

Oracle® Database

Client Quick Installation Guide

11g Release 1 (11.1) for Solaris Operating System

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This guide describes how to quickly install Oracle Client on Solaris Operating System (SPARC 64-Bit). It includes information about the following:

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1 Reviewing Information About This Guide

Note: This guide describes how to install Oracle Client on a system that does not have any Oracle software installed on it. If there is an existing Oracle software installation on this system, then refer to *Oracle Database Client Installation Guide for Solaris Operating System* for more detailed installation instructions.

This guide describes how to complete a default installation of Oracle Database Client on a system that does not have any Oracle software installed on it. It describes how to install one of the following installation types:

- **Instant Client:** Enables you to install only the shared libraries required by Oracle Call Interface (OCI), Oracle C++ Call Interface (OCCI), Pro*C, or Java database connectivity (JDBC) OCI applications. This installation type requires much less disk space as compared to the other Oracle Database Client installation types.
- **Administrator:** Enables applications to connect to an Oracle Database instance on the local system or on a remote system. It also provides tools that enable you to administer Oracle Database.

- **Runtime:** Enables applications to connect to an Oracle Database instance on the local system or on a remote system.

Tip: *Oracle Call Interface Programmer's Guide* for more information about the Instant Client feature

This guide does not describe how to install the Custom installation type.

Where to Get Additional Installation Information

For more detailed information about installing Oracle Database Client, refer to *Oracle Database Client Installation Guide for Solaris Operating System*.

This guide is available on the product disc. To access it, use a Web browser to open the `welcome.htm` file located in the top-level directory of the installation media, and then select the **Documentation** tab.

2 Logging In to the System as root

Before you install Oracle Database, you must complete several tasks as the `root` user. To log in as the `root` user, complete one of the following procedures:

Note: You must install the software from an X Window System workstation, an X terminal, or a PC or other system with X server software installed.

- If you are installing the software from an X Window System workstation or X terminal, then:
 1. Start a local terminal session, for example, an X terminal (`xterm`).
 2. If you are not installing the software on the local system, then enter the following command to enable the remote host to display X applications on the local X server:

```
$ xhost fully_qualified_remote_host_name
```

For example:

```
$ xhost somehost.us.example.com
```
 3. If you are not installing the software on the local system, then use the `ssh`, `rlogin`, or `telnet` command to connect to the system where you want to install the software:

```
$ telnet fully_qualified_remote_host_name
```
 4. If you are not logged in as the `root` user, then enter the following command to switch user to `root`:

```
$ su -
password:
#
```
- If you are installing the software from a PC or other system with X server software installed, then:

Note: If necessary, refer to your X server documentation for more information about completing this procedure. Depending on the X server software that you are using, you may need to complete the tasks in a different order.

1. Start the X server software.
2. Configure the security settings of the X server software to permit remote hosts to display X applications on the local system.
3. Connect to the remote system where you want to install the software, and start a terminal session on that system, for example, an X terminal (`xterm`).
4. If you are not logged in as the `root` user on the remote system, then enter the following command to switch user to `root`:

```
$ su -  
password:  
#
```

3 Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- [Memory Requirements](#)
- [System Architecture](#)
- [Disk Space Requirements](#)

3.1 Memory Requirements

The following are the memory requirements for installing Oracle Database 11g Release 1:

- At least 256 MB of physical RAM.

To determine the physical RAM size, enter the following command:

```
# /usr/sbin/prtconf | grep "Memory size"
```

If the size of the physical RAM is less than the required size, then you must install more memory before continuing.

- The following table describes the relationship between installed RAM and the configured swap space requirement:

Available RAM	Swap Space Required
Between 257 MB and 512 MB	Double the size of RAM
Between 513 MB and 2048 MB	1.5 times the size of RAM
Between 2049 MB and 8192 MB	Equal to the size of RAM
More than 8192 MB	0.75 times the size of RAM

To determine the size of the configured swap space, enter the following command:

```
# /usr/sbin/swap -s
```

If necessary, refer to the operating system documentation for information about how to configure additional swap space.

