_server_port -Dweblogic.management.username=user_name
-Dweblogic.management.password=password
```

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

```
DOMAIN_HOME/startManagedWebLogic_readme.txt
```

On Windows operating systems:

```
DOMAIN_HOME\startManagedWebLogic_readme.txt
```

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

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

Supply the user name and password that you specified on the Configure Administrator Username and Password screen of the Configuration Wizard. Then, navigate to **Environment > Servers** to see the names of your Managed Servers.

3.6 Starting Node Manager

Node Manager is a Java utility that runs as separate process from Oracle WebLogic Server and allows you to perform common operations for a Managed Server, regardless of its location with respect to its Administration Server. For example, Node Manager can be used for:

- Starting servers on remote machines (via the Console).

- Automatically restarting failed servers.

- Automatic Service Migration when using consensus-based leasing.

- Whole Server Migration.

While use of Node Manager is optional, it provides valuable benefits if your WebLogic Server environment hosts applications with high-availability requirements.

For more information about Node Manager, refer to *Oracle Fusion Middleware Node Manager Administrator's Guide for Oracle WebLogic Server*.

3.7 Verifying the Installation and Configuration

To verify the installation, start your browser and do the following:

- Accessing the Administration Server Console

- Accessing Oracle Fusion Middleware Control

3.7.1 Accessing the Administration Server Console

To access the Administration Server Console, use the following URL:

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

Figure 3–1 shows an example:

Figure 3–1 Administration Server Console
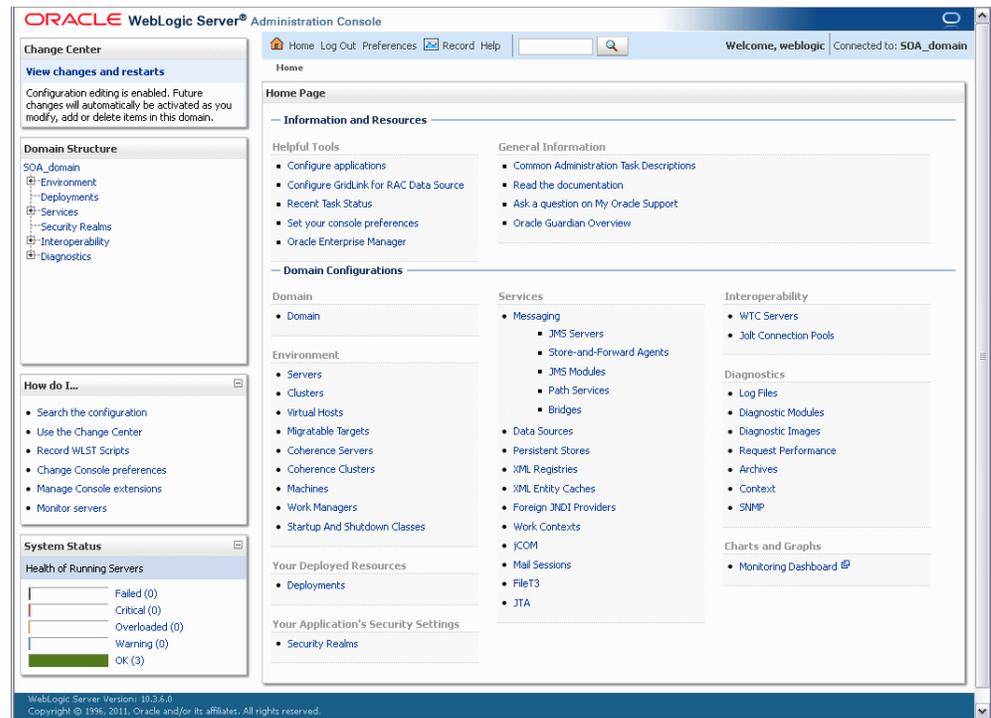
You will be prompted for the username and password credentials that you specified on the Configure Administrator Username and Password Screen of the Configuration Wizard.

After you login to the console, click **Servers** in the "Environment" area inside "Domain Configuration" section. In the table on the Summary of Servers page, verify that the `AdminServer`, `bam_server1`, and `soa_server1` all have the status "RUNNING" in the State column.

If you configured your Administration Server to accept SSL connection, use the following URL to access the Administration Server console in secure mode:

`https://`*administration_server_host*`:`*secure_administration_server_port*`/console`

3.7.2 Accessing Oracle Fusion Middleware Control

If you selected the **Oracle Enterprise Manager - 11.1.1.0 [oracle_common]** component during domain creation, you can access Oracle Fusion Middleware Control using the following URL:

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

Figure 3–2 shows an example:

Figure 3–2   Oracle Fusion Middleware Control
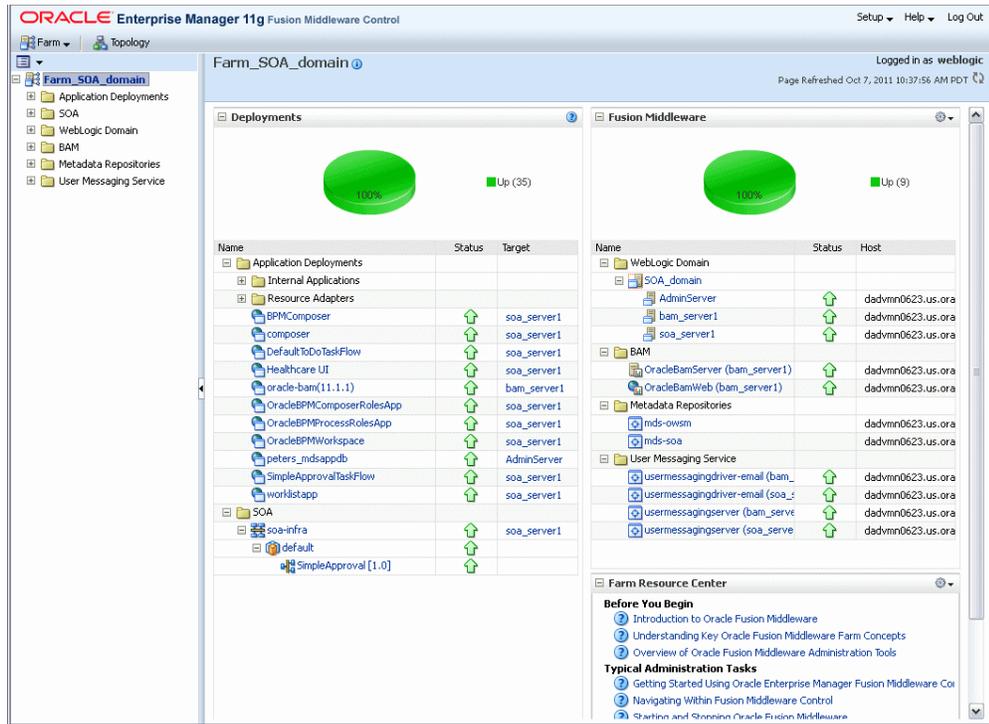
4

Deinstalling Oracle SOA Suite and Oracle Business Process Management Suite

This chapter describes how to remove Oracle SOA Suite and Oracle Business Process Management Suite from your system.

