Sun N1 Service Provisioning System User's Guide and Release Notes for the Oracle App Server 10g Plug-In 2.0

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Preface

This book explains how to use the Sun™ N1™ Service Provisioning System (N1 SPS) software to capture and deploy Oracle App Server 10g applications and files.

Who Should Use This Book

The main audience for the *Sun N1 Service Provisioning System User's Guide and Release Notes for the Oracle App Server 10g Plug-In 2.0* includes system administrators and operators of N1 SPS software who want to be able to incorporate Oracle App Server 10g functionality with N1 SPS software. These users are expected to be familiar with the following:

- The N1 SPS product
- Standard UNIX® and Windows commands and utilities
- The general concepts and management features available in the Oracle App Server 10g product

Before You Read This Book

If you are not already familiar with using the N1 SPS software, read the following books:

- *Sun N1 Service Provisioning System 5.1 System Administration Guide*
- *Sun N1 Service Provisioning System 5.1 Operation and Provisioning Guide*
- *Sun N1 Service Provisioning System 5.1 Release Notes*

How This Book Is Organized

Chapter 1 provides an overview of the plug-in solution.

Chapter 2 includes known issues and late-breaking news for this plug-in.

Chapter 3 explains how to install and configure the plug-in.

Chapter 4 explains how to capture and deploy applications and files through the plug-in and describes the specific component types that are provided with the plug-in.

Related Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

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Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P–1 Typographic Conventions

Typeface or Symbol	Meaning	Example
`AaBbCc123`	The names of commands, files, and directories, and onscreen computer output	Edit your `.login` file. Use `ls -a` to list all files. `machine_name% you have mail.`
`AaBbCc123`	What you type, contrasted with onscreen computer output	`machine_name%` **`su`** `Password:`
aabbcc123	Placeholder: replace with a real name or value	The command to remove a file is `rm` *filename*.
AaBbCc123	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the *User's Guide*. Perform a *patch analysis*. Do *not* save the file. [Note that some emphasized items appear bold online.]

Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P–2 Shell Prompts

Shell	Prompt
C shell prompt	`machine_name%`
C shell superuser prompt	`machine_name#`
Bourne shell and Korn shell prompt	`$`
Bourne shell and Korn shell superuser prompt	`#`

CHAPTER 1

Overview of the Oracle App Server 10g Plug-In

This chapter explains general information about using Sun N1 Service Provisioning System (N1 SPS) to provision Oracle App Server 10g applications. This chapter includes the following information:

- "Purpose of the Oracle App Server 10g Plug-In" on page 13
- "What the Oracle App Server 10g Plug-In Includes" on page 13
- "Requirements for Using the Oracle App Server 10g Plug-In" on page 14
- "For More Information" on page 15

Purpose of the Oracle App Server 10g Plug-In

The N1 SPS software provides enhanced capabilities in out-of-the-box support for Oracle App Server 10g. You can provision Oracle App Server 10g infrastructure and applications, and browse existing installations to export and import previously installed applications. The Oracle App Server 10g support is packaged in a Java™ Archive (JAR) file that loads into the N1 SPS environment The Oracle App Server 10g plug-in can deploy Oracle applications that are compatible with Oracle 10g application servers.

What the Oracle App Server 10g Plug-In Includes

The Oracle App Server 10g plug-in enables users to perform the following main functions:

- Install the infrastructure for an Oracle App Server and its Java 2 Platform, Enterprise Edition (J2EE™) containers, called *OC4J instances*.
- Install Oracle applications in the form of EARs (Enterprise Archives) and WARs (Web Archives) on a J2EE container in an Oracle App Server.
- Install the following Oracle topologies:
  - J2EE standalone application server, which includes the HTTP server, J2EE, and Web Cache modules
  - Enterprise J2EE, a topology that distributes Oracle Application Server components over multiple computers and tiers. The distributed topology enables users to scale the number of computers in each tier to increase performance and availability without affecting computers in other tiers.
  - Enterprise business intelligence (BI), a topology that supports J2EE applications as well as applications that use components in the Business Intelligence and Forms middle tiers.
  - Enterprise portal and wireless, a topology that supports J2EE applications as well as applications that use components in the Portal and Wireless middle tiers.
- Create a cluster from an existing Oracle App Server.
- Create an OC4J container.
- Add an OC4J container to a cluster.
- Remove an OC4J container from a cluster management of an Oracle Application Server.
- Remove an OC4J container.
- Start an App Server.
- Stop an App Server Management of an OC4J container.
- Browse Oracle 10g applications from a file system, including a file system on an existing Oracle App Server, and export the applications to the N1 SPS Master Server (MS). Exporting an application creates a set of N1 SPS components that enables the user to view and optionally update archive settings for that application.
- Deploy applications to Oracle App Server installations.

Requirements for Using the Oracle App Server 10g Plug-In

Because this plug-in helps to provision the Oracle Application Server, you must have a system capable of running an instance of that server. Follow the directions in section 2 of the *Oracle Application Server Quick Installation and Upgrade Guide 10g* (9.0.4). In most cases, the following requirements will suffice to set up your system:

Hardware	Minimum 900 Mhz UltraSPARC III.
Operating system	Solaris™ 9 update 7 or later software.
RAM	Depends on the type and number of application server configurations you intend to use. For more information, see the *Oracle Application Server Performance Guide*.
Disk space	At least 10 Gbytes of disk space for the home directory of the `oracle` user.
Swap space	At least 1 Gbyte of swap space.

