

Oracle® Fusion Middleware

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

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Oracle Fusion Middleware Installation Guide for Oracle SOA Suite and Oracle Business Process Management Suite 11g Release 1 (11.1.1)

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Primary Author: Kevin Hwang

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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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<http://www.fcc.gov/cgb/consumerfacts/trs.html>, and a list of phone numbers is available at <http://www.fcc.gov/cgb/dro/trsphonebk.html>.

Related Documents

For additional information, see the following manuals:

- *Oracle Fusion Middleware Installation Planning Guide*
- *Oracle Fusion Middleware Administrator's Guide*
- *Oracle Fusion Middleware Concepts*
- *Oracle Fusion Middleware High Availability Guide*

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.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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, "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.

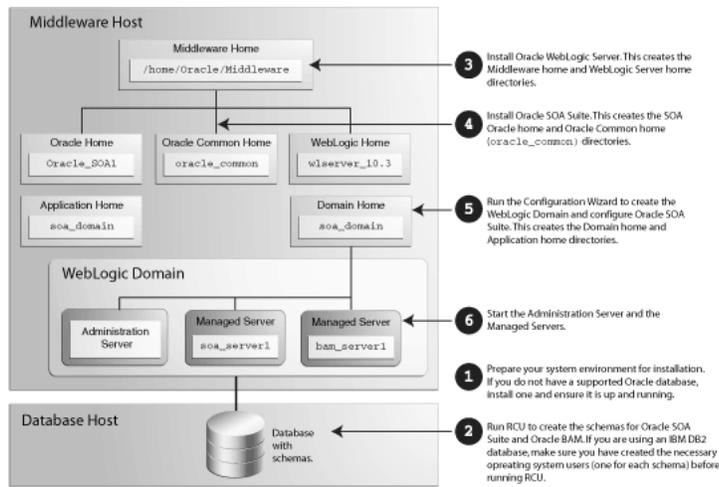
- Oracle Business Process Management Suite

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

1.2 Oracle SOA Suite Installation Roadmap

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

Figure 1–1 Directory Structure of Oracle SOA Suite Installation



The steps you need to take to install Oracle SOA Suite are described in Table 1–1.

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

Task	Description	Documentation
Task 1 - 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.	<p>For system requirements information, go to: http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-requirements-100147.html</p> <p>For certification information, see <i>System Requirements and Supported Platforms for Oracle Fusion Middleware 11gR1</i> on the Oracle Fusion Middleware Supported System Configurations page: http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html</p> <p>For interoperability and compatibility, go to <i>Oracle Fusion Middleware Interoperability and Compatibility Guide</i>.</p>
Task 2 - Run RCU to create the necessary schemas.	<p>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.</p> <p>The schema for Oracle BAM requires a certified Oracle database.</p>	<p>See the following sections in <i>Oracle Fusion Middleware Repository Creation Utility User's Guide</i>:</p> <ul style="list-style-type: none"> ■ "Obtaining RCU" for information on where you can download RCU. ■ "Creating Schemas" for instructions on how to create the schemas. <p>For more information about the database you choose for Oracle SOA Suite, see Section 1.3, "Oracle SOA Suite Database Considerations".</p>
Task 3 - Install an Application Server	<p>Oracle SOA Suite requires an Application Server. One of the following must be installed:</p> <ul style="list-style-type: none"> ■ Oracle WebLogic Server ■ IBM WebSphere <p>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 <i>Oracle Fusion Middleware Installation Planning Guide</i>.</p> <p>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.</p>	<p>If you are installing Oracle WebLogic Server, see the following sections in <i>Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server</i>:</p> <ul style="list-style-type: none"> ■ "Product Distribution" for instructions on how to download the latest version. ■ "Running the Installation Program in Graphical Mode" for installation instructions. <p>If you are installing IBM WebSphere, refer to <i>Oracle Fusion Middleware Third-Party Application Server Guide</i> for installation information.</p>

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

Task	Description	Documentation
Task 4 - Install Oracle SOA Suite and Oracle Business Process Management Suite	<p>Use the installer to install the software. This creates the following directories inside the Middleware home:</p> <ul style="list-style-type: none"> ■ SOA Oracle home (oracle_soa1 by default) ■ Oracle Common home (oracle_common). 	<p>See "Obtain the Oracle Fusion Middleware Software" in <i>Oracle Fusion Middleware Installation Planning Guide</i> for information on where to obtain the software.</p> <p>See Chapter 2, "Installing Oracle SOA Suite and Oracle Business Process Management Suite" for installation instructions.</p>
Task 5 - Configure Oracle SOA Suite and create your WebLogic Domain.	<p>Use the Oracle Fusion Middleware Configuration Wizard to create your WebLogic domain and configure your Oracle SOA Suite components.</p> <p>You will be asked for the location of the Domain home directory, which is where the Administration Server and Managed Servers reside.</p> <p>You will also be asked for the location of the Application home directory, which is where your applications reside.</p> <p>Both of these directories can be located anywhere on your system.</p> <p>After the domain is created, you can extend it later if you want to add more components to the domain.</p>	<p>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.</p>
Task 6 - Start the servers.	<p>Start the Administration Server and Managed Servers.</p>	<p>See Section 3.6, "Starting the Servers" for instructions on how to start the Administration Server and Managed Servers.</p>

1.3 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.

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 tasks 1 - 3 in Table 1-1 in Section 1.2, "Oracle SOA Suite Installation Roadmap".

2.1.1 Enabling Unicode Support

Your operating system configuration can influence the behavior of characters supported by Oracle SOA Suite.

On a UNIX operating system, Oracle highly recommends that you enable Unicode support by setting the `LANG` and `LC_ALL` environment variables to a locale with the UTF-8 character set. This enables the operating system to process any character in Unicode. SOA technologies are based on Unicode.

If the operating system is configured to use a non-UTF-8 encoding, SOA components may function in an unexpected way. For example, a non-ASCII file name can make the file inaccessible and cause an error. Oracle does not support problems caused by operating system constraints.

In a design-time environment, if you are using Oracle JDeveloper, select **Tools -> Preferences -> Environment -> Encoding -> UTF-8** to enable Unicode support.

2.1.2 Synchronizing Clocks When Working with Clusters

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:

- Section 2.2.1, "Obtaining the Software"
- Section 2.2.2, "Starting the Installer"
- Section 2.2.3, "Installation Log Files"
- Section 2.2.5, "Installation Screens and Instructions"

2.2.1 Obtaining the Software

See "Obtain the Oracle Fusion Middleware Software" in *Oracle Fusion Middleware Installation Planning Guide* for information on where to obtain the software.

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. When you installed Oracle WebLogic Server, a JRE was installed on your system in the `jdk160_21` directory inside the Middleware home. You can use this location as the `JRE_LOCATION` to start the installer.

On 64-bit platforms, the JRE location is the `JAVA_HOME` you used to install Oracle WebLogic Server.

If you do not specify the JRE location with the `-jreLoc` option, you will be prompted to provide the location of your JRE before the installer is started. For example, on a UNIX operating system:

```
[./runInstaller
Starting Oracle Universal Installer...
```

```

Checking if CPU speed is above 300 MHz.    Actual 2999 MHz    Passed
Checking Temp space: must be greater than 150 MB.    Actual 66070 MB    Passed
Checking swap space: must be greater than 512 MB.    Actual 4047 MB    Passed
Checking monitor: must be configured to display at least 256 colors.    Actual 256
Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2010-02-23_
10-57-58AM. Please wait ...
Please specify JRE/JDK location ( Ex. /home/jre ), <location>/bin/java should
exist :

```

Specify the absolute path to the JRE on your system before you continue.