You should always use the instructions provided in this chapter for removing the software. If you try to remove the software manually, you may experience problems when you try to reinstall the software again at a later time. Following the procedures in this chapter will ensure that the software is properly removed. See Section 4.2, "Reinstalling Oracle SOA Suite and Oracle Business Process Management Suite" for more information.

The following topics are covered:

- Section 4.1, "Deinstalling Oracle SOA Suite and Oracle Business Process Management Suite"

- Section 4.2, "Reinstalling Oracle SOA Suite and Oracle Business Process Management Suite"

4.1 Deinstalling Oracle SOA Suite and Oracle Business Process Management Suite

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

> **Note:** If you have installed Oracle Business Process Management, removing Oracle Business Process Management also removes Oracle SOA Suite, since they share the same Oracle home. It is not possible to remove only Oracle Business Process Management without also removing Oracle SOA Suite.

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

Properly removing Oracle SOA Suite from your system involves the following tasks:

- Stopping Oracle Fusion Middleware

- Removing Oracle SOA Suite Schemas

- Removing Oracle SOA Suite

- [Removing Oracle WebLogic Server](#)
- [Removing Oracle JDeveloper](#)
- [Removing the Program Groups (Windows Only)](#)
- [Rebooting Your System (Windows Only)](#)

4.1.1 Stopping Oracle Fusion Middleware

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

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

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

4.1.2 Removing Oracle SOA Suite Schemas

Run the Repository Creation Utility (RCU) to drop the Oracle SOA Suite schemas from your database.

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

4.1.3 Removing Oracle SOA Suite

Deinstalling Oracle SOA Suite involves removing the SOA Oracle home and also the Oracle Common home directories.

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

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

4.1.3.1 Removing the SOA Oracle Home

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

On UNIX operating systems:

```
./runInstaller.sh -deinstall
```

On Windows operating systems:

```
setup.exe -deinstall
```

On Windows operating systems, you can also start the deinstaller from the Start menu by selecting **Programs > Oracle SOA 11g - Home1 > Uninstall**.

Follow the instructions in Table 4–1 to deinstall your software.

If you need additional help with any of the deinstallation screens, refer to Appendix B, "Oracle SOA Suite and Oracle Business Process Management Suite Deinstallation Screens" or click **Help** to access the online help.

Table 4–1   Flow of Oracle SOA Suite Deinstallation Screens

Screen	Description
Welcome	The installer displays this screen when you are about to deinstall one or more Oracle Fusion Middleware software components.
Deinstall Oracle Home	Verify the Oracle home you are about to deinstall.
	Click **Deinstall** to continue.
	On the Warning screen, select whether or not you want the deinstaller to remove the Oracle home directory in addition to removing the software.
	Click **Yes** to have the deinstaller remove the software and Oracle home, **No** to remove only the software, or **Cancel** to return to the previous screen.
	If you select **No**, go to Section 4.1.3.3, "Manually Removing Your Oracle Home Directories" for instructions on how to manually remove your Oracle home directory.
Deinstallation Progress	This screen shows the progress and status of the deinstallation.
Deinstallation Complete	This screen summarizes the deinstallation that was just completed.
	Click **Finish** to dismiss the screen.

4.1.3.2 Removing the Oracle Common Home

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

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

On UNIX operating systems:

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

On Windows operating systems:

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

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

After the deinstaller is started, follow the instructions in Table 4–1 to remove the Oracle Common home directory.

4.1.3.3 Manually Removing Your Oracle Home Directories

If you selected **No** on the warning screen during deinstallation, you must manually remove your Oracle home directories and all sub-directories. For example, if your SOA Oracle home directory was `/home/Oracle/Middleware/Oracle_SOA1` on a UNIX operating system:

```
> cd /home/Oracle/Middleware
> rm -rf Oracle_SOA1
```

On a Windows operating system, if your SOA Oracle home directory was `C:\Oracle\Middleware\Oracle_SOA1`, use a file manager window and navigate to the `C:\Oracle\Middleware` directory, then right-click on the `Oracle_SOA1` folder and select **Delete**.

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

4.1.4 Removing Oracle WebLogic Server

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

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

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

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

4.1.5 Removing Oracle JDeveloper

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

4.1.6 Removing the Program Groups (Windows Only)

On Windows systems, you must also manually remove the program groups from the `Start Menu\Programs` folder. As an example (the folder names and program group names on your system may be different), you might remove the following from `C:\Documents and Settings\All Users\Start Menu\Programs`:

- Oracle Fusion Middleware 11.1.1.6.0
- Oracle SOA Suite 11g - Home1
- Oracle WebLogic

4.1.7 Rebooting Your System (Windows Only)

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

4.2 Reinstalling Oracle SOA Suite and Oracle Business Process Management Suite

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

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

A

Oracle SOA Suite and Oracle Business Process Management Suite Installation Screens

This appendix contains screenshots and descriptions for all of the Oracle SOA Suite and Oracle Business Process Management Suite installation screens:

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

A.1 Specify Inventory Directory
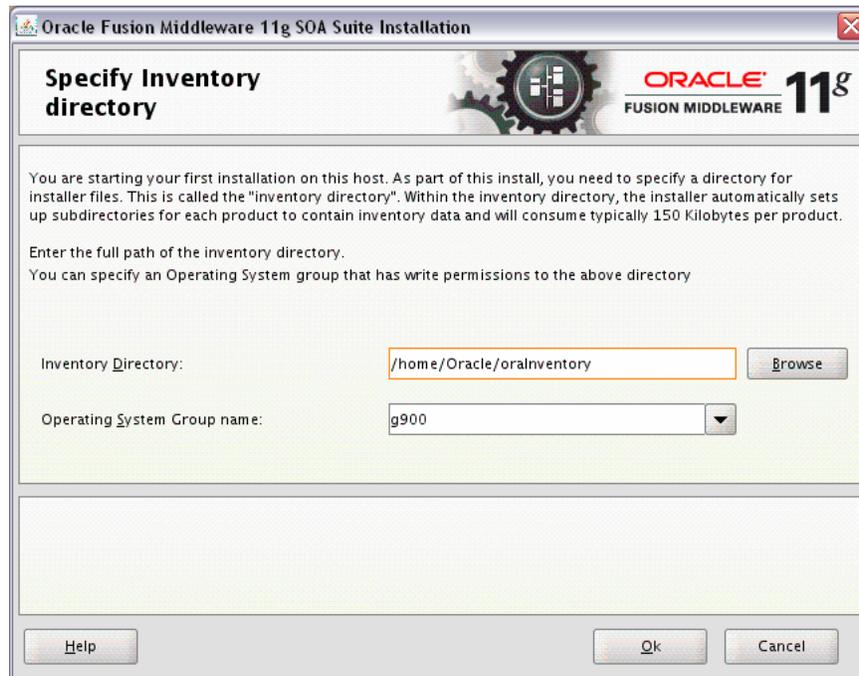
If this is your first Oracle installation on a host that is running UNIX or Linux system software, you must use this screen to specify the location of the Oracle inventory directory.