For More Information

Using this plug-in presumes that you are familiar with the Oracle App Server 10g software. For more information about this product, see the following Oracle information:

- General information about Oracle Application Server (`http://www.oracle.com/appserver/index.html`)
- Documentation for Oracle Application Server (`http://www.oracle.com/technology/documentation/appserver10g.html`)

CHAPTER 2

Release Notes for Oracle App Server 10g Plug-In

This chapter describes late-breaking news and known issues for the Oracle App Server 10g plug-in.

- "Installation Issues" on page 17
- "Runtime Issues" on page 18

Installation Issues

The following issue is known to exist when installing or uninstalling the Oracle App Server 10gplug-in or specific topologies.

J2EE & Web Cache Topology Install Fails When `oraInventory` Directory Lacks write Permission (6245305)

Description: If the `oraInst.loc` exists from a previous installation, the inventory directory is used. If you are using a different group id from the previous installation, a permissions problem will cause the installation to fail. You see the following error message:

```
You do not have sufficient permissions to access the inventory
'/export/home/oracle/oraInventory'. Installation cannot continue. Make sure
that you have read/write permissions to the inventory directory and restart
the installer.: Permission denied
```

Workaround: Change the permissions on the directory pointed to by `oraInst.loc` or use the same group id as previous installs. If there are no Oracle installations, you can delete the `oraInst.loc` file, and the plug-in will set this up correctly.

Runtime Issues

There are no known runtime issues at this time.

CHAPTER 3

Installing and Configuring the Oracle App Server 10g Plug-In

This chapter explains how to install and configure the Oracle App Server 10g plug-in. The chapter contains the following information:

- "Acquiring the Oracle App Server 10g Plug-In" on page 19
- "Adding the Oracle App Server 10g Plug-In to the N1 SPS Environment" on page 20
- "Upgrading Considerations" on page 20
- "Customizing the Solution for Your Environment" on page 21

Acquiring the Oracle App Server 10g Plug-In

The Oracle App Server 10g solution is packaged as a *plug-in* to the Sun N1 Service Provisioning System (N1 SPS) software. Plug-ins are packaged in Java™ Archive (JAR) files. The plug-in files for the Oracle App Server 10g solution are available from the Sun N1 Service Provisioning System Supplement CD or from the Sun Download Center.

The Oracle App Server 10g plug-in is available for import from two different JAR files. Choose the correct file depending upon your situation.

- If you are importing the Oracle App Server 10g plug-in for the first time, use the `com.sun.oracle10g_AS_2.0.jar` file.
- If you have already imported the previous version of the Oracle App Server 10g plug-in, use the `com.sun.oracle10g_AS_1.0_2.0.jar` file.

Adding the Oracle App Server 10g Plug-In to the N1 SPS Environment

To make a given plug-in known to the N1 SPS product, you need to import the plug-in. To import a plug-in, follow these steps as explained in detail in Chapter 5, "Plug-In Administration," in *Sun N1 Service Provisioning System 5.1 System Administration Guide*.

1. In the Administrative section of the N1 SPS browser interface main window, click Plug-ins.
2. In the Action column of the Plug-ins page, click Import.
3. Browse to the location where you downloaded the JAR file.
4. Click the Continue to Import button.

When the import completes successfully, a plug-in details page appears that shows you the objects that the plug-in provides.

You can also import a plug-in archive file from the command line.

- If you have not previously used the OS provisioning plug-in, use the following command to import the plug-in:

```
% cr-cli -cmd plg.p.add -path com.sun.oracle10g_AS_2.0.jar -u username -p password
```

- If you already have an older version of the OS provisioning plug-in, use the following command to import the plug-in:

```
% cr-cli -cmd plg.p.add -path com.sun.oracle10g_AS_1.0_2.0.jar -u username -p password
```

Upgrading Considerations

▼ How to Access Previous Versions of a Component

When you upgrade to a new version of a plug-in, the Common Tasks page for the plug-in is updated to provide links to components that are installed with the new plug-in version. This feature enables you to easily view components that contain the most current features and improvements. Components that rely on old functionality are not linked to from the Common Tasks page.

If you have trouble finding a component that you previously installed, the component was likely created from the previous version of the plug-in. Follow these steps to view or work with a previous version of the component:

Steps

1. **Click the appropriate component procedure on the Common Tasks page.**
   The Component Detail page appears.
2. **On the Component Details page, click Version History.**
   A list of components and versions appears.
3. **Click the appropriate link.**
   - **To perform a task with a component, click the version number or the Details link that applies to the component that you want to use.**
   - **To view where a component is installed, click Where Installed.**

Customizing the Solution for Your Environment

Before you install and run this plug-in, you must make changes to your Oracle Application Server and N1 SPS Master Server.

▼ How to Configure the Oracle Application Server

Steps

1. **Modify the `/etc/system` file.**
   Add the following lines to your `/etc/system` file and reboot:

```
* included for Oracle
set semsys:seminfo_semmap=80
set semsys:seminfo_semmni=2200
set semsys:seminfo_semmns=2200
set semsys:seminfo_semmnu=2000
set semsys:seminfo_semmsl=256
set semsys:seminfo_semopm=210
set semsys:seminfo_semume=600
set shmsys:shminfo_shmmax=4294967295
set shmsys:shminfo_shmmin=100
set shmsys:shminfo_shmmni=100
set shmsys:shminfo_shmseg=100
```

2. **Add an Oracle database group to the `/etc/group` file.**
   Edit the `/etc/group` file on the system on which you intend to install the Oracle Application Server product and add the following line:

```
dba::120:
```

3. **Add an Oracle user to the `/etc/passwd` file.**

   Edit the `/etc/passwd` file on the system on which you intend to install the Oracle Application Server product and add the following line:

   ```
   oracle:x:500:120::/export/home/oracle:/bin/csh
   ```

4. **Synchronize the `/etc/shadow` file.**

   Use the following command: `pwconv`

5. **Activate the Oracle user account.**

   Use the `passwd oracle`command and provide a password for the Oracle user.