Note: If you are installing Oracle SOA Suite on a 64-bit UNIX or Windows operating system with a 32-bit JDK, you must specify the *JRE_LOCATION* using the `-jreLoc` option from the command line. The option to provide your *JRE_LOCATION* at the prompt is not supported in such cases, and the installer will not start.

2.2.3 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. Refer to Section D.2.1, "Installation Log Files" for more information about the log files and their contents.

2.2.4 Inventory Screens (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*

No.	Screen	Description and Action Required
1	Specify Inventory Directory Screen (UNIX Only)	Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory. Click OK to continue.
2	Inventory Location Confirmation Screen (UNIX Only)	Run the <code>createCentralInventory.sh</code> script as root. Click OK to continue.

2.2.5 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

No.	Screen	Description and Action Required
1	Welcome Screen	Click Next to continue.
2	Install Software Updates Screen	Select the method you want to receive software updates. Click Next to continue.
3	Prerequisite Checks Screen	Click Next to continue.
4	Specify Installation Location Screen	Specify Oracle Middleware home and Oracle home locations. The Oracle Common home (<code>oracle_common</code>) directory will automatically be created inside the Middleware home; do not use <code>oracle_common</code> as the name of your Oracle home directory. Click Next to continue.
5	Application Server Screen	Select the application server and specify its location. Click Next to continue.
6	Installation Summary Screen	Verify the installation about to be performed. Click Install to continue.
7	Installation Progress Screen	This screen shows the progress of the installation. When the progress shows 100% complete, click Next to continue.
8	Installation Complete Screen	Click Finish to dismiss the screen.

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 the SOA Suite extension for JDeveloper.

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

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 WebCenter Spaces"
- Section 3.3, "Manual Configuration for Oracle BAM"
- Section 3.4, "Applying Java Required Files (JRF)"
- Section 3.5, "Protecting Updates to Your SOA Configuration"
- Section 3.6, "Starting the Servers"
- Section 3.7, "Starting Node Manager"
- Section 3.8, "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 other 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.

Note: Once you have configured a domain for Oracle Business Process Management, you can no longer create another domain in the same Oracle home that contains Oracle SOA Suite only. An Oracle SOA Suite domain that does not contain Oracle Business Process Management cannot share the same Oracle home as an Oracle Business Process Management 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

Before you start the Configuration Wizard, you must shut down any Managed Servers that are currently running. 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

The Configuration Wizard is located in the `common/bin` directory in your SOA Oracle home.

On UNIX operating systems:

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

On Windows operating systems:

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

If this is a new installation and you need to create a new WebLogic domain, follow the instructions in Section 3.1.6, "Creating a New Domain". You can also run the Configuration Wizard to extend an existing WebLogic domain, as described in Section 3.1.7, "Extending an Existing Domain".

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, the JDK that is actually used 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 the Sun JDK, do the following prior to starting the Configuration Wizard:

1. Set the `JAVA_HOME` environment variable to the location of the Sun JDK. For example, you can set it to the Sun JDK that was installed with Oracle WebLogic Server in the `jdk160_21` directory in the Middleware home.
2. Set the `JAVA_VENDOR` environment variable to "Sun."

3.1.5 Configuration Log Files

To create a log file for your configuration session, use the `-log=log_filename` parameter when you start the Configuration Wizard.

On UNIX operating systems:

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

On Windows operating systems:

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

Log files of your configuration session are created in the `logs` directory inside your Middleware home. For more information about the Configuration Wizard log files, see Section D.2, "Installation and Configuration Log Files".

3.1.6 Creating a New Domain

Follow the instructions in "Creating a WebLogic Domain" in *Oracle Fusion Middleware Creating Domains Using the Configuration Wizard* to create a new WebLogic domain for your Oracle SOA Suite components.

Note: 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.

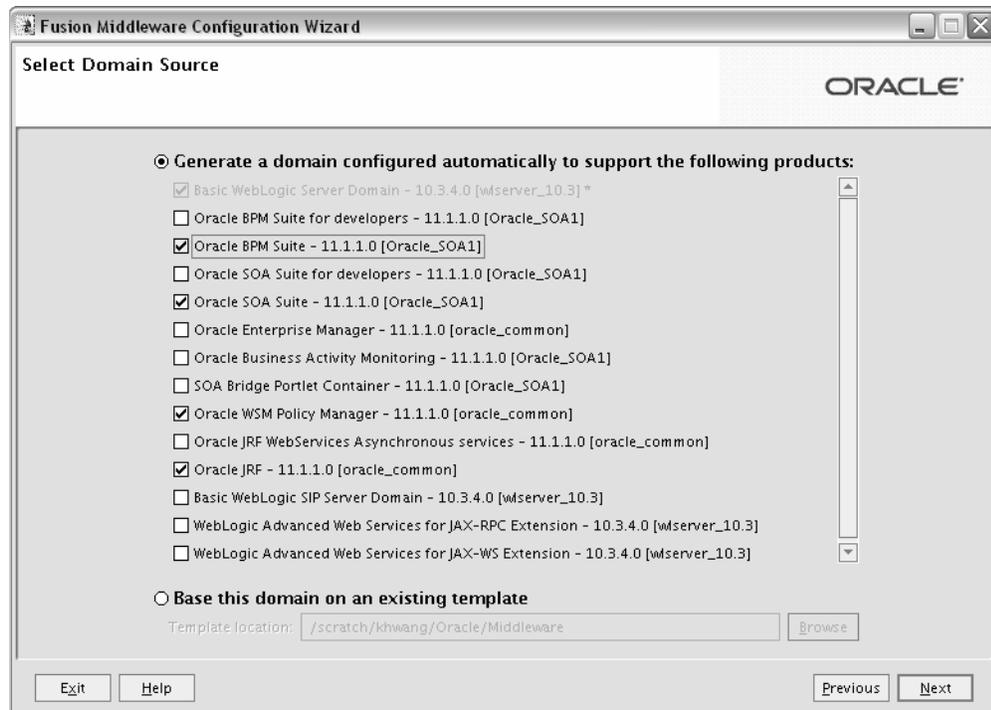
For more information, see Section D.7, "XA Configuration Required to Start the SOA Infrastructure on Microsoft SQL Server".

This section contains information specific to the configuration of Oracle SOA Suite products using the Configuration Wizard.

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.