The inventory directory is used by the installer to keep track of all Oracle products installed on the computer.

The following table describes the fields on this page.

Field	Description
Inventory Directory	Use this field to identify the complete path for the new Oracle inventory directory that will be created.
	By default, the installer assumes you will create the Oracle inventory in a directory, based on the following environment variable and path:
	`$USER_HOME/oraInventory`
	If this location is not appropriate for your environment, enter a new path for the location of the inventory directory.
	Note that the inventory directory will eventually contain many files, including log files for each Oracle software installation you perform on this machine.
Operating System Group Name	From the **Operating System Group** drop-down menu, select the group whose members you want to grant access to the inventory directory; all members of this group will be able to install products on this machine.

A.2 Inventory Location Confirmation
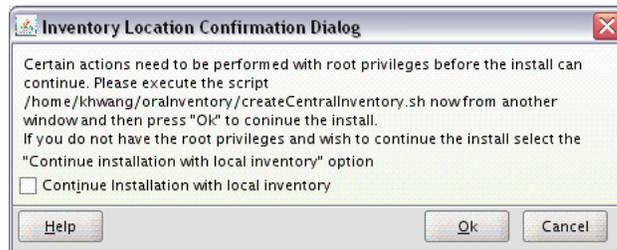
This dialog box appears only on UNIX systems. It prompts you to run a shell script that will create the Oracle inventory in the location you specified on the Inventory Location screen.

You must have root privileges to run the script.

If you do not have root privileges, but you want to continue with the installation, select **Continue Installation with Local Inventory**.

Note that the preferred method of managing your Oracle installations is to create a central inventory directory with the shell script. If you create a central inventory directory, then the next time you install any Oracle software on this machine, the installer will automatically locate and update the inventory without prompting you. The installer uses the inventory to identify what Oracle software is installed. It also saves all your installation log files to the inventory location.

If you do not run the script and use a local inventory, a local copy of the inventory is created for this specific installation only. If you later run the installer to install additional Oracle software, the installer will again prompt you to create an inventory.

A.3 Welcome

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

- A navigation pane on the left that summarizes the tasks the installer will help you complete. Each item in the navigation pane represents a specific installer screen that will prompt you for information required to install the software.

- Information about any prerequisites you might need to perform before continuing with the installation.

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

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

A.4 Install Software Updates
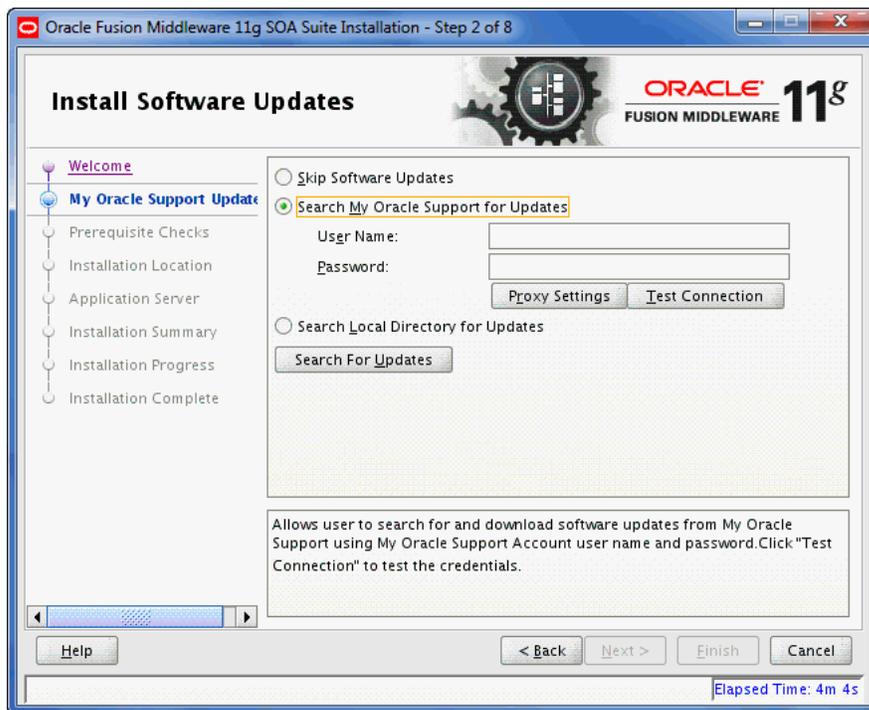
Use this screen to quickly and easily search for the latest software updates, including important security updates, via your My Oracle Support account.

The following table describes the fields on this screen.

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

A.5 Prerequisite Checks
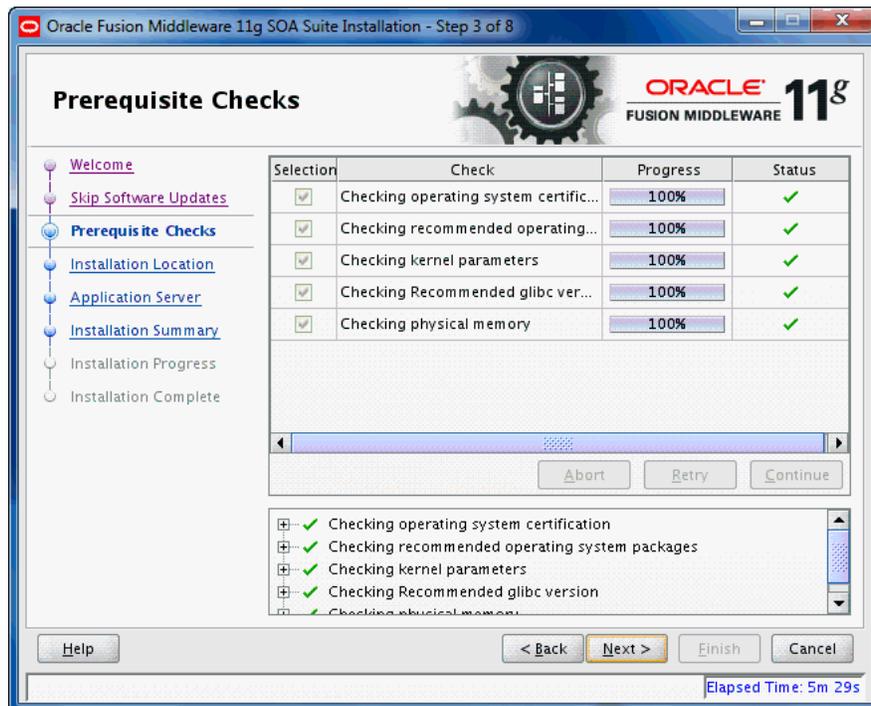
This screen analyzes the host computer to ensure that specific operating system prerequisites have been met.