6. **If your system is in NIS and an Oracle account or `dba` group is already in the NIS maps, verify the configuration of the `/etc/nsswitch.conf` file.**

   Make sure that `files` appears before `nis` in the `passwd` entry in the `/etc/nsswitch.conf` file.

Note – Use the same definition of Oracle and `dba` in all systems.

Master Server Timeout Settings

Some of the plans that are provided with this plug-in require significant time to execute. As a result, you should verify that the timeout values for the Master Server are long enough to allow the plans to run.

Edit the provisioning system `config.properties` file on the Master Server. By default, the file is in the `/opt/SUNWn1sps/N1_Grid_Service_Provisioning_System_5.0/server/config/config.properties` directory. Set the following timeout values:

```
pe.nonPlanExecNativeTimeout=1800
pe.defaultPlanTimeout=18000
userdb.sessionTimeout=10800000
```

Note – You must restart the Master Server for the timeout changes to occur.

Remote Agent User and Group

When you install the Remote Agent, set `root` as the user and group that own the installation. Also select yes when asked if you want to allow the `setuid` functionality.

Remote Shell for Cluster Functionality

To enable the use of clustering functionality in the Oracle environment, systems that are part of a cluster must be able to communicate remotely with each other through a remote shell (`rsh` command). To enable remote functionality, create the `rhosts` file in the home directory of the oracle account and add the line `+ oracle` to it.

CHAPTER 4

Using the Oracle App Server 10g Plug-In

The Oracle App Server 10g plug-in provides a number of specific component types and provides easy access to functions for working with Oracle App Server 10g applications. This chapter describes the following information:

- "Oracle Infrastructure Topologies" on page 25
- "Managing Application Server Instances" on page 38
- "Managing Oracle Application Server Clusters" on page 41
- "Working with Enterprise Applications" on page 46
- "Working with Web Applications" on page 47
- "Creating and Editing Data Sources" on page 48
- "Component Types" on page 49

Oracle Infrastructure Topologies

An Oracle infrastructure topology refers to a specific Oracle implementation. Each topology consists of one or more installation modules that install such services as the Metadata Repository (MR), the Oracle Internet Directory (OID), and the Single Sign-On (SSO) module.

The Oracle App Server 10g plug-in includes the following Oracle installation modules. Each module is provided as a component within the N1 SPS.

- MRInstaller – The MRInstaller module contains the database that is used as the metadata repository. This module also installs the OID. Most other modules depend on the MRInstaller module.
- IDInstaller – The IDInstaller module is the security module. This module contains the HTTP server for single sign-on and delegated administration services and OC4J (Oracle Application Server Containers for J2EE) for single sign-on and delegated administration services. This module depends on the MRInstaller module.

- J2EESSOInstaller – The J2EESSOInstaller module contains the HTTP server, the OC4J module, and the web cache. This module depends on the MRInstaller module.
- J2EESSONWCInstaller – The J2EESSONWCInstaller module contains the HTTP server and J2EE without web cache. This module depends on the MRInstaller module.
- BIInstaller – The BIInstaller module contains the business components, such as forms and personalization. This module depends on the MRInstaller module.
- PWInstaller – The PWInstaller module contains a subset of the BIInstaller module. This module installs portal and wireless. This module depends on the MRInstaller module.
- J2EEInstaller – The J2EEInstaller module is a standalone J2EE component with OC4J and web cache. This component is the only component that can be used to create clusters. This is the only module that does not depend on the MRInstaller module.

Deploying Oracle Topologies

To deploy any Oracle App Server 10g topology, you install software on one or more systems. The Oracle Application Server silent installer can only install software in one system at the time. Therefore, to install a complex topology that involves several systems, you sequentially install Oracle modules on one machine at a time.

Setting Session Variables

Before you deploy any Oracle topology, you must create several session variables. Make sure that you set the password flag according to the third column of Table 4–1. Any password must have at least five characters, one of which must be numeric. In addition, passwords cannot contain a hyphen (-).

If the name of the host on which you plan to install the MRInstaller component contains a hyphen, you must redefine the variable `globalDBName` to remove the hyphen. Any name that is registered in the Internet Directory cannot contain a hyphen. Therefore, avoid hyphens in your variable definitions. See the Oracle documentation for details.

To define a session variable, click Session Variables at the top of the browser interface.

TABLE 4–1 Session Variables

Variable name	Description	Password flag
`sysPass`	Password for `sys` user of metadata repository database	Y
`systemPass`	Password for `system` user of metadata repository database	Y
`sourceImage`	Full path (visible by all remote agents) to Disk1 of the installation source	N
`MRInstallerPWD`	Password for MR module	Y
`IDinstallerPWD`	Password for ID module	Y
`J2EEInstallerPWD`	Password for J2EE module	
`J2EESSOInstallerPWD`	Password for J2EESSO module	Y
`J2EESSONWCInstallerPWD`	Password for J2EESSONWC module	Y
`BIInstallerPWD`	Password for BI module	Y
`PWInstallerPWD`	Password for PW module	Y
`OIDhost`	Host name for the system on which the Oracle Internet Directory resides	N
`OIDdomain`	Domain for the system on which the Oracle Internet Directory resides	N

▼ How to Deploy the J2EE and Web Cache Topology

Upon completion of this task, each target host has the following components:

- A J2EEInstaller component
- A J2EEHT virtual host that is associated with the J2EEInstaller component
- An Oc4jHolder component that is installed inside the J2EEHT virtual host
- An Oc4jHolderHT virtual host that is associated with the Oc4jHolder component
- An Oc4jInstance component that is installed inside the Oc4jHolderHT virtual host
- An Oc4jInstanceHT virtual host that is associated with the Oc4jInstance component

Steps **1. Create the session variables.**

For this topology, you need to create only the `sourceImage` and `J2EEInstallerPWD` session variables.

2. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
3. **In the J2EE & Web Cache Topology section of the Oracle App Server 10g Common Tasks page, click Install.**
4. **On the Plans Details page, click Run.**
5. **Choose variables to use for the J2EEInstaller component.**
   - **To use an existing variables set, select a name from the drop-down menu in the J2EEInstaller component row of the Plan Parameters table.**
   - **To create a new variables set, click Select from List in the J2EEInstaller component row of the Plan Parameters table.**
     a. **Click Create Set.**
     b. **Type a name for the variables set.**
     c. **If a component already exists on this host for which the default value for `ORACLE_HOME_NAME` is used, define a value for the variable `ORACLE_HOME_NAME`.**

     Note – Two components installed in the same physical host cannot have the same `ORACLE_HOME_NAME`.

     ---

     d. **Save the variables set.**
     e. **Select the variables set that you just saved from the drop-down menu in the J2EEInstaller component row of the Plan Parameters table.**
6. **To use a holder name other than the default, choose variables to use for the Oc4jHolder component.**
   - **To use an existing variables set, select a name from the drop-down menu in the Oc4jHolder component row of the Plan Parameters table.**
   - **To create a new variables set, click Select from List in the Oc4jHolder component row of the Plan Parameters table.**
     a. **Click Create Set.**
     b. **Type a name for the variables set.**
     c. **Change the Holder Name.**

d. **Save the variables set.**

e. **Select the variables set that you just saved from the drop-down menu in the Oc4jHolder component row of the Plan Parameters table.**

7. **To use an instance name other than the default, choose variables to use for the `Oc4jInstance` component.**

   - **To use an existing variables set, select a name from the drop-down menu in the `Oc4jInstance` component row of the Plan Parameters table.**
   - **To create a new variables set, click Select from List in the `Oc4jInstance` component row of the Plan Parameters table.**

     a. **Click Create Set.**

     b. **Type a name for the variables set.**

     c. **Change the Instance Name.**

     d. **Save the variables set.**

     e. **Select the variables set that you just saved from the drop-down menu in the `Oc4jInstance` component row of the Plan Parameters table.**

8. **To select the target host, click Select from List and choose the target host.**
   To install the component in several systems at the same time, select more than one target host from the list.

9. **Verify that the target host set is not selected.**
   The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts you selected in the previous step

10. **Click Run Plan (includes preflight).**
    Upon successful completion of the plan, all instances will be running.

▼ How to Deploy the J2EE and Web Cache with Identity Management Topology

Upon completion of this task, each target host has the following components:

- An MRInstaller component on the target host that you selected for the plan
- An IDInstaller component on the specified host
- A J2EESSONWCInstaller component on the specified host
- A J2EESSOInstaller component on the specified host
- A J2EEHT virtual host that is associated with the J2EESSOInstaller component
- An Oc4jHolder component that is installed inside the J2EEHT virtual host

- An Oc4jHolderHT virtual host that is associated with the Oc4jHolder component
- An Oc4jInstance component that is installed inside the Oc4jHolderHT virtual host
- An Oc4jInstanceHT virtual host that is associated with the Oc4jInstance component

Steps

1. **Create the session variables.**
2. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
3. **In the J2EE & Web Cache with Identify Management Topology section of the Oracle App Server 10g Common Tasks page, click Install.**
4. **Click Run.**
5. **Choose variables to use for the MRInstaller component in this plan.**
   - **To use an existing variables set, select a name from the drop-down menu in the `MRInstaller` component row of the Plan Parameters table.**
   - **To create a new variables set, click Select from List in the MRInstaller component row of the Plan Parameters table.**
     a. **Click Create Set.**
     b. **Type a name for the variables set.**
     c. **If a component already exists on this host for which the default value for `ORACLE_HOME_NAME` is used, define a value for the variable `ORACLE_HOME_NAME`.**

     Note – Two components installed in the same physical host cannot have the same `ORACLE_HOME_NAME`.

     ---

     d. **Define a value for the variable `szIdentityAdminContext`.**
     e. **Save the variables set.**
     f. **Select the variables set that you just saved from the drop-down menu in the MRInstaller component row of the Plan Parameters table.**
6. **Repeat step 5 to redefine `ORACLE_HOME_NAME` for the IDInstaller, J2EESSOInstaller, and J2EESSONWCInstaller components, if needed.**
7. **To use a holder name other than the default, choose variables to use for the Oc4jHolder component.**
8. **To use an instance name other than the default, choose variables to use for the Oc4jInstance component.**

9. **To select the target host, click on Select from List and choose the target host.**
   Select one host on which you want the MRInstaller component to be installed.
10. **Type the name of the hosts on which you want to install the IDInstaller, J2EESSOInstaller, and J2EESSONWCInstaller components**
    Use one host for each component.

Note – Place each component on a separate host.

---

11. **Verify that the target host set is not selected.**
    The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts you selected in the previous step
12. **Click Run Plan (includes preflight).**
    Upon successful completion of the plan, all instances will be running.

