



# **Sun N1 Service Provisioning System User's Guide for Oracle Database Plug-In 3.0**



Sun Microsystems, Inc.  
4150 Network Circle  
Santa Clara, CA 95054  
U.S.A.

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# Preface

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This book explains how to use the N1™ Service Provisioning System (N1 SPS) software to capture and deploy Oracle Database applications and files.

## Who Should Use This Book

The main audience for the *Sun N1 Service Provisioning System User's Guide for Oracle Plug-In 3.0* includes system administrators and operators of N1 SPS software who want to be able to incorporate Oracle Database 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 Database 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 5.2 System Administration Guide*
- *Sun N1 Service Provisioning System 5.2 Operation and Provisioning Guide*
- *Sun N1 Service Provisioning System 5.2 Release Notes*

## How This Book Is Organized

[Chapter 1](#) provides an overview of the plug-in solution.

[Chapter 2](#) contains any late-breaking news or known issues 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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## Documentation, Support, and Training

The Sun web site provides information about the following additional resources:

- Documentation (<http://www.sun.com/documentation/>)
- Support (<http://www.sun.com/support/>)
- Training (<http://www.sun.com/training/>)

## Typographic Conventions

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

TABLE P-1 Typographic Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name% you have mail.</code>
<b>AaBbCc123</b>	What you type, contrasted with onscreen computer output	<code>machine_name% <b>su</b></code> <code>Password:</code>
<i>aabbcc123</i>	Placeholder: replace with a real name or value	The command to remove a file is <code>rm <i>filename</i></code> .

TABLE P-1 Typographic Conventions (Continued)

Typeface	Meaning	Example
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . A <i>cache</i> is a copy that is stored locally. Do <i>not</i> save the file. <b>Note:</b> Some emphasized items appear bold online.

## Shell Prompts in Command Examples

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

TABLE P-2 Shell Prompts

Shell	Prompt
C shell	machine_name%
C shell for superuser	machine_name#
Bourne shell and Korn shell	\$
Bourne shell and Korn shell for superuser	#





# Overview of the Oracle Database Plug-In

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This chapter explains general information about using Sun N1 Service Provisioning System (N1 SPS) to provision Oracle database software.

The chapter includes the following information:

- “Purpose of the Oracle Database Plug-In” on page 9
- “What the Oracle Database Plug-In Includes” on page 9
- “Requirements for Using the Oracle Database Plug-In” on page 10
- “For More Information About the Oracle Database Software” on page 10

## Purpose of the Oracle Database Plug-In

The N1 SPS software provides enhanced capabilities in out-of-the-box support for Oracle 9i and 10g database software. You can provision Oracle database software and databases. The Oracle database support is provided in platform-specific packages that contain Java™ Archive (JAR) files that load into a N1 SPS environment. The Oracle database plug-in simplifies the process of deploying Oracle 9i and 10g database software throughout your enterprise.

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**Note** – This release of the Oracle database plug-in only supports Oracle database software in single-instance environments. Support for Oracle RAC (Real Application Clusters) is not included.

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## What the Oracle Database Plug-In Includes

The Oracle database plug-in enables you to perform the following main functions:

- Install the support scripts needed for creating Oracle database configurations.
- Install Oracle database software across your enterprise.
- Create an Oracle database.
- Start an Oracle database.

- Stop an Oracle database.
- Verify that an Oracle database is running on a Remote Agent.
- View all the Remote Agents on which the Oracle database software is installed.
- Uninstall the Oracle database software on specific Remote Agents.

## Requirements for Using the Oracle Database Plug-In

The Oracle database plug-in supports Oracle 9i and Oracle 10g database software that runs on Linux and Solaris™ systems. Detailed requirements for using the Oracle database software are provided in the Oracle documentation. To use the plug-in, you need to additionally meet these requirements:

- Have a licensed copy of the Oracle 9i Release 2 or 10g Release 1 Database software
- Have an installed N1 SPS environment
- Intend to run the Oracle database software on one of the following configurations:
  - Oracle 10g Release 1 database on Redhat Linux AS 3.0
  - Oracle 10g Release 1 database on Redhat Linux AS 2.1
  - Oracle 10g Release 1 database on Solaris 10 for SPARC or x86
  - Oracle 10g Release 1 database on Solaris 9 for SPARC or x86
  - Oracle 10g Release 1 database on Solaris 8 for SPARC
  - Oracle 9i Release 2 database on Redhat Linux AS 3.0
  - Oracle 9i Release 2 database on Redhat Linux AS 2.1
  - Oracle 9i Release 2 database on Solaris 9 for SPARC
  - Oracle 9i Release 2 database on Solaris 8 for SPARC

## For More Information About the Oracle Database Software

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

- General Information about Oracle Database (<http://www.oracle.com/database/index.html>)
- Documentation for Oracle Database 9i  
(<http://www.oracle.com/technology/documentation/oracle9i.html>)
- Documentation for Oracle Database 10g  
(<http://www.oracle.com/technology/documentation/database10g.html>)

# Release Notes for Oracle Database Plug-In

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This chapter describes late-breaking news and known issues for the Oracle Database Plug-In.

- [“Installation Issues” on page 11](#)
- [“Runtime Issues” on page 11](#)

## Installation Issues

The following issues are known to exist when installing the Oracle database plug-in.

### Uninstall of Oracle 9i on Linux Plan Fails (6227857)

You see the following error message when you run the uninstall plan for Oracle 9i on a RedHat Linux system:

```
"unexpected signal 11" (SIGSEGV) in /lib/ld-linux.so.2 during the call to the Oracle Universal Installer with the options "-silent -deinstall".
```

**Workaround:** Manually remove the files.

## Runtime Issues

There are no known runtime issues.