- To determine the available RAM and swap space, enter the following command:

```
# sar -r i n
```

where, n is the number of seconds to delay for the next iterations and i is the number of iterations you want to test.

Note: Oracle recommends that you take multiple values for the available RAM and swap space before freezing on a value. This is because the available RAM and swap space keep changing depending on the user interactions with the computer.

3.2 System Architecture

To determine whether the system architecture can run the software, enter the following command:

```
# /bin/isainfo -kv
```

Note: This command displays the processor type. Verify that the processor architecture matches the Oracle software release that you want to install. If you do not see the expected output, then you cannot install the software on this system.

3.3 Disk Space Requirements

The following are the disk space requirements for installing Oracle Database 11g Release 1:

- The minimum disk space requirement for a client install in the `/tmp` directory is 150 MB.

To determine the amount of disk space available in the `/tmp` directory, enter the following command:

On Solaris 10:

```
# df -h /tmp
```

Other Solaris Platforms:

```
# df -k /tmp
```

If there is less than 400 MB of free disk space available in the `/tmp` directory, then complete one of the following steps:

- Delete unnecessary files from the `/tmp` directory to meet the disk space requirement.
- Set the `TMP` and `TMPDIR` environment variables when setting the `oracle` user's environment (described later).
- Extend the file system that contains the `/tmp` directory. If necessary, contact the system administrator for information about extending file systems.

- To determine the amount of free disk space available, enter the following command:

On Solaris 10:

```
# df -h
```

Other Solaris Platforms:

```
# df -k
```

Installation Type	Requirement for Software Files (MB)
Instant Client	476
Administrator	2.12 (GB)
Runtime	1.49 (GB)
Custom (maximum)	1.74 (GB)

4 Checking the Software Requirements

Depending on the products that you intend to install, verify that the following softwares are installed on the system.

Note: Oracle Universal Installer performs checks on the system to verify that it meets the listed requirements. To ensure that these checks pass, verify the requirements before you start Oracle Universal Installer.

- [Operating System Requirements](#)
- [Package Requirements](#)
- [Compiler Requirements](#)
- [Additional Software Requirements](#)
- [Patch Requirements](#)

4.1 Operating System Requirements

The following are the operating system requirements for Oracle Database 11g Release 1:

- Solaris 9 Update 7 or later
- Solaris 10

To determine the distribution and version of Solaris installed, enter the following command:

```
# uname -r
5.9
```

In this example, the version shown is Solaris 9 (5.9). If necessary, refer to your operating system documentation for information about upgrading the operating system.

4.2 Package Requirements

The following are the list of packages required for Oracle Database 11g release 1:

```
SUNWarc  
SUNWbtool  
SUNWhea  
SUNWlibC  
SUNWlibm  
SUNWlibms  
SUNWsprot  
SUNWtoo  
SUNWllof  
SUNWilcs  
SUNWi15cs  
SUNWxfnt  
SUNWsprox
```

Note: The SUNWsprox package is not supported on Solaris 10.

You may also require additional font packages for Java, depending on your locale. Refer to the following Web site for more information:

<http://java.sun.com/j2se/1.4.2/font-requirements.html>

To determine whether the required packages are installed, enter commands similar to the following:

```
# pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms SUNWsprot \  
SUNWsprox SUNWtoo SUNWllof SUNWilcs SUNWi15cs SUNWxfnt
```

If a package is not installed, then install it. Refer to your operating system or software documentation for information about installing packages.

4.3 Compiler Requirements

Starting with Oracle Database 11g release 1, Sun One Studio 11, and gcc 3.4.2 are the supported compilers for Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, and Oracle XML Developer's Kit (XDK).