▼ How to Deploy the Business Intelligence and Forms Topology

Upon completion of this task, each target host has the following components:

- An MRInstaller component on the target host that you selected for the plan
- An IDInstaller component on the specified host
- A J2EESSONWCInstaller component on the specified host
- A J2EESSOInstaller component on the specified host
- A J2EEHT virtual host that is associated with the J2EESSOInstaller component
- An Oc4jHolder component that is installed inside the J2EEHT virtual host
- An Oc4jHolderHT virtual host that is associated with the Oc4jHolder component
- An Oc4jInstance component that is installed inside the Oc4jHolderHT virtual host
- An Oc4jInstanceHT virtual host that is associated with the Oc4jInstance component
- A BIInstaller component in the specified host

Steps

1. **Create the session variables.**
2. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
3. **In the Business Intelligence and Forms Topology section of the Oracle App Server 10g Common Tasks page, click Install.**
4. **Click Run.**

5. **Choose variables to use for the MRInstaller component in this plan.**

   - **To use an existing variables set, select a name from the drop-down menu in the MRInstaller component row of the Plan Parameters table.**
   - **To create a new variables set, click Select from List in the MRInstaller component row of the Plan Parameters table.**

     a. **Click Create Set.**

     b. **Type a name for the variables set.**

     c. **If a component already exists on this host for which the default value for `ORACLE_HOME_NAME` is used, define a value for the variable `ORACLE_HOME_NAME`.**

     Note – Two components installed in the same physical host cannot have the same `ORACLE_HOME_NAME`.

     ---

     d. **Define a value for the variable `szIdentityAdminContext`.**

     e. **Save the variables set.**

     f. **Select the variables set that you just saved from the drop-down menu in the MRInstaller component row of the Plan Parameters table.**

6. **Repeat step 5 to redefine `ORACLE_HOME_NAME` in IDInstaller, J2EESSONWCInstaller, J2EESSOInstaller, and BIInstaller components, if needed**

7. **To use a holder name other than the default, choose variables to use for the Oc4jHolder component.**

8. **To use an instance name other than the default, choose variables to use for the Oc4jInstance component.**

9. **To select the target host, click on Select from List and choose the target host.**

   Select one host on which you want the MRInstaller component to be installed.

10. **Verify that the target host set is not selected.**

    The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts you selected in the previous step

11. **In the Plan Variables section of the page, type the name of the hosts on which you want to install the IDInstaller, J2EESSONWCInstaller, J2EESSOInstaller, and BIInstaller components.**

    Use only one host for each component.

Note – Place each component on a separate host.

12. **Click on Run Plan (includes preflight)**
    Upon successful completion of the plan, all instances will be running.

▼ How to Deploy the Portal and Wireless Topology

Upon completion of this task, each target host has the following components:

- An MRInstaller component on the target host that you selected for the plan
- An IDInstaller component on the specified host
- A J2EESSONWCInstaller component on the specified host
- A J2EESSOInstaller component on the specified host
- A J2EEHT virtual host that is associated with the J2EESSOInstaller component
- An Oc4jHolder component that is installed inside the J2EEHT virtual host
- An Oc4jHolderHT virtual host that is associated with the Oc4jHolder component
- An Oc4jInstance component that is installed inside the Oc4jHolderHT virtual host
- An Oc4jInstanceHT virtual host that is associated with the Oc4jInstance component
- A PWInstaller component on the specified host

Steps

1. **Create the session variables.**
2. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
3. **In the Portal and Wireless Topology section of the Oracle App Server 10g Common Tasks page, click Install.**
4. **Click Run.**
5. **Choose variables to use for the MRInstaller component in this plan.**
   - **To use an existing variables set, select a name from the drop-down menu in the MRInstaller component row of the Plan Parameters table.**
   - **To create a new variables set, click Select from List in the MRInstaller component row of the Plan Parameters table.**
     a. **Click Create Set.**
     b. **Type a name for the variables set.**

c. **If a component already exists on this host for which the default value for `ORACLE_HOME_NAME` is used, define a value for the variable `ORACLE_HOME_NAME`.**

Note – Two components installed in the same physical host cannot have the same `ORACLE_HOME_NAME`.

---

d. **Define a value for the variable `szIdentityAdminContext`.**

e. **Save the variables set.**

f. **Select the variables set that you just saved from the drop-down menu in the MRInstaller component row of the Plan Parameters table.**

6. **Repeat step 5 to redefine `ORACLE_HOME_NAME` in the IDInstaller, J2EESSONWCInstaller, J2EESSOInstaller, and PWInstaller components, if needed**

7. **To use a holder name other than the default, choose variables to use for the Oc4jHolder component.**

8. **To use an instance name other than the default, choose variables to use for the Oc4jInstance component.**

9. **To select the target host, click on Select from List and choose the target host.**

   Select one host on which you want the MRInstaller component to be installed.

10. **Verify that the target host set is not selected.**

    The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts you selected in the previous step

11. **In the Plan Variables section of the page, type the name of the hosts on which you want to install the IDInstaller, J2EESSONWCInstaller, J2EESSOInstaller, and PWInstaller components.**

    Use only one host for each component.

Note – Place each component on a separate host.

---

12. **Click Run Plan (includes preflight).**

    Upon successful completion of this plan, all instances will be running.

Changing the Global Database Name

By default, the global database name in the MRInstaller uses the host name. If your host name includes a hyphen, you need to change the global database name to remove that hyphen. This change affects several variables in several components.