# Installing and Configuring the Oracle Database Plug-In

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This chapter explains how to install and configure the Oracle Database plug-in.

The chapter contains the following information:

- “Acquiring the Oracle Database Plug-In” on page 13
- “Adding the Oracle Database Plug-In to N1 SPS” on page 16
- “Customizing the Solution for Your Environment” on page 18
- “Patching the Oracle Database Plug-In” on page 20

## Acquiring the Oracle Database Plug-In

Acquiring the Oracle Database plug-in is a two-step process. First, you must add the package file that contains the Oracle Database plug-in JAR file to your system. Then you must import the Oracle Database plug-in JAR file.

The Oracle Database plug-in is packaged as a *plug-in* to the Sun N1 Service Provisioning System software. The plug-in files for the Oracle Database plug-in are available from the Sun N1 Service Provisioning System 5.2 DVD or from the Sun Download Center.

Once the package file is added to your system, the Oracle Database Plug-In is available for import from two different JAR files. Choose the correct file depending on your situation.

- Oracle 9i Database Plug-In
  - If you are importing the Oracle 9i Database Plug-In for the first time, select the `com.sun.oracle9i_DB_3.0.jar` file.
  - If you have already imported a previous version of the Oracle 9i Database Plug-In, select the `com.sun.oracle9i_DB_2.0_3.0.jar` file.
- Oracle 10g Database Plug-In
  - If you are importing the Oracle 10g Database Plug-In for the first time, select the `com.sun.oracle10g_DB_3.0.jar` file.

- If you have already imported a previous version of the Oracle 10g Database Plug-In, select the `com.sun.oracle10g_DB_2.0.3.0.jar` file.
1. Add the file containing the JAR file:
    - “Adding the Oracle Database Plug-In for Solaris” on page 14
    - “Adding the Oracle Database Plug-In for Linux” on page 14
    - “Adding the Oracle Database Plug-In for Windows” on page 15
  2. Import the JAR file - “Adding the Oracle Database Plug-In to N1 SPS” on page 16.

## Adding the Oracle Database Plug-In for Solaris

The Oracle Database plug-in is contained in two different packages.

- `SUNWspsond` contains the Oracle 9i database plug-in.
- `SUNWspstd` contains the Oracle 10g database plug-in.

Select the package for the version of the Oracle database that you want to provision.

### ▼ To Add the Oracle Database Plug-In Package for Solaris

- 1 In a terminal window, become superuser.
- 2 Move to the directory containing the plug-in package.
- 3 Type the following command and press Return.

```
# pkgadd -d package_directory package_name
```

The standalone JAR file is in either the `/opt/SUNWn1sps/plugins/com.sun.oracle9i_DB` or the `/opt/SUNWn1sps/plugins/com.sun.oracle10g_DB` directory. The upgrade JAR file is in either the `/opt/SUNWn1sps/plugins/com.sun.oracle9i_DB/Upgrade` or the `/opt/SUNWn1sps/plugins/com.sun.oracle10g_DB/Upgrade` directory.

## Adding the Oracle Database Plug-In for Linux

The Oracle Database plug-in is contained in two different packages.

- `sun-spsond-3.0-1.noarch.rpm` contains the Oracle 9i database plug-in.
- `sun-spsstd-3.0-1.noarch.rpm` contains the Oracle 10g database plug-in.

Select the package for the version of the Oracle database that you want to provision.

## ▼ To Add the Oracle Database Plug-In Package for Linux

- 1 In a terminal window, become superuser.
- 2 Move to the directory containing the plug-in package.
- 3 Type the following command and press Return.

```
# rpm -i package_directory package_name
```

The standalone JAR file is in either the `/opt/sun/N1_Service_Provisioning_System/plugins/com.sun.oracle9i_DB` or the `/opt/sun/N1_Service_Provisioning_System/plugins/com.sun.oracle10g_DB` directory. The upgrade JAR file is in either the `/opt/sun/N1_Service_Provisioning_System/plugins/com.sun.oracle9i_DB/Upgrade` or the `/opt/sun/N1_Service_Provisioning_System/plugins/com.sun.oracle10g_DB/Upgrade` directory.

## Adding the Oracle Database Plug-In for Windows

The Oracle Database plug-in is contained in two different Microsoft Installer (MSI) package files.

- `sun-spsond-3.0.msi` contains the Oracle 9i database plug-in.
- `sun-spsotd-3.0.msi` contains the Oracle 10g database plug-in.

Select the package for the version of the Oracle database that you want to provision.

## ▼ To Add the Oracle Database Plug-In MSI File for Windows

- 1 Move to the directory containing the plug-in package file.
- 2 Double-click the appropriate `msi` file.
  - To install the Oracle 9i database plug-in, double-click the `sun-spsond-3.0.msi` file.
  - To install the Oracle 10g database plug-in, double-click the `sun-spsotd-3.0.msi` file.

The Installer GUI starts. The standalone JAR file is in either the `C:\Program Files\N1 Service Provisioning System\plugins\com.sun.oracle9i_DB` or the `C:\Program Files\N1 Service Provisioning System\plugins\plugins\com.sun.oracle10g_DB` directory. The upgrade JAR file is in either the `C:\Program Files\N1 Service Provisioning System\plugins\com.sun.oracle9i_DB\Upgrade` or the `C:\Program Files\N1 Service Provisioning System\plugins\com.sun.oracle10g_DB\Upgrade` directory.