4.4 Additional Software Requirements

Depending on the components you want to use, you must ensure that the following software are installed:

- [Oracle JDBC/OCI Drivers](#)
- [Browser Requirements](#)
- [Programming languages](#)

4.4.1 Oracle JDBC/OCI Drivers

You can use the following optional JDK versions with the Oracle JDBC/OCI drivers. However, these are not mandatory for the installation:

Sun JDK 1.5.0

4.4.2 Browser Requirements

Web browsers must support Java Script and the HTML 4.0 and CSS 1.0 standards. The following browsers meet these requirements. The following Web browsers are supported for Oracle Enterprise Manager Database Control:

- Netscape Navigator 7.2
- Netscape Navigator 8.1
- Mozilla version 1.7
- Microsoft Internet Explorer 6.0 SP2
- Microsoft Internet Explorer 7.0 Beta or later
- Firefox 1.0.4
- Firefox 1.5

4.4.3 Programming languages

The following products are certified for use with:

- Pro*COBOL
Micro Focus Cobol 5.0
- Pro*FORTRAN
Sun ONE Studio 11 (Fortran 95)

4.5 Patch Requirements

The following are the list of patches required for Oracle Database 11g release 1.

4.5.1 Operating system-specific patches

Installation Type or Product	Requirement
All installations	Patches for Solaris 9: <ul style="list-style-type: none">■ 112233-11, SunOS 5.9: Kernel Patch■ 118558-22 SunOS 5.9 : Kernel Patch■ 111722-04, SunOS 5.9: Math Library (libm) patch■ 112874-39 SunOS 5.9: libc patch The following additional patches are required for Numa Systems: <ul style="list-style-type: none">■ 115675-01, SunOS 5.9: liblgrp API■ 113471-08, SunOS 5.9: Miscellaneous SunOS Commands Patch■ 115675-01, SunOS 5.9: /usr/lib/liblgrp.so Patch Patches for Solaris 10: <ul style="list-style-type: none">■ 127111-02 SunOS 5.10: libc patch■ 137111-04 SunOS 5.10 : kernel patch

Installation Type or Product	Requirement
Pro*C/C++, Pro*FORTRAN, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK)	Patches for Solaris 10: <ul style="list-style-type: none"> ■ 117837-05: C++ compiler optimizer patch ■ 117846-08: C++ compiler Optimization patch ■ 118682-01

Note: The following patches are not required for silent installations:

- 108652-66, X11 6.4.1: Xsun patch
 - 108773-18, SunOS 5.8: IIM and X I/O Method patch
 - 108921-16, CDE 1.4: dtwm patch
-

To determine whether an operating system patch is installed, enter a command similar to the following:

```
# /usr/sbin/patchadd -p | grep patch_number(without version number)
```

For example, to determine if any version of the 111713 patch is installed, use the following command:

```
# /usr/sbin/patchadd -p | grep 111713
```

If an operating system patch is not installed, then download it from the following Web site and install it:

<http://sunsolve.sun.com>

5 Creating Required Operating System Group and User

The following local operating system groups and users are required if you are installing Oracle Database:

- The Oracle Inventory group (`oinstall`)
- The Oracle software owner (`oracle`)

To determine whether these group and user already exist, and if necessary, to create them, follow these steps:

1. To determine whether the `oinstall` group exists, enter the following command:

```
# more /var/opt/oracle/oraInst.loc
```

If the output of this command shows the `oinstall` group name, then the group already exists.

If the `oraInst.loc` file exists, then the output from this command is similar to the following:

```
inventory_loc=/u01/app/oracle/oraInventory
inst_group=oinstall
```

The `inst_group` parameter shows the name of the Oracle Inventory group, `oinstall`.

2. If necessary, enter the following commands to create the `oinstall` group:


```
# /usr/sbin/groupadd oinstall
```

3. To determine whether the `oracle` user exists and belongs to the correct groups, enter the following command:

```
# id -a oracle
```

If the `oracle` user exists, this command displays information about the groups to which the user belongs. The output should be similar to the following, indicating that `oinstall` is the primary group and `dba` is a secondary group:

```
uid=440(oracle) gid=200(oinstall) groups=201(dba),202(oper)
```

4. If necessary, complete one of the following actions:

- If the `oracle` user exists, but its primary group is not `oinstall` or it is not a member of the `dba` group, then enter the following command:

```
# /usr/sbin/usermod -g oinstall -G dba oracle
```

- If the `oracle` user does not exist, enter the following command to create it:

```
# /usr/sbin/useradd -g oinstall [-G dba] oracle
```

This command creates the `oracle` user and specifies `oinstall` as the primary group and `dba` as an optional secondary group.