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

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

A.6 Specify Installation Location
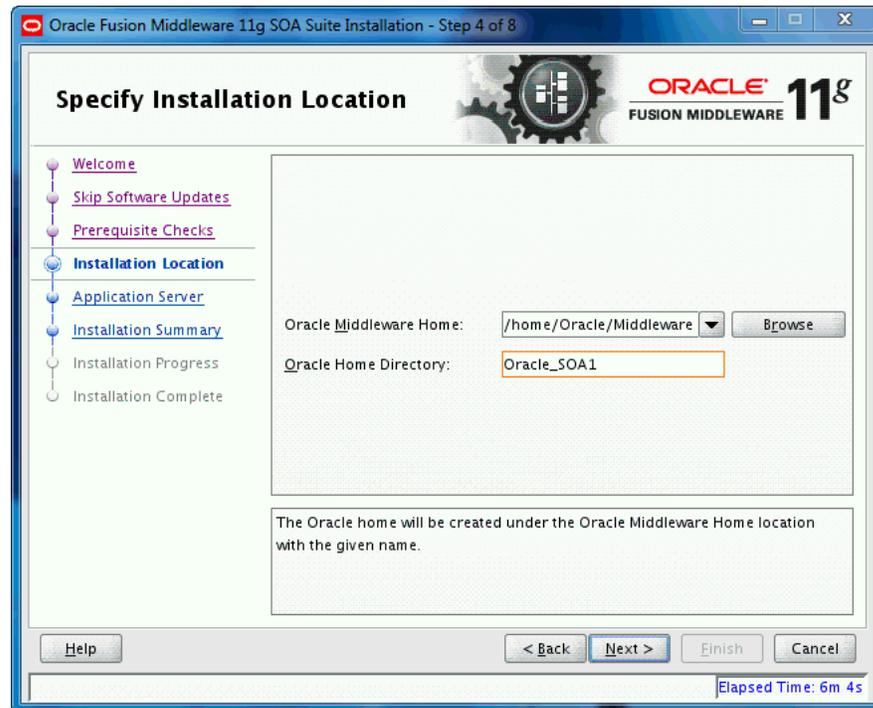
Use this screen to identify where you want to install your Oracle Fusion Middleware software.

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

Field	Description
Oracle Middleware Home	Use this field to specify the location of your Oracle Middleware home directory:
	■ **If you are using Oracle WebLogic Server as your application server:**
	In the Oracle Middleware Home field, specify the absolute path to your existing Oracle Middleware home directory; this is the directory that was created when you installed Oracle WebLogic Server. If you do not know the full path to your Middleware home, you can click **Browse** to select an existing directory in your system.
	■ **If you are using IBM WebSphere as your application server:**
	In the Oracle Middleware Home field, specify the absolute path to the directory you want to use as the Middleware home. This directory has no relation to the location of your WebSphere installation. If you specify a directory location that does not already exist, the installer will create the directory for you.

Field	Description
Oracle Home Directory	Use this field to specify the directory inside the Middleware home where you want to install your products.
	If you specify a directory that already exists, it must be either:
	■ An empty directory inside the Middleware home (for example, you have created an empty directory inside the Middleware home in advance of this installation and should specify this directory here).
	■ An existing Oracle home directory (for example, you are reinstalling Oracle SOA Suite to an existing Oracle home because of an incomplete previous installation).
	If you specify a new directory, it will be created inside the Middleware home.

Note: For the remainder of this document, the directory specified in the Oracle Home Directory field will be referred to as your SOA Oracle home to avoid any confusion with the Oracle home directories of other Oracle Fusion Middleware products.

For more information about the Oracle home and Middleware home directories, refer to "Oracle Fusion Middleware Directory Structure" in *Oracle Fusion Middleware Installation Planning Guide*.

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

A.7 Application Server

Use this screen to select the application server you want to use for this installation.

■ If the installer detects a Middleware home with Oracle WebLogic Server installed, then this is the application server that will be used. All other fields in this screen will be inactive.

■ If the installer detects a Middleware home without an Oracle WebLogic Server installed, you must select one of the application server options and then provide its location in the Application Server Location field.

■ If the installer does not detect a Middleware home directory, the "WebLogic Server" option will be inactive. You must select "WebSphere" and then provide the location of your IBM WebSphere in the Application Server Location field.

A.8 Installation Summary
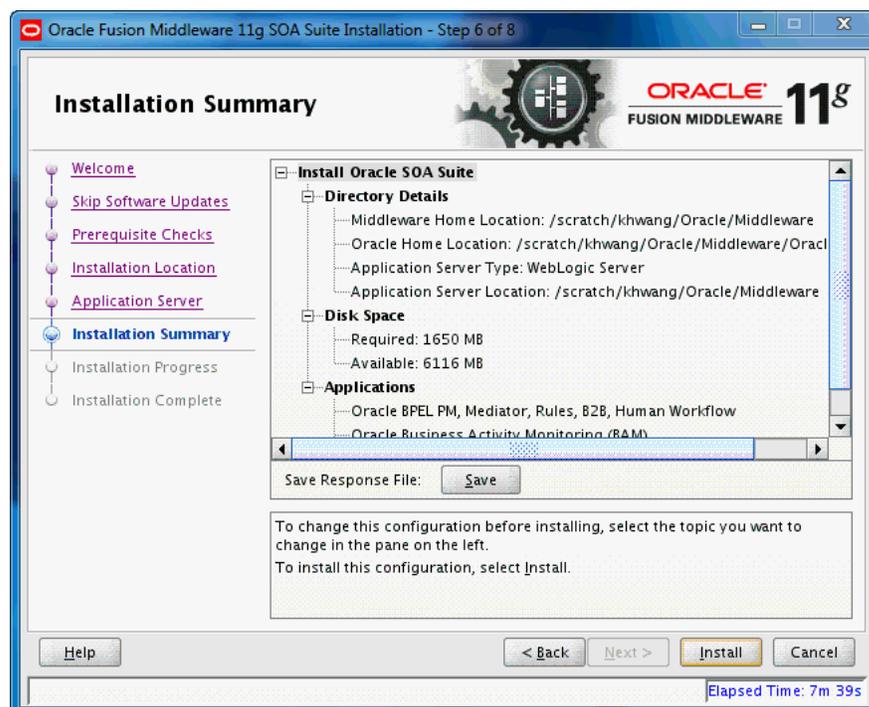
This screen summarizes the selections you have made during this installation session. It includes the following information:

■ The location of your installation

■ How much disk space will be used for the installation

■ The applications you have selected for installation

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

■ If you want to make any changes to the configuration before starting the installation, use the navigation pane to select the Installer screen you want to return to and edit.

■ If you are satisfied with the information, click **Install** to begin the installation procedure.