TABLE 4–2 Global Database Name Variables

Component	Variable	Default	Changed Example
MRInstaller	`globalDBName`	`:[dbSid].:[dbHost]`	`:[dbSid].SP`
J2EESSOInstaller	`szl_ClusterRepository`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"};` where `[OIDFQN]` is derived from `:[OIDhost].:[OIDdomain]`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"}`
J2EESSONWCInstaller	`szl_ClusterRepository`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"};`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"}`
BIInstaller	`szl_RepositoryUserInput`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"};`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"}`
PWInstaller	`szl_RepositoryUserInput`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"};`	`{"Y:[OIDFQN]:1521::[SID].:[OIDFQN]:1521::[SID].SP"}`

Using SSL with Oracle App Server Topologies

By default, the identity management feature (IDInstaller component) is the only topology that uses SSL for secure communication. To enable the J2EESSOInstaller, J2EESSONWCInstaller, BIInstaller, or PWInstaller components to use SSL, change the `szOIDwithSSLStatus` variable to `Y`. When you do this, you also need to change the value for the `OIDport` variable to `:[InternetDirectorySSLPort]`.

The following list shows the relationship between the two variables:

```
szOIDwithSSLStatus="Y"    OIDport=":[InternetDirectorySSLPort]"
szOIDwithSSLStatus="N"    OIDport=":[InternetDirectoryPort]"
```

Undeploying Topologies

To undeploy a topology, you uninstall the appropriate topology.

▼ How to Undeploy a Topology

Steps **1. In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**

2. **In the appropriate Infrastructure Tasks Topology section of the Oracle App Server 10g common tasks page, click Uninstall.**

   The Components Details page displays for this topology.

3. **On the Components Details page, click the Run action next to default:uninstall.**

4. **On the Plans Details Run page, select the host from which you want to undeploy the topology.**

5. **Click Run Selected Installations.**

   The Plans Details Run page reappears with information about the specific host.

6. **To confirm that you want to uninstall this topology, click Run Plan (includes preflight).**

   When the topology is uninstalled, all the components that are part of that topology are uninstalled.

Importing Topologies

You can also import an Oracle topology from your datacenter into the provisioning system.

▼ To Import a Topology

Upon completion of this task, components in N1 SPS will represent your topology.

Steps

1. **Identify the topology that you want to import.**

2. **Follow the appropriate deployment procedure for the topology that you want to install.**

   For more information, see "Deploying Oracle Topologies" on page 26.

3. **Create variable sets for the components and define variables so that they match what you have installed.**

4. **Set the value for Full Install to `FALSE`.**

   Most of the infrastructure plans give you the option for full install and uninstall. When you set this variable to `FALSE`, the N1 SPS software performs the plan at the provisioning software level without doing the Oracle portion. You can then import clusters using Create and Join, and you can import OC4J instances by running Create OC4J.

5. **Click Run Plan (includes preflight).**

Modifying Topologies

You can change one of the installed topologies by adding components to it. For example, you might want to install more J2EESSOInstaller components to a J2EE & Web Cache Topology, or you might want to add a BIInstaller to a J2EE & Web Cache with Identity Management Topology.

▼ To Add Components to an Imported Topology

Upon completion of this task, the selected component is installed in the host that you selected. The selected component is associated with an MRInstaller component. This new component will be uninstalled automatically when you uninstall the MRInstaller component with which the selected component is associated.

Steps

1. **In the Application Deployment section of the N1 SPS browser interface, click Components.**
2. **If needed, select Change Folder and go to `/com/sun/oracle10g_AS`.**
3. **From the Components page, select the component that you want to add to a topology.**
4. **Under component procedures, run the default install.**
5. **Select the physical host on which you want to install the component.**
6. **Provide the name of the physical host that has the MRInstaller component.**
7. **Provide the `ORACLE_HOME_NAME` value for the host that has the MRInstaller component.**
8. **Click Run Plan (includes preflight).**

▼ To Start an Enterprise-Related Topology

If your system goes down unexpectedly, or if some other event causes your J2EE & Web Cache or J2EE & Web Cache with Identity Management topology to stop, you can start those topologies through the plug-in.

When you start the J2EE & Web Cache or J2EE & Web Cache with Identity Management topology, the top-level component checks the status of any dependent sub-components. If the sub-component is not started, the start control starts the sub-component.

Note – For the Business Intelligence and Forms topology and the Portal and Wireless topology, you have to start the individual components separately. Specifically, you have to start the `BIInstaller` or `PWInstaller` component, as well as the applicable `J2EESSOInstaller` and `J2EESSONWCInstaller` components.

Steps

1. **In the Application Deployment section of the N1 SPS browser interface, click Components.**
2. **If needed, select Change Folder and go to `/com/sun/oracle10g_AS`.**
3. **From the Components page, click the `J2EESSOInstaller` or `J2EESSONWCInstaller` component that you want to start.**
4. **Under component procedures, run the Start control.**
5. **Select the physical host on which you want to start the component.**
6. **Click Run Plan (includes preflight).**

Managing Application Server Instances

This section describes the services available for application server instances.

▼ How to Start an Application Server Instance

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Application Server Instance Management section of the Oracle App Server 10g Common Tasks page, click Start.**
3. **On the Plans Details page, click Run.**
4. **Select the virtual target host that is associated with the application server instance that you want to start.**

Tip – To start several application servers at the same time, select more than one host.

5. **Verify that the target host set is not selected.**
   The checkbox in front of the target host set should be empty. Otherwise, the plan will try to start all application server instances in the host set plus the hosts you selected in the previous step
6. **Click Run Plan (includes preflight).**
   At the end of the plan execution, all the application servers will be running.

▼ How to Stop an Application Server Instance

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Application Server Instance Management section of the Oracle App Server 10g Common Tasks page, click Stop.**
3. **On the Plans Details page, click Run.**
4. **Select the virtual target host that is associated with the application server instance that you want to stop.**

Tip – To stop several application servers at the same time, select more than one host.

5. **Verify that the target host set is not selected.**
   The checkbox in front of the target host set should be empty. Otherwise, the plan will try to stop all application server instances in the host set plus the hosts you selected in the previous step
6. **Click Run Plan (includes preflight).**
   At the end of the plan execution, all the application servers will be stopped.