## Adding the Oracle Database Plug-In to N1 SPS

To make a given plug-in known to the N1 SPS product, you need to import the plug-in to the Master Server. If you have already imported previous versions of the Oracle Database Plug-In you need to upgrade to the new plug-ins.

### ▼ How to Import the Oracle Database Plug-In Using the Browser Interface

To import or upgrade a plug-in, follow these steps as explained in detail in Chapter 5, “Plug-In Administration,” in *Sun N1 Service Provisioning System 5.2 System Administration Guide*

- 1 In the **Administrative** section of the 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.**
  - Oracle 9i Database Plug-In
    - If you are importing the Oracle 9i Database Plug-In for the first time, select the `com.sun.oracle9i_DB_3.0.jar` file.
    - If you have already imported a previous version of the Oracle 9i Database Plug-In, select the `com.sun.oracle9i_DB_2.0_3.0.jar` file.
  - Oracle 10g Database Plug-In
    - If you are importing the Oracle 10g Database Plug-In for the first time, select the `com.sun.oracle10g_DB_3.0.jar` file.
    - If you have already imported a previous version of the Oracle 10g Database Plug-In, select the `com.sun.oracle10g_DB_2.0_3.0.jar` file.
- 4 **Click the Continue to Import button.**

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

### ▼ How to Import the Oracle Database Plug-In using the CLI

You can also import a plug-in by using the command line.

- ▶ **To import a plug-in file from the CLI, type:**

```
% cr_cli -cmd plg.p.add -path plugin-filename -u username -p password
```



- Oracle 9i Database Plug-In
  - If you are importing the Oracle 9i Database Plug-In for the first time, *plugin-filename* is `com.sun.oracle9i_DB_3.0.jar`.
  - If you have already imported a previous version of the Oracle 9i Database Plug-In, *plugin-filename* is `com.sun.oracle9i_DB_2.0_3.0.jar`.
- Oracle 10g Database Plug-In
  - If you are importing the Oracle 10g Database Plug-In for the first time, *plugin-filename* is `com.sun.oracle10g_DB_3.0.jar`.
  - If you have already imported a previous version of the Oracle 10g Database Plug-In, *plugin-filename* is `com.sun.oracle10g_DB_2.0_3.0.jar`.

## Enabling New Oracle Database Plug-In Features After Upgrading

If you upgrade to Oracle Database Plug-In version 3.0, you need to perform additional steps in order to enable new plug-in features. Performing these additional steps allows you to perform the following tasks on your existing Oracle database instances.

- Start a database
- Stop a database
- Verify that a database is running
- View all the Remote Agents on which the Oracle database software is installed

### ▼ How to Enable New Oracle Database Plug-In Features After Upgrading

- 1 In the Common Tasks section of the N1 SPS browser interface, select the appropriate Oracle database entry.
- 2 On the Oracle Database Common Tasks page, click **Install**.
- 3 On the Plans Details page, click **Run**.
- 4 **Choose variables to use for the Oracle support scripts.**  
For more information about how to set these variables, see [“Oracle Single-Instance Software” on page 22](#).
- 5 **Choose variables to use for the single-instance software.**  
For more information about how to set these variables, see [“Oracle Single-Instance Software” on page 22](#).

- 6 To select the target host, click **Select from List** next to the **Target Host** field on the **Plans Details Run** page.
- 7 In the **Plan Variables** section, select the check box next to **markOnly installation** on the **Plan Details Run** page.
- 8 To fully upgrade the plug-in functionality on the target host, click **Run Plan** (includes preflight).

## Customizing the Solution for Your Environment

### Remote Agent Requirements

Before you provision the Oracle database software, you must perform the following additional tasks on the remote agents.

- [“Setting the User Role on Remote Agents” on page 18](#)
- [“Preparing Solaris Remote Agents to Run the Oracle Database Software” on page 18](#)

### Setting the User Role on Remote Agents

When you install the provisioning software remote agent (RA), be sure to set the RA to run as root. Most of the Oracle installation runs as user `oracle`; however, some scripts that are generated during the installation process need to run as root.

### Preparing Solaris Remote Agents to Run the Oracle Database Software

If you want to run the Oracle database software on a RA that is running the Solaris 8 OS, you must ensure that the system has the Xvfb virtual frame buffer installed. In the Solaris 9 and Solaris 10 OS, the Xvfb frame buffer is included in the `SUNWxwsv` package. To check that the Xvfb frame buffer is installed on your Solaris 9 or Solaris 10 system, verify that the `SUNWxwsv` package is installed on your system by typing the following command.

```
# pkginfo -l SUNWxwsv
  PKGINST: SUNWxwsv
    NAME: X Window System Virtual Servers
  CATEGORY: system
    ARCH: sparc
  VERSION: 6.6.2.7400,REV=0.2004.12.15
  BASEDIR: /usr
  VENDOR: Sun Microsystems, Inc.
    DESC: X Window System Xvfb & Xnest Virtual Display Servers
  PSTAMP: x10s20041215212124
  INSTDATE: Nov 18 2005 17:24
  HOTLINE: Please contact your local service provider
  STATUS: completely installed
```

```

FILES:          4 installed pathnames
                2 shared pathnames
                2 directories
                2 executables
                3259 blocks used (approx)

```

The Xvfb frame buffer is not included in the Solaris 8 operating environment. To enable a Solaris 8 remote agent to run the Oracle database software, you must acquire a third-party Xvfb binary and install it on your system. The following procedure describes how to configure the Xvfb binary on your Solaris 8 remote agent.

## ▼ How to Configure the Xvfb Binary on a Solaris 8 Remote Agent

### 1 Acquire an Xvfb binary from a third party.

You can download Xvfb binaries from several different online third parties. These binaries are not provided, tested, or supported by Sun Microsystems, Inc. All usage of Xvfb binaries is subject to the license terms and support agreements of the binary provider.