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

A.9 Installation Progress
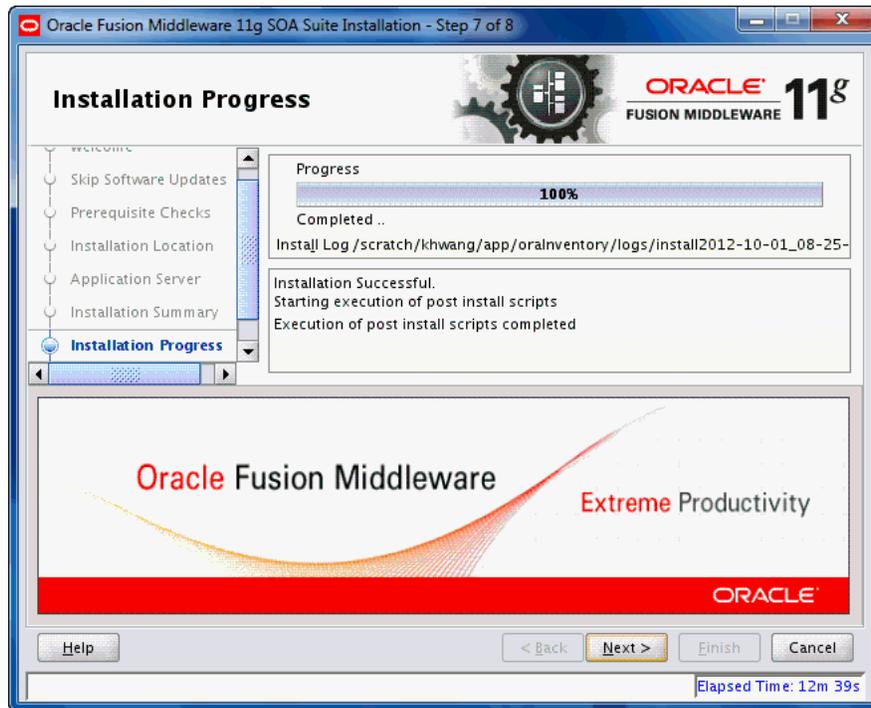
This screen shows you the progress of the installation.

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

A.10 Installation Complete
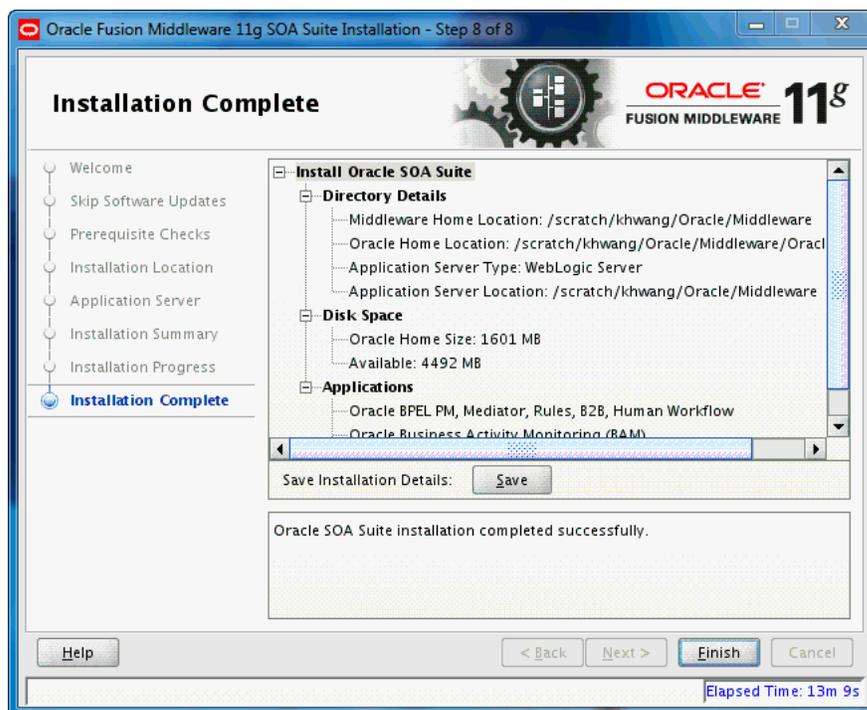
This screen summarizes the installation that was just completed.

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

Click **Finish** to dismiss the screen.

B

Oracle SOA Suite and Oracle Business Process Management Suite Deinstallation Screens

This appendix contains screenshots and descriptions for all of the Oracle SOA Suite and Oracle Business Process Management Suite deinstallation screens:

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

B.1 Welcome

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

When you use the installer to deinstall your Oracle Fusion Middleware software, the installer removes the software files in the selected Oracle home from disk, updates the Oracle inventory, and performs other operating-specific tasks to remove the components.

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

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

B.2 Deinstall Oracle Home
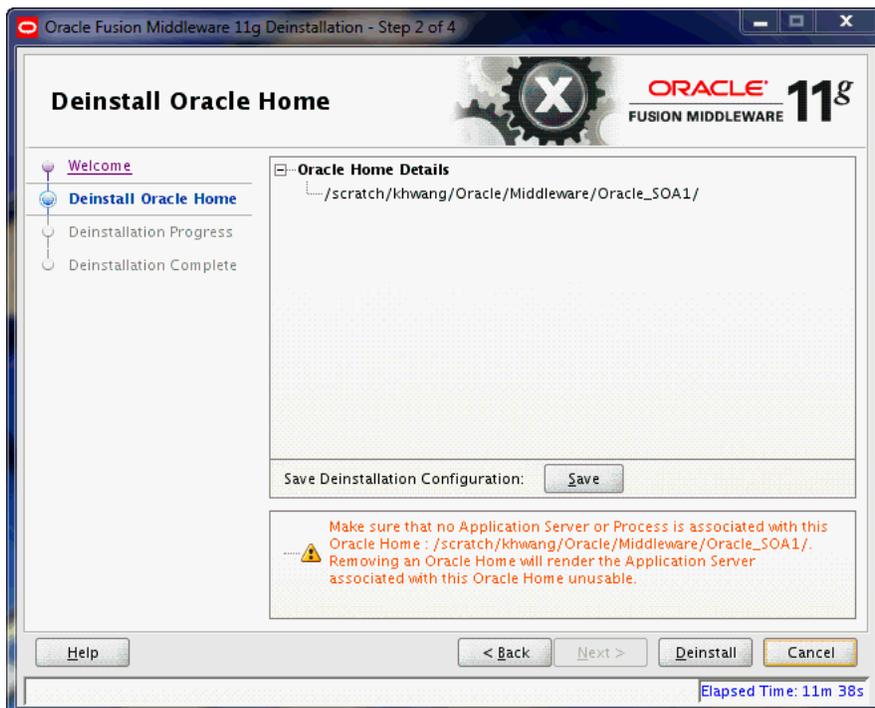
Use this screen to verify that you have selected the Oracle home that you want to deinstall.

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

> **Note:**   Before you click **Deinstall**, ensure that all processes associated with the selected Oracle home have been stopped.