3.1.6.1 Oracle BPM Suite

To create a domain configured with Oracle BPM Suite, start the Configuration Wizard and select **Oracle BPM Suite - 11.1.1.0 [SOA_ORACLE_HOME]** on the Select Domain Source screen:



The following templates are selected as dependencies:

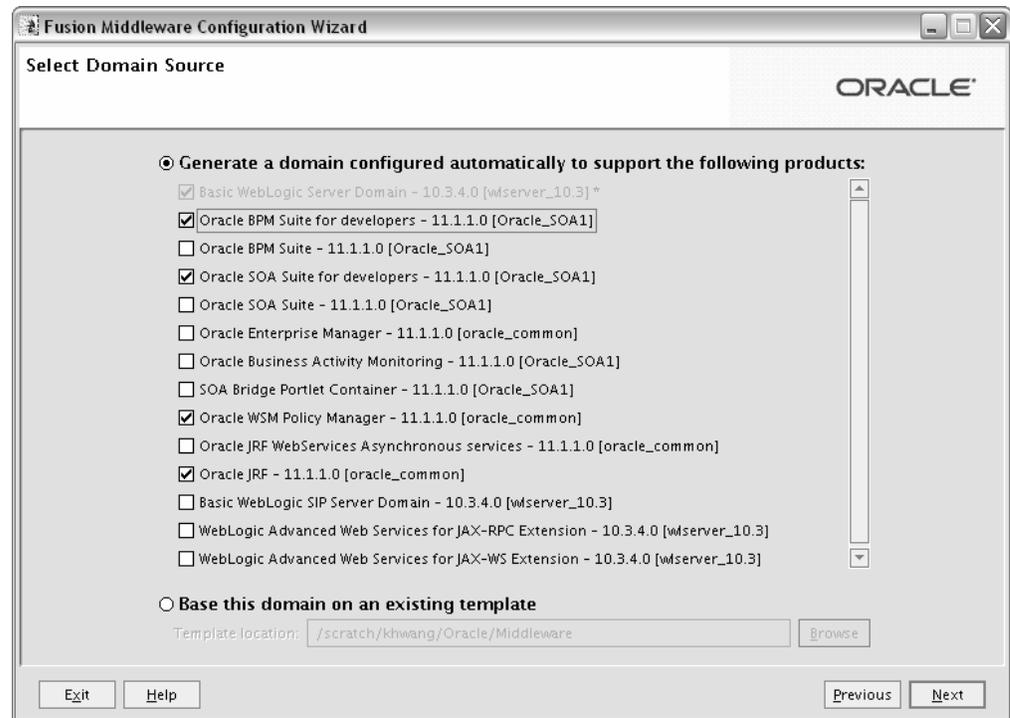
- Oracle SOA Suite - 11.1.1.0 [*SOA_ORACLE_HOME*]
- Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]
- Oracle JRF - 11.1.1.0 [oracle_common]

The following servers are created:

- Administration Server
- soa_server1

3.1.6.2 Oracle BPM Suite for Developers

To create a domain configured with Oracle BPM Suite for developers, start the Configuration Wizard and select **Oracle BPM Suite for developers - 11.1.1.0 [*SOA_ORACLE_HOME*]** on the Select Domain Source screen:



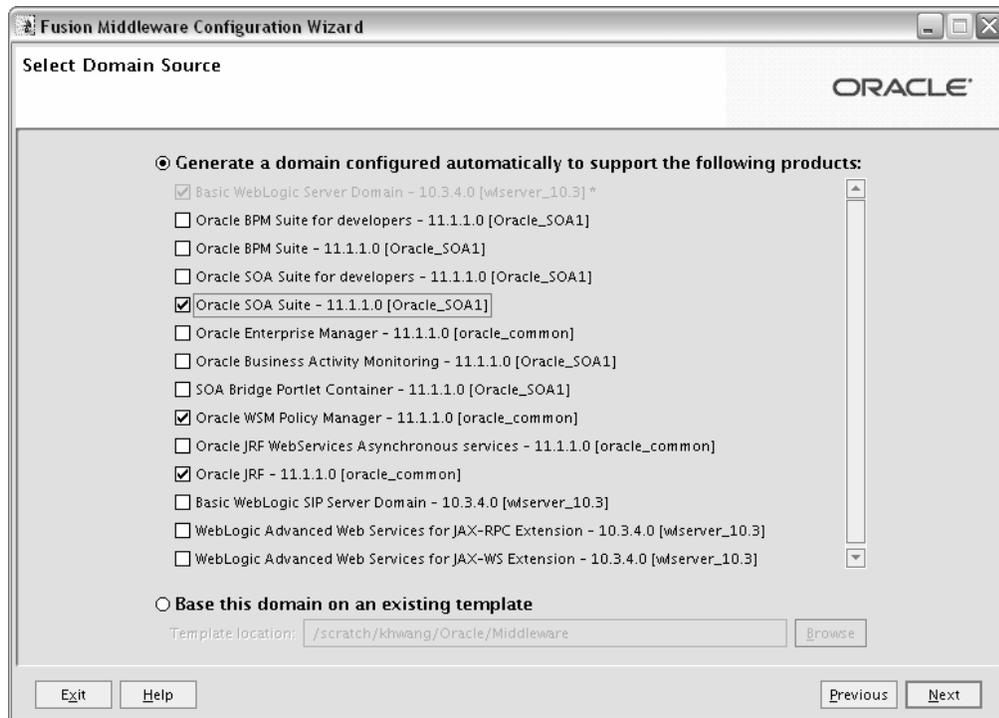
The following templates are selected as dependencies:

- 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]

These templates do not create an Managed Servers; only a single Administration Server is created for the domain.

3.1.6.3 Oracle SOA Suite

To create a domain configured with Oracle SOA Suite, start the Configuration Wizard and select **Oracle SOA Suite - 11.1.1.0 [*SOA_ORACLE_HOME*]** on the Select Domain Source screen:



The following templates are selected as dependencies:

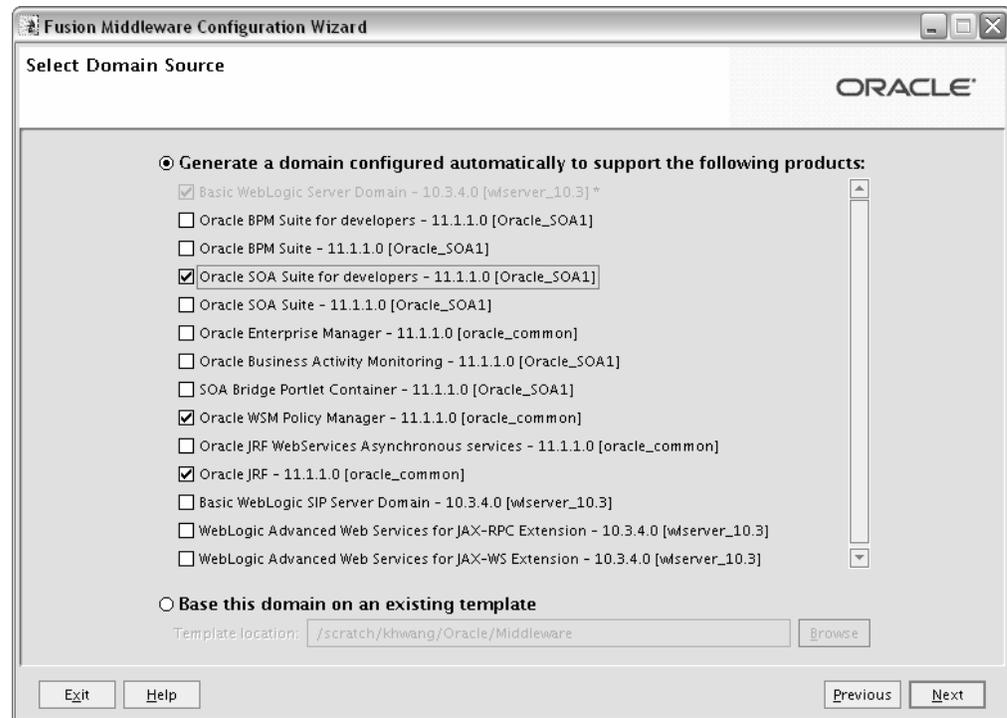
- Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]
- Oracle JRF - 11.1.1.0 [oracle_common]