### 2 Install the Xvfb binary on your Solaris 8 remote agent.

Follow the procedures that are provided by the provider to install the Xvfb binary.

### 3 Go to the `/usr/X11R6/bin` directory on the remote agent.

```
# cd /usr/X11R6/bin
```

### 4 Create a symbolic link to the Xvfb binary in the `/usr/openwin/bin` directory.

```
# ln -s Xvfb /usr/openwin/bin
```

## Shared Memory and Semaphore Settings for Linux Systems

For Linux systems, the following semaphore and shared memory settings apply:

```

kernel.shmmax = 1073741824
kernel.shmall = 536870912
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 32768 65000

```

---

**Note** – These values are set during installation. You do not have to set them.

The actual value for `kernel.shmmax` differs, depending on the amount of memory in the target host. This value adjusts itself dynamically when the OraSpt plan runs.

---

## Shared Memory and Semaphore Settings for Solaris Systems

For Solaris systems, you need to create semaphore and shared memory settings as specified in the Oracle database documentation. You should set these values, then reboot the system, before you install the Oracle database software. For more information, see the Oracle installation documentation at <http://www.oracle.com> for recommended system tuning parameters.

## Solaris Patches for Oracle 9i on SPARC Systems

To run Oracle 9i on Solaris SPARC systems, download three Solaris patches from the SunSolve web site and install them on your system:

- 112785-45
- 112963-17
- 113096-03

---

**Note** – The patch list and patch revision levels might have changed since the release of this document. Check the Oracle web site and SunSolve (<http://sunsolve.sun.com>) for the latest patches that apply to Oracle on Solaris systems.

---

## Patching the Oracle Database Plug-In

Check the SunSolve (<http://sunsolve.sun.com>) site for available patches for the Oracle Database Plug-In. To apply the patch, follow the instructions in the patch README file.

# Using the Oracle Database Plug-In

---

The Oracle Database plug-in provides specific components and functions for working with Oracle 9i and 10g single-instance database software. This chapter describes the following information:

- “Oracle Database Plug-In Process Overview” on page 21
- “Oracle Support Scripts” on page 22
- “Oracle Single-Instance Software” on page 22
- “Creating and Working with the Database” on page 32
- “Components” on page 38
- “Troubleshooting” on page 38

## Oracle Database Plug-In Process Overview

---

**Note** – This release of the Oracle database plug-in only supports Oracle database software in single-instance environments. Support for Oracle RAC (Real Application Clusters) is not included.

---

Working with the Oracle database plug-in is a multi-step process.

1. Procure the Oracle database software for use on individual nodes.
2. Define the directory structure in which you want your Oracle installation to reside.
3. Download and apply any required patches from the Oracle web site.

---

**Note** – At present, the known Oracle patches apply to the following releases.

- Oracle 9i for Redhat Linux AS 3.0 systems
- Oracle 10g Release 1 for Solaris 10 systems

For more information about applying patches to the Oracle database software, see the Oracle database documentation at <http://www.oracle.com>.

---

4. Define the directory structure that you want applied to your target Oracle installations.
5. For Oracle 9i:
  - Ensure that the `sysPass` session variable is set.
  - Install Oracle 9i software and support scripts, as explained in “[How to Install Oracle Single-Instance Software for Oracle Database 9i](#)” on page 27.
  - Create the Oracle 9i database, as explained in “[How to Create the Oracle 9i Database](#)” on page 32.
6. For Oracle 10g:
  - Ensure that the `sysPass` session variable is set.
  - Install Oracle 10g software and support scripts, as explained in “[How to Install Oracle Single-Instance Software for Oracle Database 10g](#)” on page 23.
  - Create the Oracle 10g database, as explained in “[How to Create the Oracle 10g Database](#)” on page 33.

## Oracle Support Scripts

The Oracle support scripts primarily perform steps such as creating appropriate Oracle users, and, for Linux systems, defining shared memory and creating semaphore settings. These scripts are contained in the OraSpt component. The support scripts are installed when you install the single-instance software.

## Oracle Users and Groups

The OraSpt component creates one OS user and two OS groups:

- User: `oracle`
- Group: `oinstall`
- Group: `dba`

If a group exists in NIS or LDAP, the support scripts append “n1” to the group name. Thus, if a group `dba` exists, the plug-in creates a user `n1dba`.

## Oracle Single-Instance Software

The SingleInst component encapsulates and deploys files for the single-node Oracle database software.

### ▼ How to Set Session Variables

Before you install the Oracle database software or create any databases, you must set the session variable `sysPass`. This variable acts as the default password for the database users `SYS` and `SYSTEM`.

---

**Note** – The password that you define here is also the password that you use to run SQL\*Plus.

---

To set the session variable in the N1 SPS browser interface, follow these steps.

- 1 **At the top of the window in the N1 SPS browser interface, click Session Variables.**
- 2 **In the Session Variable field, type sysPass.**
- 3 **In the Password column, check the box.**
- 4 **In the Value field, type the password to use for the database users SYS and SYSTEM.**  
The password encrypts as you type.
- 5 **In the Action column, click Create.**
- 6 **Provide the appropriate N1 SPS password when prompted.**

## ▼ How to Install Oracle Single-Instance Software for Oracle Database 10g

**Before You Begin** You might need to perform the following tasks before you provision the Oracle Database 10g software.