If you want to save this configuration to a text file (called a response file), click **Save**. The resulting response file can be used later if you choose to perform the same deinstallation procedure from the command line.

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

The following warning screen will appear:
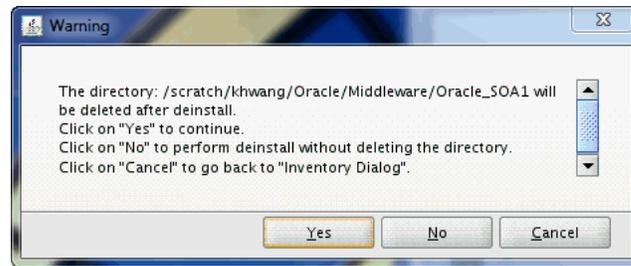
Click **Yes** to remove the software and the Oracle home directory from which the deinstaller was started.

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

Click **Cancel** to return to the previous screen.

B.3 Deinstallation Progress
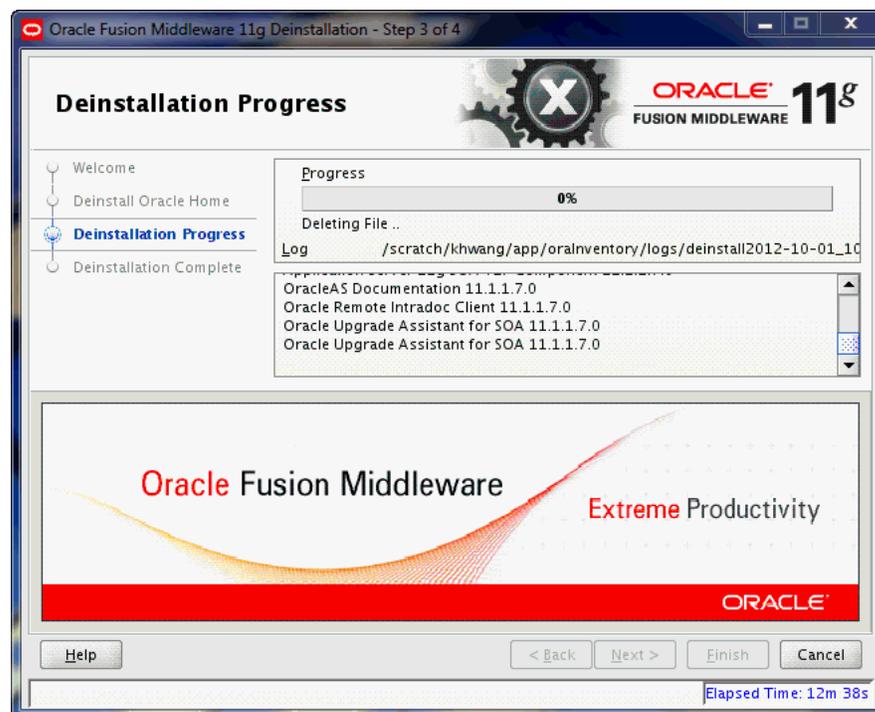
Use this screen to monitor the progress of the deinstallation process.

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

B.4 Deinstallation Complete

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

C

Silent Installation and Deinstallation

This appendix contains information you need to know to perform a silent installation or deinstallation of Oracle SOA Suite.

- Section C.1, "Understanding Silent Installation and Deinstallation"
- Section C.2, "Using the Oracle SOA Suite Response File Templates"

C.1 Understanding Silent Installation and Deinstallation

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

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

C.2 Using the Oracle SOA Suite Response File Templates

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

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

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

- For more information about the response file templates that can be used for silent installation, see Section C.2.1, "Using the Oracle SOA Suite Silent Installation Response Files".

- For more information about the response file template that can be used for silent deinstallation, see Section C.2.2, "Using the Oracle SOA Suite Silent Deinstallation Response File".

C.2.1 Using the Oracle SOA Suite Silent Installation Response Files

Table C–1 lists the installation response file templates provided for Oracle SOA Suite:

Table C–1   Installation Response File Templates for Oracle SOA Suite

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

C.2.1.1 Using the sampleResponse_wls.rsp Response File Template

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

Table C–2   Parameters in the sampleResponse_wls.rsp File

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

C.2.1.2 Using the sampleResponse_was.rsp Response File Template

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

Table C–3   Parameters in the sampleResponse_was.rsp File

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

C.2.2 Using the Oracle SOA Suite Silent Deinstallation Response File

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

D

Troubleshooting

This appendix describes solutions to common problems that you might encounter when installing Oracle SOA Suite. It contains the following sections:

- Section D.1, "General Troubleshooting Tips"
- Section D.2, "Installation and Configuration Log Files"
- Section D.3, "Keeping Track of Your JRE Location"
- Section D.4, "Invoking SOA Composites Over SSL"
- Section D.5, "Using Data Sources with an SSL-Enabled Database"
- Section D.6, "Extending an Identity Management Domain with a SOA Installation"
- Section D.7, "XA Configuration Required to Start the SOA Infrastructure on Microsoft SQL Server"
- Section D.8, "Need More Help?"

D.1 General Troubleshooting Tips

If you encounter an error during installation:

- Read the *Oracle Fusion Middleware Release Notes* for the latest updates. The most current version of the release notes is available on Oracle Technology Network (http://www.oracle.com/technology/documentation).

- Verify your system and configuration is certified. Refer to the Fusion Middleware Certification document:

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

- Verify your system meets the minimum system requirements. Refer to the System Requirements and Specifications document:

  http://www.oracle.com/technology/software/products/ias/files/fusion_requirements.htm

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

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

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

2. Remove the failed installation by following the steps in Chapter 4, "Deinstalling Oracle SOA Suite and Oracle Business Process Management Suite".

3. Correct the issue that caused the error.

4. Restart the installation.

D.2 Installation and Configuration Log Files

This section contains information about the log files that are created when running the Oracle SOA Suite installer and the Oracle Fusion Middleware Configuration Wizard. Log files contain information that can help you troubleshoot problems with your installation or configuration.

D.2.1 Installation Log Files

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

- Linux: `/etc/oraInst.loc`

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

On Windows operating systems, the location for the inventory directory is `C:\Program Files\Oracle\Inventory\logs`. If you are using a 32-bit installer on a 64-bit Windows machine, the inventory directory is `C:\Program Files (x86)\Oracle\Inventory\logs`.

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

- `installdate-time-stamp.log`

  This is the main log file.

- `installdate-time-stamp.out`

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

- `installActionsdate-time-stamp.log`

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

- `installProfiledate-time-stamp.log`

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

- `oraInstalldate-time-stamp.log`

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

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

- `timeTakendate-time-stamp.log`

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

- `timedate-time-stamp.log`

This file contains time information for the copy session.