The following servers are created:

- Administration Server
- soa_server1

3.1.6.4 Oracle SOA Suite for Developers

To create a domain configured with Oracle SOA Suite for developers, start the Configuration Wizard and select **Oracle SOA Suite for developers - 11.1.1.0 [SOA_ORACLE_HOME]** on the Select Domain Source screen:



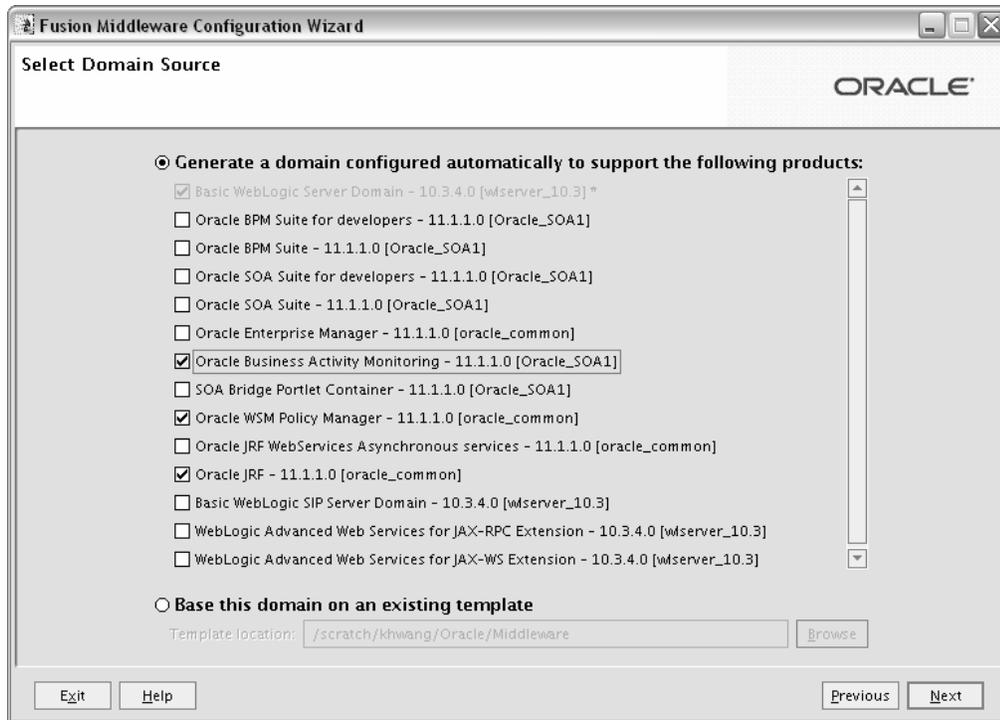
The following templates are selected as dependencies:

- Oracle WSM Policy Manager - 11.1.1.0 [oracle_common]
- Oracle JRF - 11.1.1.0 [oracle_common]

These templates do not create an Managed Servers; only a single Administration Server is created for the domain.

3.1.6.5 Oracle Business Activity Monitoring

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



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

3.1.7 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.

3.2 Using Oracle Business Process Management Suite with WebCenter Spaces

If you want to access some of the Oracle Business Process Management Suite functionality through WebCenter Spaces, then you must install Process Portal on Oracle WebCenter. However, doing so requires that Oracle WebCenter is either configured with Oracle 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 "Configuring Process Portal on WebCenter Spaces" in *Oracle Fusion Middleware Patching Guide*.

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.

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/BAMICCommandConfig.xml` (on UNIX operating systems) or `SOA_ORACLE_HOME\bam\config\BAMICCommandConfig.xml` (on Windows operating systems) file. The parameter that needs to be changed is shown below:


```
<ADCServerPort>9001</ADCServerPort>
```
2. Oracle BAM single-instance web application configuration information is maintained in the `MW_HOME/user_projects/domains/domain_name/servers/BAM_server_name/tmp/_WL_user/oracle-bam_11.1.1.1/yhryfp/APP-INF/classes/config` (on UNIX operating systems) or `MW_HOME\user_projects\domains\domain_name\servers\BAM_server_name\tmp_WL_user\oracle-bam_11.1.1.1\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. 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 choose to configure Oracle SOA on `AdminServer` by deleting `soa_server1` in the Configuration Wizard, and if Oracle BAM is also selected for configuration, then Oracle BAM also needs to be targeted on `AdminServer` by deleting `bam_server1` in the Configuration Wizard.

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 Screen or Select Extension Source Screen, 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 Protecting Updates to Your SOA Configuration

When the Administration Server is started, the contents of the `config/soa-infra` directory in your `DOMAIN_HOME` are overwritten by the Administration Server. However, since SOA configuration parameters are updated only on Managed Servers and on a per-server basis, all updates to the SOA configuration are lost when the Managed Servers are restarted if the system hosting the Administration Server does not have an updated copy.

The `ant-soa-util.xml` script in your `SOA_ORACLE_HOME/bin` directory can be used to resolve this issue. The script does the following:

Note: The script must be run before you try to start the Administration Server or any of the Managed Servers.

- Moves the `config/soa-infra` (on UNIX operating systems) or `config\soa-infra` (on Windows operating systems) to the `DOMAIN_HOME/soa_backup/config/soa-infra` (on UNIX operating systems) or `DOMAIN_HOME\soa_backup\config\soa-infra` (on Windows operating systems) directory.
- Replaces the `startManagedWebLogic.sh` (on UNIX operating systems) or `startManagedWebLogic.cmd` (on Windows operating systems) scripts with versions that prevent the Managed Servers from starting.

3.6 Starting the Servers

To get your deployments up and running, you must start the Administration Server and various Managed Servers:

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 servers 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.

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 line.

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.

3.7 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*.

3.8 Verifying the Installation and Configuration

To verify the installation, start your browser and enter the following URLs:

- To access the Administration Server console:

`http://administration_server_host:administration_server_port/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`

- To access Enterprise Manager:

`http://administration_server_host:administration_server_port/em`

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, "Reinstallation" for more information.

The following topics are covered:

- Section 4.1, "Deinstallation Instructions"
- Section 4.2, "Reinstallation"

4.1 Deinstallation Instructions

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 Deinstallation Flow

No.	Screen	Description and Action Required
1	Welcome Screen	Click Next to continue.
2	Deinstall Oracle Home Screen	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.
3	Deinstallation Progress Screen	This screen shows the progress and status of the deinstallation.
4	Deinstallation Complete Screen	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 *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 11.1.1.3.0
- 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 Reinstallation

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.

Oracle SOA Suite and Oracle Business Process Management Suite Installation Screens

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

- Specify Inventory Directory Screen (UNIX Only)
- Inventory Location Confirmation Screen (UNIX Only)
- Welcome Screen
- Install Software Updates Screen
- Prerequisite Checks Screen
- Specify Installation Location Screen
- Application Server Screen
- Installation Summary Screen
- Installation Progress Screen
- Installation Complete Screen

A.1 Specify Inventory Directory Screen (UNIX Only)



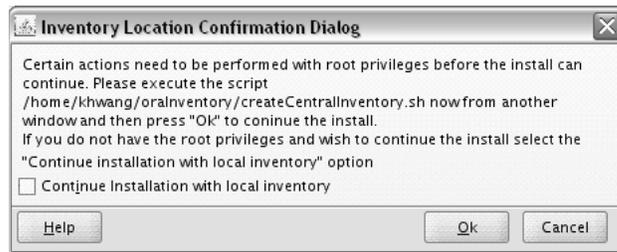
This screen appears for UNIX systems only; if this is your first Oracle installation on this host, you must specify the location of the inventory directory. This inventory directory is used by the installer to keep track of all Oracle products installed on the computer.