▼ How to Create an OC4J Instance

An OC4J (Oracle Application Server Containers for J2EE) instance provides support for J2EE applications. Upon completion of this task, an OC4J instance will have been created in an application server.

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Application Server Instance Management section of the Oracle App Server 10g Common Tasks page, click Create OC4J**
3. **On the Plans Details page, click Run.**
4. **To create a new variables set, click Select from List in the Oc4jInstance component row section of the plan parameters table.**
5. **Click Create Set.**
6. **Type a name for this variable set.**
7. **Define a value for the variable `instanceName`.**

Note – Two OC4J instances created in the same application server cannot have the same name. You always need to redefine this value since the default value (home) is used to create the OC4J instance that is always present in an application server.

---

8. **Save this variable set and select it so it is used in the execution of the plan.**
9. **Select the Oc4jHolderHT virtual target hosts on which you want to create the OC4JInstance component.**

Tip – To create instances on several hosts at the same time, select more than one host.

---

10. **Verify that the target host set is not selected.**

    The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts you selected in the previous step

11. **Click Run Plan (includes preflight).**

    At the end of the plan execution, each targeted Oc4jHolderHT virtual host will have an additional OC4JInstance component with the name you defined.

▼ How to View All OC4J Instances

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Application Server Instance Management section of the Oracle App Server 10g Common Tasks page, click View All OC4Js.**
   A list of installed OC4J instances appears.

▼ How to Remove an OC4J Instance

Steps

1. **In the Application Deployment section of the N1 SPS browser interface, click Components.**
2. **If needed, select Change Folder and go to `/com/sun/oracle10g_AS`.**
3. **Click Oc4jInstance.**
4. **Under component procedures, run the default uninstall.**
5. **Select the Oc4jInstance component that you want to remove.**

Note – You cannot remove the home instance.

Managing Oracle Application Server Clusters

This section presents functionality for cluster management. A file-based cluster is created by assigning the file based repository of an Oracle App Server instance as the cluster repository. When an Oracle App Server instance joins the cluster, the instance stops using its repository and starts using the cluster repository. As a consequence, the former instance immediately adopts the configuration described in the cluster repository.

A cluster is composed of one or more J2EEInstaller components. In a cluster, one J2EEInstaller component is the cluster master and additional J2EEInstaller components are members of the cluster. The instance that represents the cluster master has a component called ClusterMaster installed in its virtual host. In a similar way, the J2EEInstaller components that are members of the cluster have a ClusterMember component installed in them.

▼ How to Create a Cluster

Upon completion of this task, the following changes will have been made:

- Your target instance is a cluster.
- One ClusterMaster component is installed in the selected virtual host.

Before You Begin

To create a cluster, you must already have a `J2EEInstaller` component installed. For more information, see "How to Deploy the J2EE and Web Cache Topology" on page 27.

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Cluster Management section of the Oracle App Server 10g Common Tasks page, click Create.**
3. **On the Plans Details page, click Run.**
4. **Select the virtual host that you want to target.**

   The host must be a member of the `ClusterHostSet`. Also, the host must not contain a ClusterMaster component or a ClusterMember component. You can select more than one virtual host.
5. **Verify that the target host set is not selected.**

   The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts that you selected in the previous step
6. **Click Run Plan (includes preflight).**

▼ How to Add a J2EEInstaller Component to an Existing Cluster

Upon completion of this task, the following changes will have been made:

- Your target instance is a member of the cluster.
- One ClusterMember component is installed in the selected vhost
- The Oc4jHolder component and all its Oc4jInstance components are removed, because the instance now belongs to the cluster.
- The OC4J instances and applications of any member of the cluster are represented by the components installed in the Oc4jHolder component that belongs to the application server instance holding the ClusterMaster component.

Before You Begin

To assign a J2EEInstaller component to a cluster, the cluster must already exist. See "How to Create a Cluster" on page 42.

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Cluster Management section of the Oracle App Server 10g Common Tasks page, click Join.**
3. **On the Plans Details page, click Run.**
4. **On the Plans Details Run page, select the virtual host that you want to target.**

   The host must be a member of the `ClusterHostSet`. Also, the host must not contain a ClusterMaster component or a ClusterMember component. You can select more than one virtual host.
5. **Verify that the target host set is not selected.**

   The checkbox in front of the target host set should be empty. Otherwise, the plan will try to install in the host set plus the hosts that you selected in the previous step
6. **Type the value for the `ORACLE_HOME_NAME` of the J2EEInstaller component that contains the `ClusterMaster` of the cluster you want to join.**
7. **Type the name of the physical host on which the ClusterMaster component is installed.**
8. **Click Run Plan (includes preflight).**

▼ How to Remove a J2EEInstaller Component from a Cluster

When an Oracle App Server instance leaves the cluster, the cluster repository is copied into the file-based repository of the instance. From this point on, the instance uses its own repository and commands issued to this instance to modify OC4J instances or applications only affect this instance.

Upon completion of this task, these changes will have been made:

- Your target instance is not a member of the cluster.
- One ClusterMember component is uninstalled in the selected vhost.
- One Oc4jHolder instance is installed in the instance that left the cluster.
- One Oc4jHolderHT vhost is created by the Oc4jHolder component.
- One Oc4jInstance (home) is installed in the Oc4jHolderHT vhost.

Note – The application server instance leaving the cluster inherits a copy of all the OC4J instances and applications that were deployed in the cluster. N1 SPS limitations cannot represent this change, therefore, this instance will be out of sync with the Oracle application. The home OC4JInstance will be created, but other OC4J instances in the cluster and the applications that they contain will be missing. To resynchronize this component with Oracle, you must use a markOnly install or set the full Install parameter to `false` when you run plans.