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

D.2.2 Configuration Log Files

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

On UNIX operating systems:

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

On Windows operating systems:

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

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

Table D–1   Configuration Wizard Log File Options

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

D.3 Keeping Track of Your JRE Location

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

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

- Edit the *SOA_ORACLE_HOME*/oui/oraparam.ini (on UNIX operating systems) or *SOA_ORACLE_HOME*\oui\oraparam.ini (on Windows operating systems) file to point to the new JRE location.

- Use the -jreLoc command line option to point to the new JRE location. See Section 2.2.2, "Starting the Installer" for more information.

D.4 Invoking SOA Composites Over SSL

If Oracle WebLogic Server is configured to use custom trust key store, you must manually revise the setDomainEnv.cmd (on Windows operating systems) or setDomainEnv.sh (on UNIX operating systems) file so that the Djavax.net.ssl.trustStore parameter points to the custom trust keystore file. For example:

```
Djavax.net.ssl.trustStore=/myfolder/mystore/mytrustkeystore.jks
```

D.5 Using Data Sources with an SSL-Enabled Database

If you are using an SSL-enabled database, follow the instructions below so that your data sources will work with SSL connections:

1. Create a truststore and add the ./root/b64certificate.txt as a trusted certificate to the truststore using a keytool:

   ```
   keytool -importcert -trustcacerts -alias dbroot -keystore ./truststore
   -storepass welcome1 -file ./b64certificate.txt
   ```

2. In the WebLogic Server console, navigate to the "Connection Pool" tab of the data source you are using. Modify the following properties accordingly:

   a. Requires Authentication:

   ```
   javax.net.ssl.keyStore=keystore_password
   javax.net.ssl.keyStoreType=JKS
   javax.net.ssl.keyStorePassword=keystore_password
   javax.net.ssl.trustStore=truststore_location
   javax.net.ssl.trustStoreType=JKS
   javax.net.ssl.trustStorePassword=truststore_password
   ```

   b. Does Not Require Authentication:

   ```
   javax.net.ssl.trustStore=truststore_location
   javax.net.ssl.trustStoreType=JKS
   javax.net.ssl.trustStorePassword=truststore_password
   ```

3. In the URL field, enter the following:

   ```
   jdbc:oracle:thin:@(
   DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCPS)(HOST=database_
   host)(PORT=database_port)))
   (CONNECT_DATA=(SERVICE_NAME=service_name))
   (SECURITY=(SSL_SERVER_CERT_DN="distinguished_name"))
   )
   ```

4. In the JDBC data source files, modify the <property> parameter as shown below:

```
<property>
    <name>javax.net.ssl.trustStorePassword</name>
    <value>truststore_password</value>
</property>
```

D.6 Extending an Identity Management Domain with a SOA Installation

If you create a domain by installing Oracle Identity Management, then extend it by installing Oracle SOA Suite, the Oracle SOA installer changes the *ORACLE_HOME* environment variable. This breaks the Oracle Identity Federation (OIF) WebLogic Scripting Tool (WLST) environment, which relies on the value of *ORACLE_HOME* as set by the Identity Management installation.

To work around this issue, do the following:

1. Follow the instructions in "Setting up the WLST Environment" in *Oracle Fusion Middleware Administrator's Guide for Oracle Identity Federation*.

2. Copy all of the `.py` files in the *OIF_ORACLE_HOME*/fed/script (on UNIX operating systems) or *OIF_ORACLE_HOME*\fed\script (on Windows operating systems) directory to the *WebLogic_Home*/common/wlst (on UNIX operating systems) or *WebLogic_Home*\common\wlst (on Windows operating systems) directory.

3. Append the *OIF_ORACLE_HOME*/fed/script (on UNIX operating systems) or *OIF_ORACLE_HOME*\fed\script (on Windows operating systems) directory to the `CLASSPATH` environment variable on your system.

D.7 XA Configuration Required to Start the SOA Infrastructure on Microsoft SQL Server

You must configure XA support in both the Microsoft SQL Server database and Microsoft operating system to test the SOA Infrastructure connection during domain creation and to successfully start the SOA Infrastructure.

For SQL 2005, 2008, 2008 R2, 2012, and 2012 SP1, do the following:

1. Install Oracle WebLogic Server.

2. Install Microsoft SQL Server JDBC XA procedures. These procedures enable you to use JDBC distributed transactions through JTA. This procedure must be repeated for each MS SQL Server installation to include in a distributed transaction.

   a. Copy the `.dll` file appropriate for your platform and the `instjdbc.sql` file from the *WebLogic_Home*\server\bin directory to the directory appropriate to your version of SQL Server:

   > **Note:** If you have an environment where you have previously configured XA support and have applied the latest Oracle SOA Suite patch set, you must perform this step using the `sqljdbc.dll` and `instjdbc.sql` files from the most recent WebLogic Server home directory.

Database	Copy This File...	To This Directory...
SQL Server 2005	From the *WebLogic_Home*\server\bin directory, copy one of the following `.dll` files (find the one for your platform) along with the `instjdbc.sql` file: ■ `sqljdbc.dll` (for x32 platforms) ■ `x64sqljdbc.dll` (for x64 platforms) ■ `64sqljdbc.dll` (for IA64 platforms)	`C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn`
SQL Server 2008 and 2008 R2	From the *WebLogic_Home*\server\bin directory, copy one of the following `.dll` files (find the one for your platform) along with the `instjdbc.sql` file: ■ `sqljdbc.dll` (for x32 platforms) ■ `x64sqljdbc.dll` (for x64 platforms) ■ `64sqljdbc.dll` (for IA64 platforms)	`C:\Program Files\Microsoft SQL Server\MSSQL10.`*INSTANCE_NAME*`\MSSQL\Binn`
SQL Server 2012 and 2012 SP1	From the *WebLogic_Home*\server\bin directory, copy one of the following `.dll` files (find the one for your platform) along with the `instjdbc.sql` file: ■ `sqljdbc.dll` (for x32 platforms) ■ `x64sqljdbc.dll` (for x64 platforms) ■ `64sqljdbc.dll` (for IA64 platforms)	`C:\Program Files\Microsoft SQL Server\MSSQL11.`*INSTANCE_NAME*`\MSSQL\Binn`

Notes:

- If you are installing stored procedures on a database server with multiple Microsoft SQL Server instances, then each running SQL Server instance must be able to locate the appropriate `.dll` file. Therefore, the `.dll` file must be anywhere on the global *PATH* or on the application-specific *PATH*. For the application-specific *PATH*, place the `.dll` file into the *drive*:`\Program Files\Microsoft SQL Server\MSSQL$`*Instance_1_Name*`\Binn` directory for each instance.

- If your Oracle WebLogic Server and Oracle SOA Suite installations are on a Linux host, the `.dll` file does not appear under the *WebLogic_Home*/server/lib directory. In these cases, you must copy this file from a host on which `.dll` file is installed.