The default inventory location is `USER_HOME/orainventory`.

In the **Operating System Group name** field, 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 system.

Click **OK** to continue.

A.2 Inventory Location Confirmation Screen (UNIX Only)



This screen appears for UNIX systems only; you are asked to run the `inventory_directory/createCentralInventory.sh` script as `root`.

If you do not have `root` access on this system but wish to continue with the installation, select **Continue installation with local inventory**.

Click **OK** to continue.

A.3 Welcome Screen



The Welcome screen is displayed each time you start the installer.

A.4 Install Software Updates Screen



Select the method you want to use for installing software updates.

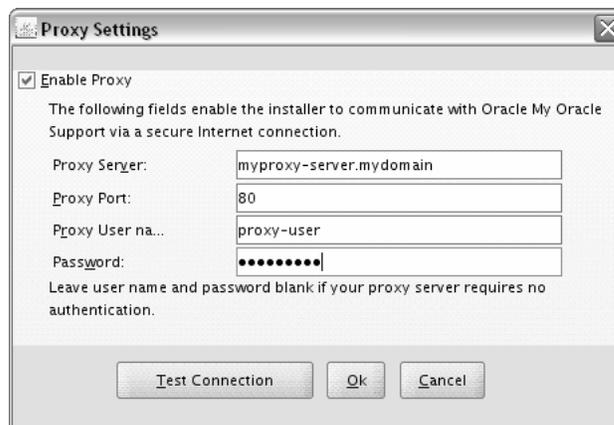
- Skip Software Updates

You can choose to skip this option for now.

- Search My Oracle Support for Updates.

If you have a My Oracle Support account, you can specify your account name and password to have the installer automatically download applicable software updates from My Oracle Support. After entering your credentials, you can test the connection by clicking **Test Connection**. Click **Proxy Settings** if you need to configure a proxy server in order to have the installer access My Oracle Support.

Configure your proxy server with the following screen:

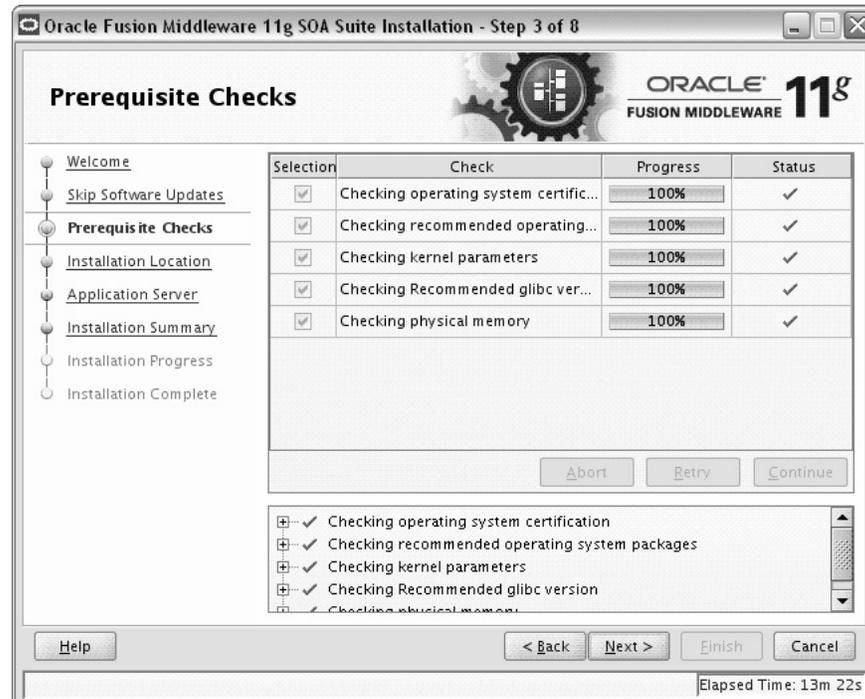


- Search Local Directory for Updates.

If you have software updates available locally, you can specify the location by using this option. When you select **Search Local Directory for Updates** an additional "Local Directory" field will appear, as shown below:



A.5 Prerequisite Checks Screen

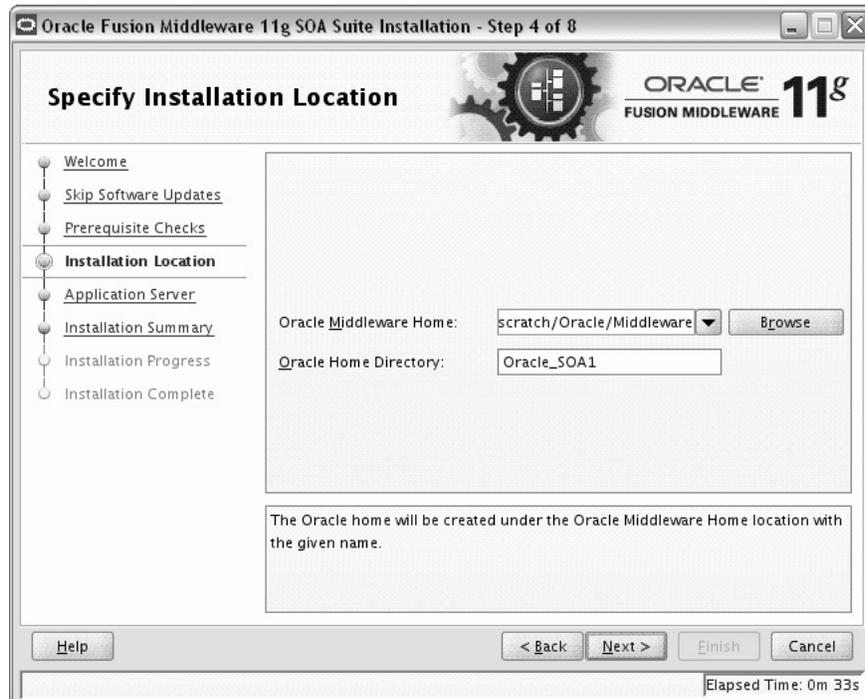


If there is a problem, a short error message appears in the bottom portion of the screen. Fix the error and click **Retry** to try again.

If you want to ignore the error and warning messages and continue with the installation, click **Continue**.

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

A.6 Specify Installation Location Screen



Specify the directories where you want to install your software:

- Oracle Middleware Home
 - **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.
- Oracle Home Directory
 In the Oracle Home Directory field, 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).