- If you plan to provision Oracle software on a remote agent that is running the Solaris 8 or 9 OS, you must install the Xvfb frame buffer binary on the remote agent. For more information, see [“Preparing Solaris Remote Agents to Run the Oracle Database Software”](#) on page 18.
- If you want to apply patches to your Oracle Database 10g software, you must apply them before you create the database. You cannot apply patches to the Oracle Database 10g software with the Oracle 10g Database Plug-In.

- 1 **In the Common Tasks section of the N1 SPS browser interface, select Oracle Database 10g.**
- 2 **On the Oracle Database 10g Common Tasks page, click Install.**
- 3 **On the Plans Details page, click Run.**
- 4 **Choose variables to use for the Oracle support scripts.**

---

**Note** – The first time you install the Oracle 10g Database Plug-In you must create a variables set other than default.

---

- **To use an existing variables set, select a name from the drop-down menu in the OraSpt component row of the Plan Parameters table.**
- **To create a new variables set, click Select from List in the OraSpt component row of the Plan Parameters table.**
  - a. **Click Create Set.**
  - b. **Type a name for the variables set in the Set Name field.**
  - c. **In the field for installPath, provide the full path to the location into which you want the support scripts installed.**  
For example, `/var/tmp/Ora_Spt`.

---

**Note** – The value for the `installPath` variable is treated as a relative path to the default Remote Agent directory, unless you specify an absolute path, such as `/opt`. For example, for a Solaris Remote Agent, if you set the `installPath` variable to `opt` and deploy the file to an Agent with a default home directory of `/opt/SUNWn1sps/agent`, the file is deployed to `/opt/SUNWn1sps/agent/opt/`.

---

- d. **In the field for installerHome, provide the full path to the location of the Oracle software files.**  
For example, `/mnt/Ora10gR1`.  
  
This path can point to a CD or to some other location in which you have placed the appropriate files. For Oracle 10g, the `installerHome` variable points to the top directory of the software CD, which is the parent directory above the `Disk1` directory.
  - e. **For single-instance support files, verify that the `racInstall` field is set to `FALSE`.**
  - f. **Save the variables set.**
  - g. **Select the variables set that you just saved from the drop-down menu in the OraSpt component row of the Plan Parameters table.**
- 5 Choose variables to use for the single-instance software.**
- **To use an existing variables set, select a name from the drop-down menu in the SingleInst component row of the Plan Parameters table.**
  - **To create a new variables set, click Select from List in the SingleInst component row of the Plan Parameters table.**
    - a. **Click Create Set.**



- 
- b. Type a name for the variables set.**
- c. In the field for `installPath`, provide the full path to the location where you want to place the Oracle silent response file.**

For example, `/var/tmp/Oracle10g`.

---

**Note** – The value for the `installPath` variable is treated as a relative path to the default Remote Agent directory, unless you specify an absolute path, such as `/opt`. For example, for a Solaris Remote Agent, if you set the `installPath` variable to `opt` and deploy the file to an Agent with a default home directory of `/opt/SUNWn1sps/agent`, the file is deployed to `/opt/SUNWn1sps/agent/opt/`.

---

- d. 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`.

---

- e. In the field for `installerHome`, provide the full path to the location of the Oracle software files.**

For example, `/mnt/Ora10gR1`.

This path can point to a CD or to some other location in which you have placed the appropriate files. The `installerHome` variable points to the top directory of the software, which is the parent directory above the `Disk1` directory.

- f. In the field for `ORACLE_BASE`, provide the path to the root directory into which you want the Oracle software to be installed.**

For example, `/opt/app/oracle`.

- g. To run the Oracle listener on this host, set the value for `crListener` to `TRUE`.**

---

**Note** – You should run only one Oracle listener per physical host.

---

- h. Verify that the `softGroup` and `dbaGroup` variables are correct.**

**i. On the target host, type the following command: `id -a oracle`.**

**ii. Note the group names that were created for the `oracle` user.**

**iii. If the group names are different from the default names in the `softGroup` or `dbaGroup` fields, change those values as appropriate.**

**i. Verify that the oraPrflFile is set correctly.**

- **If you are installing the Oracle 10g database on a Solaris system, set the oraPrflFile variable to profile.**
- **If you are installing the Oracle 10g database on a Linux system, set the oraPrflFile variable to bash\_profile.**

---

**Note** – For the oraPrflFile variable, the environment file must be either a Bourne shell, Korn shell, or bash profile. C shell is not supported.

---

**j. Verify that the TOPLEVEL\_COMPONENT variable exactly matches the version of Oracle to install.**

For example, if you intend to install 10.1.0.3.0, you must change the value of the TOPLEVEL\_COMPONENT variable from its default of 10.1.0.2.0 to 10.1.0.3.0.

**k. Change other variables as appropriate.**

**l. Save the variables set.**

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

**6 To select the target host, click Select from List next to the Target Host field on the Plans Details Run page.**

---

**Note** – Although the plug-in enables you to install this component into a host set, host sets are more likely to make sense for a RAC install rather than a single-instance install.

---

**7 If necessary, modify the values for the Limit Overall Running Time of Plan and Limit Running Time of Native Calls fields.**

By default, the timeout value for plans is set to 30 minutes. In some instances, such as when executing a plan on older hardware, the amount of time that is needed for a plan to complete exceeds 30 minutes. To increase the plan timeout value, increase the values of Limit Overall Running Time of Plan and Limit Running Time of Native Calls fields.

**8 To install the software, click Run Plan (includes preflight).**

## ▼ How to Install Oracle Single-Instance Software for Oracle Database 9i

**Before You Begin** You might need to perform the following tasks before you provision the Oracle Database 9i software.

- If you plan to provision Oracle software on a remote agent that is running the Solaris 8 or 9 OS, you must install the Xvfb frame buffer binary on the remote agent. For more information, see “Preparing Solaris Remote Agents to Run the Oracle Database Software” on page 18.
- If you want to apply patches to your Oracle Database 9i software, you must apply them before you create the database. You cannot apply patches to the Oracle Database 9i software with the Oracle 9i Database Plug-In.