b. From the database server, use the `ISQL` utility to run the `instjdbc.sql` script for your version of SQL Server. As a precaution, back up the master database before running `instjdbc.sql`.

For Microsoft SQL Server 2005, run:

```
C:\Program Files\Microsoft SQL Server\90\Tools\Binn\SQLCMD.EXE -S
"DB_HOST\INSTANCE_NAME" -U SA -P SA_PASSWORD -i instjdbc.sql -o
LOG_FILE
```

For Microsoft SQL Server 2008, run:

```
C:\program files\Microsoft SQL Server\100\Tools\Binn\SQLCMD.EXE -S
"DB_HOST\INSTANCE_NAME" -U SA -P SA_PASSWORD -i instjdbc.sql -o
LOG_FILE
```

For Microsoft SQL Server 2012 and 2012 SP1, run:

```
C:\program files\Microsoft SQL Server\110\Tools\Binn\SQLCMD.EXE -S
"DB_HOST\INSTANCE_NAME" -U SA -P SA_PASSWORD -i instjdbc.sql -o
LOG_FILE
```

For all commands, *DB_HOST* is the name of the host on which SQL Server is installed, *INSTANCE_NAME* is the name of the SQL Server instance, and *SA_PASSWORD* is the password of the system administrator.

The instjdbc.sql script generates many messages, including the following which can be safely ignored:

```
Msg 156, Level 15, State 1, Server STANA17-1\SQLSERVER123, Line 1
Incorrect syntax near the keyword 'tran'.
Msg 319, Level 15, State 1, Server STANA17-1\SQLSERVER123, Line 1
Incorrect syntax near the keyword 'with'. If this statement is a common
table
expression, an xmlnamespaces clause or a change tracking context clause,
the
previous statement must be terminated with a semicolon.
```

You should scan the entire output for any messages that may indicate an execution error. The last message should indicate that instjdbc.sql ran successfully. The script fails when there is insufficient space available in the master database to store the JDBC XA procedures or to log changes to existing procedures.

3. **On Microsoft Windows Server 2005, 2008, 2008 R2, 2012 and 2012 SP1**, configure the Microsoft Distributed Transaction Coordinator (DTC) for the Microsoft operating system.

   a. From the **Start** menu, select **Control Panel**, then **Administrative Tools**, then **Component Services** icon, then Component Services (in the navigator under **Console Root**), then **Computers,** and then **My Computer**.

   b. On MS Windows Server 2005: Right-click **My Computer** and select **Properties** > **MSDTC** > **Security Configuration**.

   On MS Windows Server 2008, 2008 R2, 2012 and 2012 SP1: From **My Computer**, select **Distributed Transactions**, and then **Local DTC**. Right-click on the properties of **Local DTC**. The Security Configuration dialog will appear.

   If you are not able to find **Distributed Transactions** on MS Windows Server 2008 or 2008 R2, then follow the instructions for Installing Application Server Role in Step 4 and Installing DTC in Step 5.

   c. In the **Security Settings** section, select the **Network DTC Access** checkbox.

   d. In the **Client and Administration** section, select the **Allow Remote Clients** checkbox.

   e. In the **Transaction Manager Communication** section, select the **Allow Inbound**, **Allow Outbound**, **No Authentication Required**. In SQL 2005 and 2008, enable Transaction Internet Protocol (TIP) Transactions checkboxes.

   f. In the **Security Settings** section, select the **Enable XA Transactions** checkbox. For SQL 2008, 2008 R2, 2012 and SQL 2012 SP1, enable **SNA LU 6.2 Transactions** too.

   g. Click **OK** in the Security Configuration dialog.

    h. Click **OK** in the My Computer Properties dialog.

4. **On SQL 2008 and 2008 R2**, install the Application Server Role.

    a. Click **Start** and then click **Server Manager**.

    b. If the **User Account Control** dialog box appears, confirm that the action it displays is what you want, and then click **Yes**.

    c. On the **Action** menu, click **Add Roles**.

    d. The Add Roles Wizard appears. Click **Next**.

    e. The Select Server Roles page appears. Select the **Application Server** check box, and then click **Next**.

    f. Information about the Application Server role appears. Familiarize yourself with the information, and then click **Next**.

    g. On the Select Role Services page, select the role services that are necessary to run your applications, and then click **Next**. Application Server Foundation, the default role service, is always installed as a part of the Application Server role.

    Note that some role services require the installation of supporting features or role services from other roles. If this is the case, you have the option to either install or not install the required features or role services.

    h. If the installation of a supporting feature or role service from another role is required, the next pages provide important information about the feature or set of features or role service. Click **Next** to go to the Confirm Installation Options page.

    i. Click **Install** to begin installing the Application Server role with the options that appear on the page. The installation process can be lengthy, depending on the role services that you select. After the installation process starts, input by the operator is not necessary. When the installation process is finished, the status of the installation appears on the Installation Results page.

5. **On Microsoft Windows 2008 and 2008 R2, install DTC**.

    a. To install DTC, open **Control Panel** and then **Programs and Features**. Select **Turn Windows Features on or off**.

    b. The Server Manager opens and queries the system for the list of features and roles which are setup. Select **Add Feature** and then select **Application Server** from the feature list.

    c. Click **Next** on the Welcome screen and the Application Server screen.

    d. On the Local DTC Properties screen, select the services that you will install as part of this role. Select either **Incoming Remote Transactions**, or **Outgoing Remote Transactions** or both depending on your needs. If you want to use SOAP, select **WS-Atomic Transactions**. Click **Next.**

    e. If you have selected **WS-Atomic Transactions**, a page to select an SSL cert displays. You can either select one of Create a Self Signed Cert, or request one later from a CA. Click **Next** and then click **Install**. If you have not selected **WS-Atomic Transactions** in the previous screen, the next screen will have the Summary and **Install** options. After the installation is complete, click **Close**.

    f. Expand Roles from the left hand menu by clicking the plus (+) sign, and then go to Application Server, then Component Services, then Distributed Transaction Coordinator and then Local DTC.

    g. Right click on Local DTC and select properties, then select the security tab.

h. Select the options you need to set the DTC up matching the other servers in your environment. Ensure that you enable **Allow Remote Clients** so that client machines can access the DTC on this machine. If you want to be able to remotely enable DTC from another machine, then select **Allow Remote Administration**.

i. Click **OK** and restart it. You can see the DTC events in the log by selecting the Application Server option from the menu on the left.

6. Reboot Microsoft SQL Server.

The XA driver will not successfully connect during domain configuration if your Microsoft SQL Server database is not rebooted.

D.8 Need More Help?

If this appendix does not solve the problem you encountered, try looking for a solution on My Oracle Support (formerly Oracle*MetaLink*):

https://support.oracle.com/

You can read Note 1292813.1 titled "Troubleshooting SOA Suite 11gR1 Installation for Versions 11.1.1.0 and higher" for additional Oracle SOA Suite troubleshooting information.

If you are unable to find a solution for your problem, open a service request.