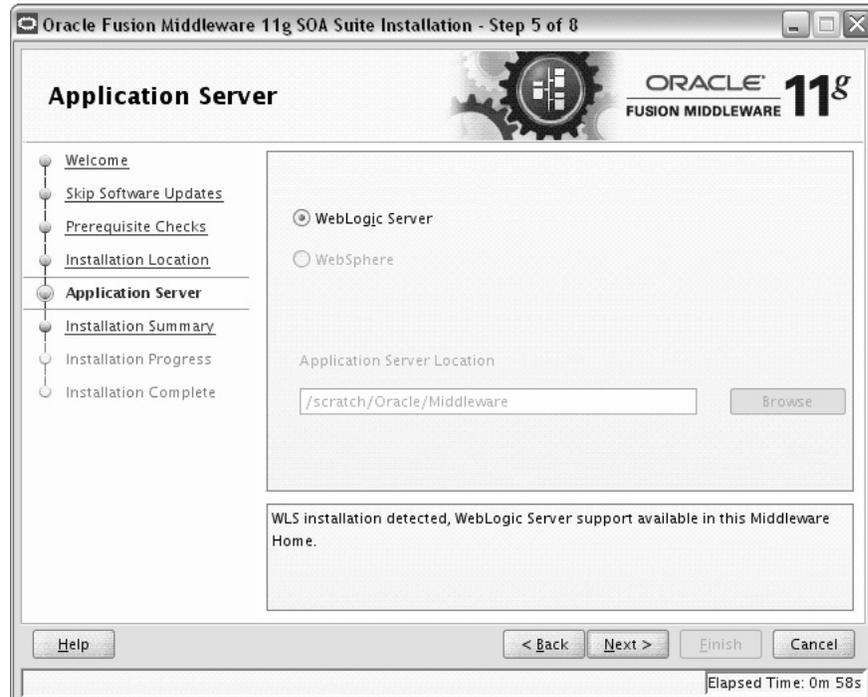
- An existing Oracle home directory (for example, you are reinstalling Oracle SOA Suite to an existing Oracle home because of an incomplete previous installation).
- If you specify a new directory, it will be created inside the Middleware home.

Note: For the remainder of this document, this directory 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 (\\).

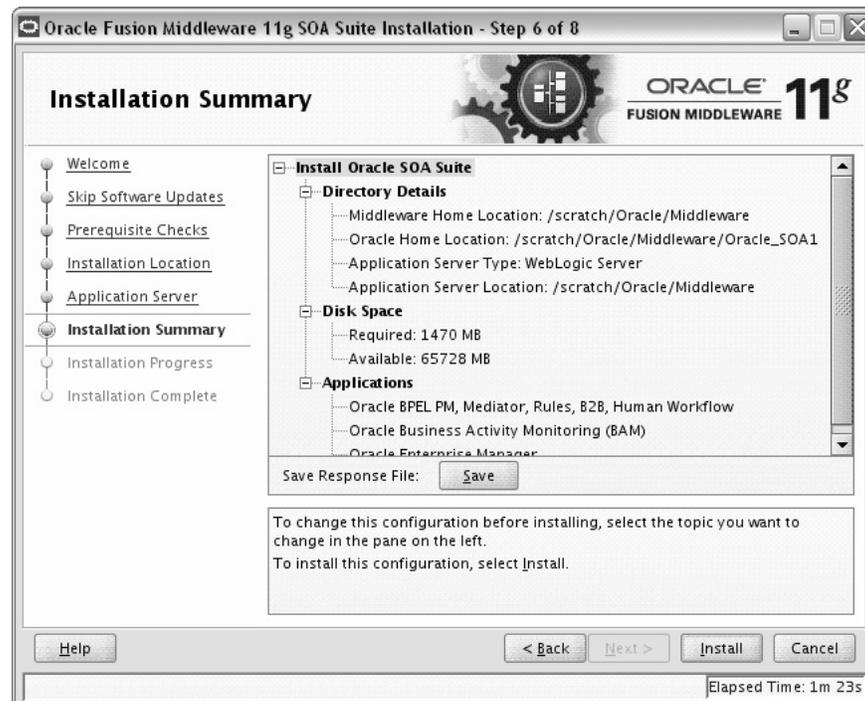
A.7 Application Server Screen



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 Screen



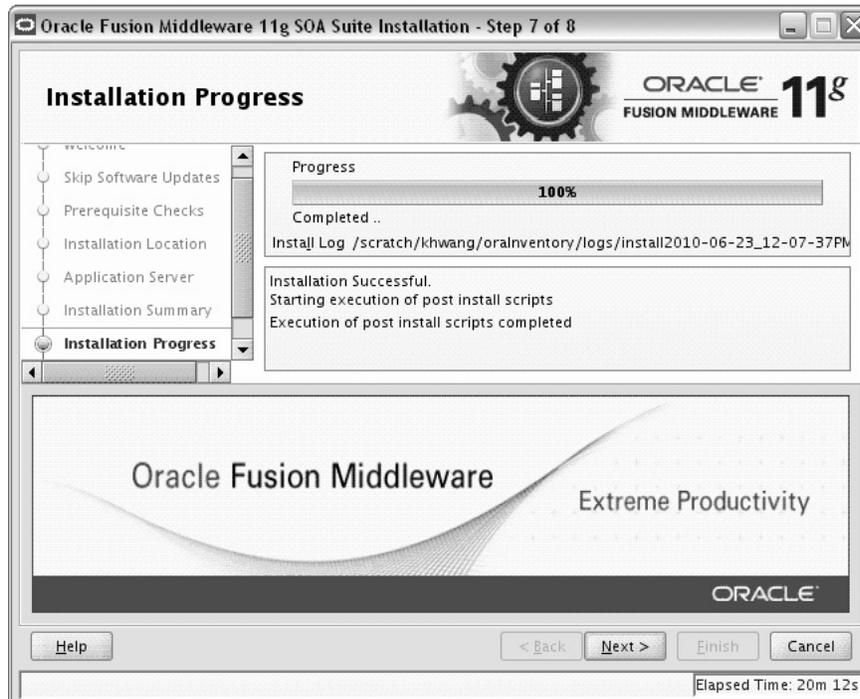
Review the information on this screen, and click **Install** to begin the installation. The operations summarized on this page will be performed when you click **Install**.

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

If you want to save this configuration to a text file, click **Save**. This file can be used later if you choose to perform the same installation from the command line.

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

A.9 Installation Progress Screen



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 Screen



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.

Oracle SOA Suite and Oracle Business Process Management Suite Deinstallation Screens

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

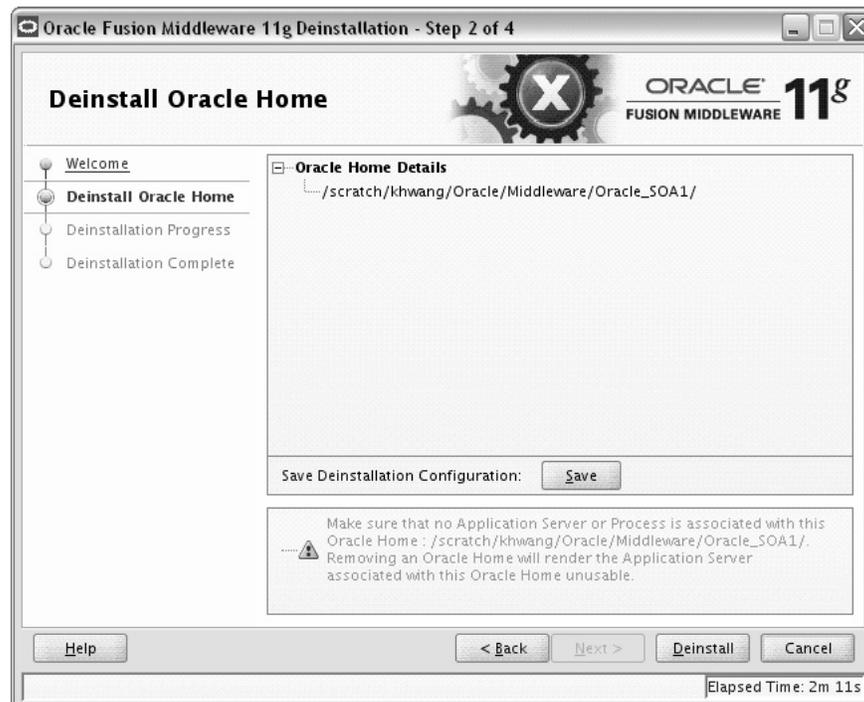
- Welcome Screen
- Deinstall Oracle Home Screen
- Deinstallation Progress Screen
- Deinstallation Complete Screen

B.1 Welcome Screen



The Welcome screen is displayed each time you start the deinstaller.
Click **Next** to continue.