- 1 In the Common Tasks section of the N1 SPS browser interface, select Oracle Database 9i.
- 2 On the Oracle Database 9i Common Tasks page, click Install.
- 3 On the Plans Details page, click Run.
- 4 Choose variables to use for the Oracle support scripts.

---

**Note** – The first time you install the Oracle 9i Database Plug-In you must create a variables set other than default.

---

- To use an existing variables set, select a name from the drop-down menu in the OraSpt component row of the Plan Parameters table.
- To create a new variables set, click Select from List in the OraSpt component row of the Plan Parameters table.
  - a. Click Create Set.
  - b. Type a name for the variables set.
  - c. In the field for installPath, provide the full path to the location into which you want the support scripts installed.  
For example, /var/tmp/Ora\_Spt.

---

**Note** – The value for the installPath variable is treated as a relative path to the default Remote Agent directory, unless you specify an absolute path, such as /opt. For example, for a Solaris Remote Agent, if you set the installPath variable to opt and deploy the file to an Agent with a default home directory of /opt/SUNWn1sps/agent, the file is deployed to /opt/SUNWn1sps/agent/opt/.

---

- d. In the field for `installerHome`, provide the full path to the location of the Oracle software files.**

For example, `/mnt/Ora9iR2/3006854`.

The `installerHome` variable points to the top directory of the software, which is the parent directory above the `Disk1` directory. For Oracle 9i on Redhat Linux AS 3.0, the `installerHome` variable points to the directory that contains Oracle Patch No. 3006854.

---

**Note** – The Oracle database plug-in does not support changing CDs during the installation process. Because Oracle 9i has three physical CDs, you should copy the CDs to the subdirectories `Disk1`, `Disk2`, and `Disk3`, respectively, of a single location from which all information can be accessed.

---

- e. To run Oracle 9i on Linux, set the `oracleRel` variable to `9iR2`.**

- f. For single-instance support files, verify that the `racInstall` field is set to `FALSE`.**

---

**Note** – This release of the Oracle database plug-in only supports Oracle database software in single-instance environments. Support for Oracle RAC (Real Application Clusters) is not included. As a result, the `racInstall` variable must remain set to `FALSE`.

---

- g. Save the variables set.**

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

**5 Choose variables to use for the single-instance software.**

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

- a. Click `Create Set`.**

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

- c. In the field for `installPath`, provide the full path to the location where you want to place the Oracle silent response file.**

For example, `/var/tmp/Oracle9iR2`.

---

**Note** – The value for the `installPath` variable is treated as a relative path to the default Remote Agent directory, unless you specify an absolute path, such as `/opt`. For example, for a Linux Remote Agent, if you set the `installPath` variable to `opt` and deploy the file to an Agent with a default home directory of `/opt/SUNWn1sps/agent`, the file is deployed to `/opt/SUNWn1sps/agent/opt/`.

---

- d. 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`.

---

- e. In the field for `installerHome`, provide the full path to the location of the Oracle software files.**

For example, `/mnt/Ora9iR2`.

The `installerHome` variable points to the top directory of the software, which is the parent directory above the `Disk1` directory.

- f. In the field for `ORACLE_BASE`, provide the path to the root directory into which you want the Oracle software to be installed.**

For example: `/opt/app/oracle9`

- g. To run the Oracle listener on this host, set the value for `crListener` to `TRUE`.**

---

**Note** – You should run only one Oracle listener per physical host.

---

- h. Verify that the `softGroup` and `dbaGroup` variables are correct.**

**i. On the target host, type the following command: `id -a oracle`.**

**ii. Note the group names that were created for the `oracle` user.**

**iii. If the group names are different from the default names in the `softGroup` or `dbaGroup` fields, change those values as appropriate.**

- i. Verify that the `oraPrflFile` is set correctly.**

▪ **If you are installing the Oracle 10g database on a Solaris system, set the `oraPrflFile` variable to `profile`.**

- **If you are installing the Oracle 10g database on a Linux system, set the `oraPrflFile` variable to `bash_profile`.**

---

**Note** – For the `oraPrflFile` variable, the environment file must be either a Bourne shell, Korn shell, or bash profile. C shell is not supported.

---

- j. **Verify that the `TOPLEVEL_COMPONENT` variable exactly matches the version of Oracle to install.**
  - k. **Verify that the `FROM_LOCATION_CD_LABEL` variable exactly matches the disk label of the Oracle software that you want to install.**
  - l. **Change other variables as appropriate.**
  - m. **Save the variables set.**
  - n. **Select the variables set that you just saved from the drop-down menu in the `SingleInst` component row of the Plan Parameters table.**
- 6 **To select the target host, click `Select from List` next to the `Target Host` field on the `Plans Details Run` page.**

---

**Note** – Although the plug-in enables you to install this component into a host set, host sets are more likely to make sense for a RAC install rather than a single-instance install.