5. Enter the following command to set the password of the `oracle` user:

```
# passwd -r files oracle
```

6 Creating an Oracle Base Directory

Create an Oracle base directory with a name similar to the following, and specify the correct owner, group, and permissions for it:

```
/u01/app/oracle
```

The Optimal Flexible Architecture (OFA) guidelines recommend that you use a path similar to the following for the Oracle base directory:

```
/mount_point/app/oracle_sw_owner
```

To determine where to create this directory:

1. Enter the following command to display information about all mounted file systems:

```
# df -k
```

This command displays information about all the file systems mounted on the system, including:

- The physical device name
 - The total amount, used amount, and available amount of disk space, in kilobytes
 - The mount point directory for that file system
2. From the display, identify either one or two file systems that meet the following requirements:

- A single file system with at least 1.2 GB of free disk space
 - Two or more file systems with at least 1.2 GB of free disk space in total
3. Note the name of the mount point directory for each file system that you identified.

To create the required directory and specify the correct owner, group, and permissions for it, follow these steps:

Note: In the following procedure, replace `/u01` and `/u02` with the appropriate mount point directories that you identified in Step 3 previously.

1. Enter the following command to create subdirectories in the mount point directory that you identified for the Oracle base directory:

```
# mkdir -p /u01/app/oracle
```

2. Change the owner and group of the directories that you created to the `oracle` user and the `oinstall` group:

```
# chown -R oracle:oinstall /u01/app/oracle
```

3. Change the permissions on the directories that you created to `775`:

```
# chmod -R 775 /u01/app/oracle
```

When you configure the `oracle` user's environment later during the installation, set the `ORACLE_BASE` environment variable to specify the Oracle base directory that you have created.

7 Configuring the oracle User's Environment

You run Oracle Universal Installer from the `oracle` account. However, before you start Oracle Universal Installer, you must configure the environment of the `oracle` user. To configure the environment, you must:

- Set the default file mode creation mask (`umask`) to `022` in the shell startup file.
- Set the `DISPLAY` environment variable.

To set the `oracle` user's environment:

1. Start a new terminal session.
2. Enter the following command to ensure that X Window applications can display on this system:

```
$ xhost fully_qualified_remote_host_name
```

3. Complete one of the following steps:

- If the terminal session is not connected to the system where you want to install the software, then log in to that system as the `oracle` user.
- If the terminal session is connected to the system where you want to install the software, then switch user to `oracle`:

```
$ su - oracle
```

4. To determine the default shell for the `oracle` user, enter the following command:

```
$ echo $SHELL
```

5. Open the `oracle` user's shell startup file in any text editor:

- C shell (`cs`h or `tc`sh):

```
% vi .login
```

6. Enter or edit the following line in the shell startup file, specifying a value of 022 for the default file mode creation mask:

```
umask 022
```

7. If the `ORACLE_SID`, `ORACLE_HOME`, or `ORACLE_BASE` environment variable is set in the file, then remove the appropriate lines from the file.

8. Save the file, and exit from the editor.

9. To run the shell startup script, enter the following command:

- Bourne shell, Bash shell, or Korn shell:

```
$ . ~/.bash_profile
```

- C shell:

```
% source ~/.login
```

10. If you are not installing the software on the local computer, then run the following command on the remote machine to set the `DISPLAY` variable:

- Bourne, Bash or Korn shell:

```
$ export DISPLAY=local_host:0.0
```

- C shell:

```
% setenv DISPLAY local_host:0.0
```

In this example, `local_host` is the host name or IP address of the local computer that you want to use to display Oracle Universal Installer.