Before You Begin

To remove a J2EEInstaller component from a cluster, the component must be a member of a cluster. See "How to Add a J2EEInstaller Component to an Existing Cluster" on page 43.

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Cluster Management section of the Oracle App Server 10g Common Tasks page, click Leave.**
3. **On the Plans Details page, click Run.**
4. **On the Plans Details Run page, select the virtual host that you want to remove from the cluster.**

   The host must be a member of the `ClusterHostSet`. Also, the host must not contain a ClusterMaster component or a ClusterMember component. You can select more than one virtual host.
5. **Verify that the target host set is not selected.**

The checkbox in front of the target host set should be empty. Otherwise, the plan will try to remove components in the host set plus the hosts that you selected in the previous step

6. **Click Run Plan (includes preflight).**

▼ How to View Cluster Masters

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Cluster Management section of the Oracle App Server 10g Common Tasks page, click View Masters.**

   A list of the installed ClusterMaster components appears. Each component corresponds to a different cluster.

▼ How to View Cluster Members

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Cluster Management section of the Oracle App Server 10g Common Tasks page, click View Members.**

   A list of the installed ClusterMember components appears. Each component corresponds to a J2EEInstaller component that is a member of a cluster.

▼ How to Remove a Cluster

To remove a cluster you must first remove all the members of the cluster. Follow the procedures explained in previous sections to do so. Once the cluster has no members, follow these steps to remove the cluster.

Steps

1. **In the Application Deployment section of the N1 SPS browser interface, click Components.**
2. **If needed, select Change Folder and go to `/com/sun/oracle10g_AS`.**
3. **Click ClusterMaster.**

4. **Under component procedures run the default uninstall.**
5. **Select the ClusterMaster component that you want to remove.**

Working with Enterprise Applications

Use the Oracle App Server 10g Common Tasks page to capture and deploy Oracle enterprise applications.

▼ To Capture an Enterprise Application or EAR File

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Enterprise Applications (EARs) section of the Oracle App Server 10g Common Tasks page, click Create New.**
3. **Type a name for the captured component.**

Note – You can include a path to the location to store the captured files. The default folder for the plug-in (`/com/sun/Oracle AS 10g`) is a read-only directory.

---

4. **(Optional) Type a label for this component.**
5. **(Optional) Type a description for this component.**
6. **Select the Oracle administration server on which this enterprise application resides.**
7. **Browse through the file system to find the enterprise application to capture.**

Tip – Make sure that you select the top of the EAR file. Doing so ensures that all files that are part of the enterprise application are included, such as the XML file in which Oracle maintains application settings.

---

8. **Click Check-in Selected Item.**

9. **Confirm the information on the check-in page, then click Continue to Check-in.**

▼ To Deploy Enterprise Applications

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Enterprise Applications (EARs) section of the Oracle App Server 10g Common Tasks page, click View All.**
3. **If needed, select Change Folder and navigate to the directory where you stored your captured files.**
4. **Click the name of the component that you want to deploy.**

Working with Web Applications

Use the Oracle App Server 10g Common Tasks page to capture and deploy Oracle web applications.

▼ To Capture a Web Application or WAR File

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Web Applications (WARs) section of the Oracle App Server 10g Common Tasks page, click Create New.**
3. **Type a name for the captured component.**

Note – You can include a path to the location to store the captured files. The default folder for the plug-in (`/com/sun/Oracle AS 10g`) is a read-only directory.

---

4. **(Optional) Type a label for this component.**
5. **(Optional) Type a description for this component.**

6. **Select the Oracle administration server on which this web application resides.**
7. **Browse through the file system to find the web application to capture.**

Tip – Make sure that you select the top of the WAR file. Doing so ensures that all files that are part of the web application are included, such as the XML file in which Oracle maintains application settings.

---

8. **Click Check-in Selected Item.**
9. **Confirm the information on the check-in page, then click Continue to Check-in.**

Creating and Editing Data Sources

▼ How to Capture a Data Source

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Data Source section of the Oracle App Server 10g Common Tasks page, click Create New.**
3. **Type a name for the captured component.**

Note – You can include a path to the location to store the captured files. The default folder for the plug-in (`/com/sun/Oracle AS 10g`) is a read-only directory.

---

4. **(Optional) Type a label for this component.**
5. **(Optional) Type a description for this component.**
6. **Select the Oracle administration server on which this data source resides.**
7. **Browse through the file system to find the data source to capture.**

Tip – Make sure that you select the top of the WAR file. Doing so ensures that all files that are part of the data source are included.

8. **Click Check-in Selected Item.**
9. **Confirm the information on the check-in page, then click Continue to Check-in.**

▼ How to Modify a Data Source

Steps

1. **In the Common Tasks section of the N1 SPS browser interface, select Oracle App Server 10g.**
2. **In the Data Source section of the Oracle App Server 10g common tasks page, click View.**

Component Types

The Oracle App Server 10g Plug-In includes several component types. These component types enable you to quickly model many of the most common Oracle Application Server components and to automatically associate install, uninstall, export, and snapshot behavior with a particular resource. Many of the component types are used by the software when you create and manage servers and clusters. You are unlikely to need to work with any of these components directly.

- Enterprise application (EAR)
- Web application (WAR)
- ClusterMaster
- ClusterMember
- IDInstaller
- J2EEInstaller
- J2EESSOInstaller
- J2EESSONWCInstaller
- MRInstaller
- PWInstaller
- Oc4jHolder
- Oc4jInstance

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