---

- 7 **If necessary, modify the values for the `Limit Overall Running Time of Plan` and `Limit Running Time of Native Calls` fields.**
- By default, the timeout value for plans is set to 30 minutes. In some instances, such as when executing a plan on older hardware, the amount of time that is needed for a plan to complete exceeds 30 minutes. To increase the plan timeout value, increase the values of `Limit Overall Running Time of Plan` and `Limit Running Time of Native Calls` fields.
- 8 **To install the software, click `Run Plan` (includes preflight).**

## ▼ **How To Uninstall Oracle Single-Instance Software for Oracle Database 10g**

- 1 **In the `Common Tasks` section of the `N1 SPS` browser interface, select `Oracle Database 10g`.**
- 2 **In the `Oracle Database 10g Common Tasks Page`, click `Uninstall`.**

- 3 In the Plan Details page, click the run button.
- 4 Select the host.
  - Type the host name in the target host text field.
  - Use the Select From List link.
    - a. Click the Select From List link.
    - b. Select the server from the Current Found Hosts list.
    - c. Click the Add Hosts to Main Window button.
- 5 Select the Cleanup Users, Install File and Start Scripts check box.

---

**Note** – If the Cleanup Users, Install File and Start Scripts check box is not selected for a Linux uninstall, a subsequent installation of the database might fail. If you select both the Cleanup Users, Install File and Start Scripts and markOnly Uninstallation check boxes, the markOnly Uninstallation takes precedence, and the Cleanup operation does not occur.

---

- 6 Click Run Plan (includes preflight).

## ▼ How To Uninstall Oracle Single-Instance Software for Oracle Database 9i

- 1 In the Common Tasks section of the N1 SPS browser interface, select Oracle Database 9i.
- 2 In the Oracle Database 9i Common Tasks Page, click Uninstall.
- 3 In the plans > details page, click the run button.
- 4 Select the host.
  - Type the host name in the target host text field.
  - Use the Select From List link.
    - a. Click the Select From List link.
    - b. Select the server from the Current Found Hosts list.
    - c. Click the Add Hosts to Main Window button.
- 5 Select the Cleanup Users, Install File and Start Scripts check box.

---

**Note** – If the Cleanup Users, Install File and Start Scripts check box is not selected for a Linux uninstall, a subsequent installation of the database might fail. If you select both the Cleanup Users, Install File and Start Scripts and markOnly Uninstallation check boxes, the markOnly Uninstallation takes precedence, and the Cleanup operation does not occur.

---

- 6 Click Run Plan (includes preflight).

## Creating and Working with the Database

### About the Database

The Oracle database comes in three flavors:

- General purpose – General use database for mixed transactions
- Data warehouse – Database optimized for responding to long-running and “ad hoc” queries
- Transaction processing – Transaction-oriented database intended for handling many short transactions and canned queries

### ▼ How to Create the Oracle 9i Database

- 1 In the Common Tasks section of the N1 SPS browser interface, select Oracle Database 9i.
- 2 On the Oracle Database 9i Common Tasks page, click Create.
- 3 On the Plans Details page, click Run.
- 4 On the Plan Details Run page, select the target host on which you want to create the database.
- 5 On the Plan Details Run page, provide plan variables information.
  - a. Change the name of the Oracle Service, if needed.
  - b. To make this service the default service, click the checkbox.
  - c. Type the name of the database template to apply to this database.

By default, the database template is `General_Purpose`. This template implies that the database will be used for a mixture of transaction types. The other possible templates are:

    - `Data_Warehouse` – Database optimized for responding to long-running and “ad hoc” queries



- `Transaction_Processing` – Transaction-oriented database intended for handling many short transactions and canned queries

**d. If needed, change the character set to use for the database.**

By default, the character set is Western European (ISO 8859). For more information about character sets in Oracle, see the Oracle documentation.

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

## ▼ How to Create the Oracle 10g Database

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

**2 On the Oracle Database 10g Common Tasks page, click Create.**

**3 On the Plans Details page, click Run.**

**4 On the Plan Details Run page, select the target host on which you want to create the database.**

**5 On the Plan Details Run page, provide plan variables information.**

**a. Change the name of the Oracle Service, if needed.**

**b. To make this service the default service, click the checkbox.**

**c. Type the name of the database template to apply to this database.**

By default, the database template is `General_Purpose`. This template implies that the database will be used for a mixture of transaction types. The other possible templates are:

- `Data_Warehouse` – Database optimized for responding to long-running and “ad hoc” queries
- `Transaction_Processing` – Transaction-oriented database intended for handling many short transactions and canned queries

**d. Choose the storage type to use for this database.**

- **By default, the storage type is FS (file system).**

- **ASM (Automatic Storage Management) provides support for a highly-available (RAID) solution.**

See the Oracle documentation for more information and additional user setup that you would need to perform.

To use the ASM storage type, you need to provide additional information in four fields.

- i. **Type a list of raw disks to use for ASM.**
  - ii. **Choose the type of ASM redundancy to provide.**
  - iii. **Type the name of the disk group to use for ASM.**
  - iv. **Type the password to use for ASM management.**
- **RAW provides no support for file system utilities.**
- e. **Choose whether to manage your enterprise from a local web site or a central web site.**  
If you choose to manage from a central web site, provide the URL.

---

**Note** – To use centralized management, you must install the management agent on the target before you create the database. You can choose to use local management now and change to centralized management later.

---

- f. **If needed, change the character set to use for the database.**  
By default, the character set is Western European (ISO 8859). For more information about character sets in Oracle, see the Oracle documentation.
  - g. **(Optional) To enable Flash backups, type the path to the backup directory.**
- 6 **Click Run Plan (includes preflight).**

## Using Oracle 9i and 10g on the Same Host

Once you have installed the software and created the databases, you need to combine Oracle net services configuration to run both versions of the software on a single host. Essentially, you should combine net service names and listener information into a single listener on the host. For more information, see the Oracle documentation.

## Managing the Database

The Oracle Database Plug-In enables you to perform the following administrative tasks on your Oracle database.