Run the following command on the remote machine to check if the shell and the `DISPLAY` environmental variable are set correctly:

```
echo $SHELL  
echo $DISPLAY
```

Now to enable X applications, run the following commands on the local computer:

```
$ xhost + fully_qualified_remote_host_name
```

To verify that X applications display is set properly, run a X11 based program that comes with the operating system such as `xclock`:

```
$ xclock_path
```

In this example, `xclock_path` is the directory path. For example, you can find `xclock` at `/usr/X11R6/bin/xclocks`. If the `DISPLAY` variable is set properly, then you can see `xclock` on your computer screen.

See Also: PC-X Server or Operating System vendor documents for further assistance

11. If you determined that the `/tmp` directory had insufficient free disk space when checking the hardware requirements, then enter the following commands to set the `TMP` and `TMPDIR` environment variables. Specify a directory on a file system with sufficient free disk space.

- Bourne, Bash, or Korn shell:

```
$ TMP=/directory
$ TMPDIR=/directory
$ export TMP TMPDIR
```

- C shell:

```
% setenv TMP /directory
% setenv TMPDIR /directory
```

12. Enter commands similar to the following to set the `ORACLE_BASE` environment variables:

- Bourne, Bash, or Korn shell:

```
$ ORACLE_BASE=/u01/app/oracle
$ export ORACLE_BASE
```

- C shell:

```
% setenv ORACLE_BASE /u01/app/oracle
```

In these examples, `/u01/app/oracle` is the Oracle base directory that you created earlier.

13. Enter the following commands to ensure that the `ORACLE_HOME` and `TNS_ADMIN` environment variables are not set:

- Bourne, Bash, or Korn shell:

```
$ unset ORACLE_HOME
$ unset TNS_ADMIN
```

- C shell:

```
% unsetenv ORACLE_HOME
% unsetenv TNS_ADMIN
```

14. To verify that the environment has been set correctly, enter the following commands:

```
$ umask
$ env | more
```

Verify that the `umask` command displays a value of 22, 022, or 0022 and the environment variables that you set in this section have the correct values.

8 Mounting the Product Disc

On most Solaris systems, the product disc mounts automatically when you insert it into the drive. If the disc does not mount automatically, then follow these steps to mount it:

1. Switch user to root:

```
$ su - root
```

2. If necessary, enter a command similar to the following to eject the currently mounted disc, then remove it from the drive:

```
# eject
```

3. Insert the disc into the disc drive.

4. To verify that the disc mounted automatically, enter a command similar to the following:

```
# ls /dvd/dvd0
```

5. If this command fails to display the contents of the disc, then enter a command similar to the following:

```
# /usr/sbin/mount -r -F hsfs /dev/dsk/cxydzs2 /dvd
```

In this example, `/dvd` is the disc mount point directory and `/dev/dsk/cxydzs2` is the device name for the disc device, for example `/dev/dsk/c0t6d0s2`.

6. If Oracle Universal Installer displays the Disk Location dialog box, then enter the disc mount point directory path. For example:

- Disc mounted automatically:

```
/dvd/dvd0
```

- Disc mounted manually:

```
/dvd
```

9 Installing Oracle Database Client

After configuring the `oracle` user's environment, start Oracle Universal Installer and install Oracle Database as follows:

- To start Oracle Universal Installer, enter the following command:

```
$ /mount_point/db/runInstaller
```

If Oracle Universal Installer does not start, then refer to *Oracle Database Installation Guide for Solaris Operating System* for information about how to troubleshoot X Window display problems.

- The following table describes the recommended action for each Oracle Universal Installer screen. Use the following guidelines to complete the installation:
 - If you need more assistance, or if you want to choose an option that is not a default, then click **Help** for additional information.
 - If you encounter errors while installing or linking the software, then refer to *Oracle Database Installation Guide for Solaris Operating System* for information about troubleshooting.

Note: If you have completed the tasks listed previously, then you can complete the installation by choosing the default values on most screens.