B.2 Deinstall Oracle Home Screen

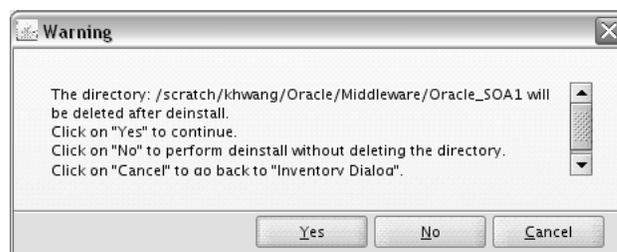


This screen shows the Oracle home directory that is about to be deinstalled. This is the Oracle home directory from which the deinstaller was started.

Note: Before you choose to remove this Oracle home, make sure that it is not in use by an existing domain.

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

The following warning screen will appear:

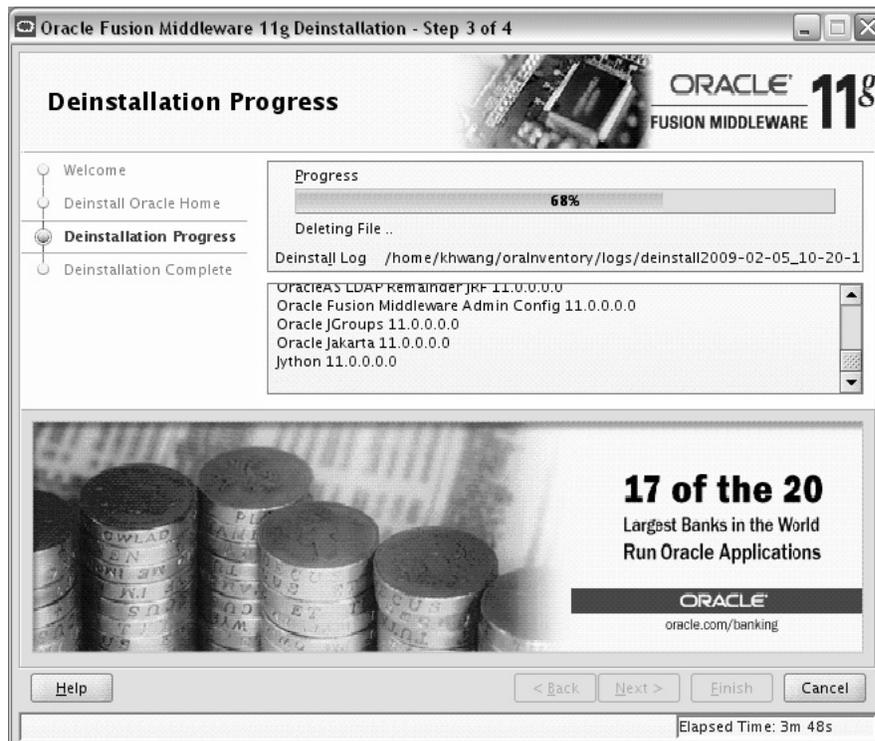


Click **Yes** to remove the software and the Oracle home directory from which the deinstaller was started.

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

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

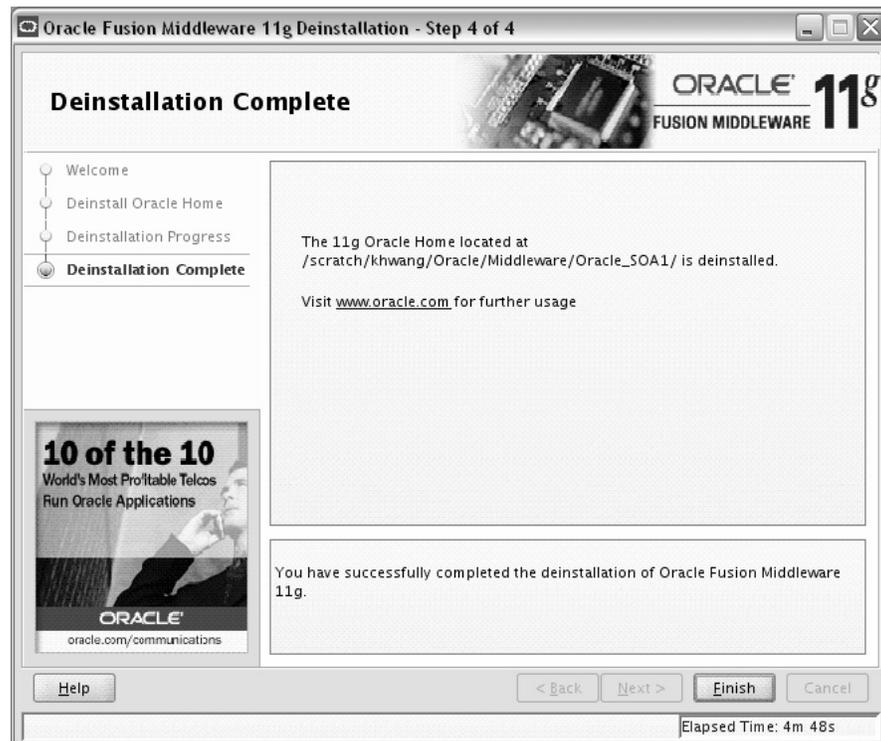
B.3 Deinstallation Progress Screen



This screen shows you the progress of the deinstallation.

If you want to quit before the deinstallation is completed, click **Cancel**.

B.4 Deinstallation Complete Screen



This screen summarizes the deinstallation that was just completed.

Click **Finish** to dismiss the screen.

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, "About Silent Installation and Deinstallation"
- Section C.2, "Oracle SOA Suite Response Files"

C.1 About Silent Installation and Deinstallation

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

C.2 Oracle SOA Suite Response Files

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.

C.2.1 Installation Response Files

A sample response file called `sampleResponse_wls.rsp` (see Section C.2.1.1, "Contents of the `sampleResponse_wls.rps` File") is provided in the `Disk1/stage/Response` (on UNIX operating systems) or `Disk1\stage\Response` (on Windows operating systems) directory in the location where you unzipped your downloaded archive file for installation. This template response file can be used to install the Oracle SOA Suite software if you are using Oracle WebLogic Server as the application server. If you are using IBM WebSphere as your application server, you need to use the `sampleResponse_was.rsp` file (see Section C.2.1.2, "Contents of the `sampleResponse_was.rsp` File").

In either case, you will still need to run the Configuration Wizard after installation to create or extend your WebLogic domain and configure Oracle SOA Suite products.