- Start the database
- Stop the database
- Verify that an instance of the database is currently running

- View all the Remote Agents on which the Oracle database software is installed

## ▼ How to Start the Oracle Database

This procedure describes how use the Oracle Database Plug-In to start or restart a single instance Oracle database.

- 1 In the Common Tasks section of the N1 SPS browser interface, select the appropriate Oracle Database entry.
- 2 On the Oracle Database Common Tasks page, click Start.
- 3 On the Plans Details page, click Run.
- 4 On the Plan Details Run page, provide plan variables information.
  - a. Set the version settings by clicking on the appropriate link in the Plan Parameters table.
  - b. Set the variable settings by clicking on the appropriate link in the Plan Parameters table.
  - c. Select the target host on which you want to start the database.
  - d. In the Plan Variables section, set the install path of the single instance component.
  - e. In the Plan Variables section, set the name of the Oracle service that you want to start on the target host.
  - f. If you are restarting the database, set the shutdown mode to use to bring down the database before the restart.
  - g. If the database uses ASM, check the box next to Database uses Automatic Storage Management.
  - h. If the database is already running, check the box next to Restart, if already running.
- 5 Click Run Plan (includes preflight).

## ▼ How to Stop the Oracle Database

This procedure describes how use the Oracle Database Plug-In to stop a single instance Oracle database.

- 1 In the Common Tasks section of the N1 SPS browser interface, select the appropriate Oracle Database entry.

- 2 On the Oracle Database Common Tasks page, click Stop.
- 3 On the Plans Details page, click Run.
- 4 On the Plan Details Run page, provide plan variables information.
  - a. Set the version settings by clicking on the appropriate link in the Plan Parameters table.
  - b. Set the variable settings by clicking on the appropriate link in the Plan Parameters table.
  - c. Select the target host on which you want to stop the database.
  - d. In the Plan Variables section, set the install path of the single instance component.
  - e. In the Plan Variables section, set the name of the Oracle service that you want to stop on the target host.
  - f. Set the shutdown mode to use to bring down the database.
  - g. If the database uses ASM, check the box next to Stop Automatic Storage Management.
- 5 Click Run Plan (includes preflight).

## ▼ How to Verify That the Oracle Database Is Running

This procedure describes how use the Oracle Database Plug-In to verify that a single instance of the Oracle database is currently running..

- 1 In the Common Tasks section of the N1 SPS browser interface, select the appropriate Oracle Database entry.
- 2 On the Oracle Database Common Tasks page, click Verify.
- 3 On the Plans Details page, click Run.
- 4 On the Plan Details Run page, provide plan variables information.
  - a. Set the version settings by clicking on the appropriate link in the Plan Parameters table.
  - b. Set the variable settings by clicking on the appropriate link in the Plan Parameters table.
  - c. Select the target host on which you want to verify that the database is running.
  - d. In the Plan Variables section, set the install path of the single instance component.

- e. **In the Plan Variables section, set the name of the Oracle service that you want to stop on the target host.**

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

**6 Verify that the Oracle database is running by clicking the stdout link.**

The status of the database is displayed in the stdout window.

- If the database is running, a message that is similar to the following is displayed.

```
Total System Global Area 320308312 bytes
Fixed Size                 730200 bytes
Variable Size              285212672 bytes
Database Buffers          33554432 bytes
Redo Buffers               811008 bytes
```

- If the database is not running, a message that is similar to the following is displayed.

```
ORA-01034: ORACLE not available
```

**Troubleshooting** If the Oracle database is not running, restart the database. For more information, see [“How to Start the Oracle Database” on page 35](#).

## ▼ How to View Information About Oracle Database Remote Agents

The Oracle Database Plug-In enables you to view information about Oracle database Remote Agents. Follow these steps to view this information.

- 1 In the Common Tasks section of the N1 SPS browser interface, select the appropriate Oracle Database entry.**
- 2 On the Oracle Database Common Tasks page, click View All.**

The Components Details Where Installed page displays. The Hosts Where Installed table lists the Remote Agents on which the Oracle database software has been installed. The Hosts Where Installed table lists the following information for each Remote Agent.

- Host name of the Remote Agent
- Install path of the Oracle database component that was used to install the Remote Agent
- Variable setting that was used to install the database
- Version of the component used to install the database
- Date and time when the database was installed
- Plan used to install the database
- User name of the user that installed the database

The Actions column of the Hosts Where Installed table enables you to view more detailed information for each host.

- To view the host type for each host, as well as the host sets and other hosts that are related to each host, click the Details link.
- To view information about the components installed on each host, including component dependencies, click the Relationships link.
- To view the Plan Run History for this component, click the Results link.

## Components

The Oracle Database Plug-In includes two components:

- OraSpt
- SingleInst

### OraSpt Component

The OraSpt component provides support files for the Oracle database.

### SingleInst Component

The SingleInst component encapsulates and deploys files for the single-node Oracle database software.

## Troubleshooting

**Problem:** You encounter an error when installing the database software.

**Solution:** Check the value of your installerHome variable. The variable automatically appends certain information to the installerHome value. For example, if the Oracle software is in the directory /appsrc/Disk1/runInstaller, set the installerHome variable to just /appsrc. When needed, the plug-in appends Disk1/. . . to the path defined in the installerHome variable.

**Problem:** You encounter a failure when deploying a component.

**Solution:** Follow these steps:

1. Remove any files deployed in the path specified by either the installPath or the ORACLE\_BASE variable.
2. Remove the file oraInst.loc in the /etc directory on Linux systems or in the /var/opt/oracle directory on Solaris systems.

3. Kill any processes that the oracle user owns.
4. Try the deployment again.





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