1. In the Select a Product to Install screen, select the product that you want to install: Oracle Database 11g, Oracle Client, or Oracle Clusterware.
In order to install Oracle Client, select **Oracle Client** and click **Next**.
2. In the Select Installation Type screen, select the type of installation that you want: Instant Client, Administrator, Runtime, or Custom and click **Next**.
3. In the Product-specific Prerequisite Checks screen, correct any errors that Oracle Universal Installer may have found, and then click **Next**.
4. In the Summary screen, check the installed components listing and click **Install**.
5. If you have selected the Administrator or Runtime installation type, then Net Configuration Assistant is invoked as a part of the installation. Click **Next** to complete the installation. You should then start the Net Configuration Assistant to complete configuration process.
6. In the Oracle Net Configuration Assistant: Welcome screen, either select **Perform typical configuration** to use a default configuration, or select the **Naming Methods** configuration option. Then click **Next**. (The remaining steps in this procedure assume you are using Naming Methods.)
7. Answer the remaining prompts to complete the configuration.
8. On the Execute Configuration Scripts screen, read the instructions and then run the script mentioned on this screen. Click **OK** to continue.
9. In the End of Installation screen, click **Exit**, then click **Yes** to exit from Oracle Universal Installer.

10 What to Do Next?

To become familiar with this release of Oracle Database, it is recommended that you complete the following tasks:

- Log in to Oracle Enterprise Manager Database Control using a Web browser.

Oracle Enterprise Manager Database Control is a Web-based application that you can use to manage a single Oracle Database installation. The default URL for Database Control is similar to the following:

`http://host.domain:1158/em/`

To log in, use the user name SYS and connect as SYSDBA. Use the password that you specified for this user during the Oracle Database 10g installation.

- Refer to *Oracle Database Installation Guide for Solaris Operating System* for information about required and optional postinstallation tasks, depending on the products that you want to use.
- Refer to *Oracle Database Installation Guide for Solaris Operating System* for information about how to use Database Control to learn about the configuration of your installed database.

- To learn more about using Oracle Enterprise Manager Database Control to administer a database, refer to *Oracle Database 2 Day DBA*.

This guide, designed for new Oracle DBAs, describes how to use Database Control to manage all aspects of an Oracle Database installation. It also provides information about how to enable e-mail notifications and automated backups, which you might not have configured during the installation.

11 Additional Information

This section contains information about the following:

- [Product Licenses](#)
- [Purchasing Licenses, Version Updates, and Documentation](#)
- [Contacting Oracle Support Services](#)
- [Locating Product Documentation](#)

Product Licenses

You are welcome to install and evaluate the products included in this media pack for 30 days under the terms of the Trial License Agreement. However, you must purchase a program license if you want to continue using any product after the 30 day evaluation period. See the following section for information about purchasing program licenses.

Purchasing Licenses, Version Updates, and Documentation

You can purchase program licenses, updated versions of Oracle products, and printed versions of Oracle documentation from the Oracle Store Web site:

<http://oraclestore.oracle.com>

Contacting Oracle Support Services

If you have purchased Oracle Product Support, you can call Oracle Support Services for assistance 24 hours a day, seven days a week. For information about purchasing Oracle Product Support or contacting Oracle Support Services, go to the Oracle Support Services Web site:

<http://www.oracle.com/support>

Locating Product Documentation

Documentation for Oracle products is available in both HTML and Adobe portable document format (PDF) formats from several locations:

- On discs in the media pack:
 - Platform-specific documentation is available on the product discs. To access this documentation, see the `welcome.htm` file located in the top-level directory of the installation media.
 - Generic product documentation is available in the Oracle Documentation Library.
- From the Oracle Technology Network Web site:

<http://www.oracle.com/technology/documentation/index.html>

To view PDF documents, download the free Adobe Acrobat Reader from the Adobe Web site, if necessary:

<http://www.adobe.com>

12 Documentation Accessibility

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To reach Oracle Support Services, use a telecommunications relay service (TRS) to call Oracle Support at 1.800.223.1711. An Oracle Support Services engineer will handle technical issues and provide customer support according to the Oracle service request process. Information about TRS is available at <http://www.fcc.gov/cgb/consumerfacts/trs.html>, and a list of phone numbers is available at <http://www.fcc.gov/cgb/dro/trsphonebk.html>.

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