C.2.1.1 Contents of the `sampleResponse_wls.rps` File

Below are the contents of the `sampleResponse_wls.rsp` file:

```
[ENGINE]

#DO NOT CHANGE THIS.
Response File Version=1.0.0.0

[GENERIC]
```

```
#Set this to true if you wish to specify a directory where latest updates are
downloaded. This option would use the software updates from the specified
directory
SPECIFY_DOWNLOAD_LOCATION=false

#
SKIP_SOFTWARE_UPDATES=true

#If the Software updates are already downloaded and available on your local
system, then specify the path to the directory where these patches are available
and set SPECIFY_DOWNLOAD_LOCATION to true
SOFTWARE_UPDATES_DOWNLOAD_LOCATION=

#Provide the Oracle Home location. The location has to be the immediate child
under the specified Middleware Home location. The Oracle Home directory name may
only contain alphanumeric , hyphen (-) , dot (.) and underscore (_) characters,
and it must begin with an alphanumeric character. The total length has to be less
than or equal to 128 characters. The location has to be an empty directory or a
valid SOA Oracle Home.
ORACLE_HOME=/home/middleware/Oracle_SOA1

#Provide existing Middleware Home location.
MIDDLEWARE_HOME=/home/middleware

#Application Server choices are WLS, WAS, JBoss
APPSERVER_TYPE=WLS

[SYSTEM]

[APPLICATIONS]

[RELATIONSHIPS
]
```

The parameters you should change in this file are:

- `SKIP_SOFTWARE_UPDATES`. Set this to `true` if you do not want to configure your system to receive software updates. If you do, then set this parameter to `false`. Set the `SPECIFY_DOWNLOAD_LOCATION` parameter to `true` if you want to specify a directory where the latest updates are downloaded, then specify this location with the `SOFTWARE_UPDATES_DOWNLOAD_LOCATION` parameter.
- `ORACLE_HOME`. Specify the full path to your Oracle home directory.
- `MIDDLEWARE_HOME`. Specify the full path to your Middleware home directory.

C.2.1.2 Contents of the `sampleResponse_was.rsp` File

Below are the contents of the `sampleResponse_was.rsp` file:

```
[ENGINE]

#DO NOT CHANGE THIS.
Response File Version=1.0.0.0.0

[GENERIC]

#Set this to true if you wish to specify a directory where latest updates are
downloaded. This option would use the software updates from the specified
```

```

directory
SPECIFY_DOWNLOAD_LOCATION=false

#
SKIP_SOFTWARE_UPDATES=true

#If the Software updates are already downloaded and available on your local
system, then specify the path to the directory where these patches are available
and set SPECIFY_DOWNLOAD_LOCATION to true
SOFTWARE_UPDATES_DOWNLOAD_LOCATION=

#Provide the Oracle Home location. The location has to be the immediate child
under the specified Middleware Home location. The Oracle Home directory name may
only contain alphanumeric , hyphen (-) , dot (.) and underscore (_) characters,
and it must begin with an alphanumeric character. The total length has to be less
than or equal to 128 characters. The location has to be an empty directory or a
valid SOA Oracle Home.
ORACLE_HOME=/home/middleware/Oracle_SOA1

#Provide Middleware Home location.
MIDDLEWARE_HOME=/home/middleware

#Application Server choices are WLS, WAS, JBoss
APPSERVER_TYPE=WAS

#Application Server Location to be specified for WAS and JBoss.
APPSERVER_LOCATION=/home/wasinstall

[SYSTEM]

[APPLICATIONS]

[RELATIONSHIPS
]

```

The parameters you should change in this file are:

- **SKIP_SOFTWARE_UPDATES.** Set this to `true` if you do not want to configure your system to receive software updates. If you do, then set this parameter to `false`. Set the `SPECIFY_DOWNLOAD_LOCATION` parameter to `true` if you want to specify a directory where the latest updates are downloaded, then specify this location with the `SOFTWARE_UPDATES_DOWNLOAD_LOCATION` parameter.
- **ORACLE_HOME.** Specify the full path to your Oracle home directory.
- **MIDDLEWARE_HOME.** Specify the full path to your Middleware home directory. Remember that this directory must be specified even if you are not using Oracle WebLogic Server as your application server.
- **APPSERVER_LOCATION.** Specify the installation directory for your IBM WebSphere application server.

C.2.2 Deinstallation Response Files

A sample deinstallation response file called `deinstall_oh.rsp` is provided in the `Disk1/stage/Response` (on UNIX operating systems) or `Disk1\stage\Response` (on Windows operating systems) directory in the location

where you downloaded and unzipped your archive file for installation. This template response file can be used to deinstall a SOA Oracle home.

The contents of the `deinstall_oh.rsp` file are shown below:

```
[ENGINE]
```

```
#DO NOT CHANGE THIS.  
Response File Version=1.0.0.0.0
```

```
[GENERIC]
```

```
#Identifies if the Instance deinstallation is valid or not  
DEINSTALL_IN_ASINSTANCE_MODE=false
```

```
[SYSTEM]
```

```
[APPLICATIONS]
```

```
[RELATIONSHIPS]
```

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 systems, if you do not know the location of your Oracle Inventory directory, you can find it in the *SOA_ORACLE_HOME/oraInst.loc* file. On Windows systems, the default location for the inventory directory is *C:\Program Files\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 *timeTakedate-time-stamp.log* and *timedate-time-stamp.log* files are created in the same directory:

- *timeTakedate-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 *memorydate-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
```

On Windows operating systems:

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

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

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 `Djvax.net.ssl.trustStore` parameter points to the custom trust keystore file. For example:

```
Djvax.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.

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.

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 <code>WebLogic_Home\server\bin</code> directory, copy one of the following .dll files (find the one for your platform) along with the <code>instjdbc.sql</code> file: <ul style="list-style-type: none"> ▪ <code>sqljdbc.dll</code> (for x32 platforms) ▪ <code>x64sqljdbc.dll</code> (for x64 platforms) ▪ <code>64sqljdbc.dll</code> (for IA64 platforms) 	<code>C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn</code>
SQL Server 2008	From the <code>WebLogic_Home\server\bin</code> directory, copy one of the following .dll files (find the one for your platform) along with the <code>instjdbc.sql</code> file: <ul style="list-style-type: none"> ▪ <code>sqljdbc.dll</code> (for x32 platforms) ▪ <code>x64sqljdbc.dll</code> (for x64 platforms) ▪ <code>64sqljdbc.dll</code> (for IA64 platforms) 	<code>C:\Program Files\Microsoft SQL Server\MSSQL10.INSTANCE_NAME\MSSQL\Binn</code>

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 both 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. Configure the Microsoft Distributed Transaction Coordinator (DTC) for the Microsoft operating system.
 - a. From the **Start** menu, select **Control Panel > Administrative Tools > Component Services** icon > Component Services (in the navigator under **Console Root**) > **Computers > My Computer**.

- b. Right-click **My Computer** and select **Properties > MSDTC > Security Configuration**.

The Security Configuration dialog appears.

- 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**, and **Enable Transaction Internet Protocol (TIP) Transactions** checkboxes.
 - f. In the **Security Settings** section, select the **Enable XA Transactions** checkbox.
 - g. Click **OK** in the Security Configuration dialog.
 - h. Click **OK** in the My Computer Properties dialog.
4. 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 these other sources:

- *Oracle Fusion Middleware Release Notes*, available on the Oracle Technology Network (<http://www.oracle.com/technology/documentation>)
- My Oracle Support (formerly OracleMetaLink: <https://support.oracle.com>)

If you do not find a solution for your problem, open a service request.

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