

Oracle® Database

Client Quick Installation Guide

10g Release 2 (10.2) for Solaris Operating System (x86-64)

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This guide describes how to quickly install Oracle Database Client on Solaris x86-64 systems. 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 (x86-64)* 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:

- **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.
- **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.

See Also: *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 (x86-64)*.

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 Client, 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.acme.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 - root
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 - root
password:
#
```

3 Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- 512 MB of physical RAM
- The following table describes the relationship between installed RAM and the configured swap space requirement.

RAM	Swap Space Required
Up to 512 MB	2 times the size of RAM
Between 257 MB and 512 MB	2 times the size of RAM
Between 513 MB and 726 MB	1.5 times the size of RAM
More than 726 MB	0.75 times the size of RAM

- The minimum client install `tmp` space required is 115 MB. The minimum disk space requirement in the `/tmp` directory depends on the installation type you have selected. The following table lists the minimum disk space requirements for the `/tmp` directory in each type of installation.

Client Installation Type	Disk Space Required for the <code>/tmp</code> Directory (MB)
Admin	850
Runtime	470
Custom (all components selected)	780
Instant	150

- Between 34 MB and 1.9 GB of disk space for the Oracle software, depending on the installation type

To ensure that the system meets these requirements:

1. 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.

2. 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.

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

```
# df -h /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 your system administrator for information about extending file systems.

4. To determine the amount of free disk space on the system, enter the following command:

```
# df -h
```

The following table shows the approximate disk space requirements for software files for each installation type:

Installation Type	Requirement for Software Files
Instant Client	110 MB
Administrator	1.2 GB
Runtime	800 MB
Custom (maximum)	1.6 GB

Note: If you want to configure only the Instant Client Light component of Instant Client, you need 34 MB of disk space to store the related files.

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

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

Note: The following is the expected output of this command:

64-bit amd64 kernel modules

If you do not see the expected output, then you cannot install the software on this system.

4 Checking the Software Requirements

The system must meet the following minimum software requirements.

- The operating systems is Solaris 10
- The following packages are required for this installation:
 - SUNWarc
 - SUNWbtool
 - SUNWhea
 - SUNWlibm
 - SUNWlibms
 - SUNWsprot
 - SUNWtoo
 - SUNWi1of
 - SUNWi1cs
 - SUNWi15cs
 - SUNWxwfont

Note: 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>

- PL/SQL native compilation, Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK), GNU Compiler Collection (GCC):
 - Sun ONE Studio 10 (C and C++ 5.5)
 - gcc 3.4.2
- Pro*FORTRAN:
 - Fortran 95
- Oracle JDBC/OCI Drivers:

You can use the following optional JDK versions with the Oracle JDBC/OCI drivers, however they are not required for the installation:

 - Sun Java 2 SDK Standard Edition 1.2.2_17 and the JNDI extension
 - Sun Java 2 SDK Standard Edition 1.3.1_11 and the JNDI extension

Note: JDK 1.4.2_08 is installed with this release.

To ensure that the system meets these requirements:

1. To determine which version of Solaris is installed, enter the following command:

```
# uname -r
```

If necessary, refer to your operating system documentation for information about upgrading the operating system.

2. To determine whether the required packages are installed, enter a command similar to the following:

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

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

In addition, you need to verify that the following patches are installed on the system. The procedure following the table describes how to check these requirements.

Note: There may be more recent versions of the patches listed installed on the system. If a listed patch is not installed, then determine whether a more recent version is installed before installing the version listed.

- For all installations on Solaris x86-64, the following operating system patches are required:
 - 118345-03: SunOS 5.10_x86: ld Patch
 - 119961-01: SunOS 5.10_x86, x64, Patch for assembler
- For PL/SQL native compilation, Pro*C/C++, Pro*FORTRAN, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK), the following C and C++ patches:
 - 117837-05: C++ compiler optimizer patch
 - 117846-08: C++ compiler Optimization patch
 - 118682-01: Patch for SS10_x86 debuginfo handling

To ensure that the system meets these requirements:

1. 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 group and user must exist on the system:

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

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

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

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

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 command 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, then 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:

```
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`, then enter a command similar to the following, where the `-g` option specifies `oinstall` as the primary group and the `-G` option specifies any existing groups to which the `oracle` user belongs:

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

- If the `oracle` user does not exist, then 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
- `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 of the file systems mounted on the system, including:

- The physical device name
 - The total amount, used amount, and available amount of disk space
 - The mount point directory for that file system
2. From the display, identify a file system that has sufficient disk space.
 3. Note the name of the mount point directory for the 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 with the appropriate mount point directory 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 directory that you created to the `oracle` user and the `oinstall` group:

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

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

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

4. 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, for example, an X terminal (`xterm`).
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 (`csh` or `tcsh`):

```
% 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 corresponding lines from the file.

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

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

- Bash shell:

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

- Bourne or Korn shell:

```
$ . ~/.profile
```

- C shell:

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

10. If you are not installing the software on the local system, then enter a command similar to the following to direct X applications to display on the local system:

- Bourne, Bash, or Korn shell:

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

- C shell:

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

In this example, *local_host* is the host name or IP address of the system that you want to use to display Oracle Universal Installer (your workstation or PC).

11. Enter commands similar to the following to set the ORACLE_BASE environment variable:

- 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.

12. 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
```

13. 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 x86-64 systems, the product disc mounts automatically when you insert it into the drive. If the disc does not mount automatically, 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 is displaying the Disk Location dialog box, 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 the Oracle software as follows:

1. To start Oracle Universal Installer, complete one of the following steps depending on the location of the installation files:
 - If the installation files are on disc, enter commands similar to the following, where `directory_path` is the path of the `db` directory on the DVD:

```
$ cd /tmp
$ /directory_path/runInstaller
```

- If the installation files are on the hard disk, change directory to the `db` directory and enter the following command:

```
$ ./runInstaller
```

If Oracle Universal Installer does not start, then refer to *Oracle Database Client Installation Guide for Solaris Operating System (x86-64)* for information about how to troubleshoot X display problems.

2. 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 Client Installation Guide for Solaris Operating System (x86-64)* 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.

Screen	Recommended Action
Select Installation Method	The Basic Installation option is selected by default. Specify the directory path of the Oracle home. Ensure that the UNIX DBA group <code>oinstall</code> is selected. If you want to create a starter database, then specify a name and password for it. Then, click Next .
Specify Inventory Directory and Credentials	This screen is displayed only during the first installation of Oracle products on a system. Specify the full path of the Oracle Inventory directory. Ensure that the operating system group selected is <code>oinstall</code> . Then, click Next .
Product-Specific Prerequisite Checks	Verify that all of the prerequisite checks succeed, then click Next . Oracle Universal Installer checks the system to verify that it is configured correctly to run Oracle software. If you have completed all of the preinstallation steps in this guide, all of the checks should pass. If a check fails, then review the cause of the failure listed for that check on the screen. If possible, rectify the problem and rerun the check. Alternatively, if you are satisfied that your system meets the requirements, then you can select the check box for the failed check to manually verify the requirement.
Summary	Review the information displayed on this screen, and then click Install .
Install	This screen displays status information while the product is being installed.
Configuration Assistants	This screen displays status information for the configuration assistants that configure the software and create a database. When the message is displayed at the end of this process, click OK to continue.
Execute Configuration Scripts	When prompted, read the instructions and then run the scripts mentioned on this screen. Click OK to continue.

Screen	Recommended Action
End of Installation	<p>The configuration assistants configure several Web-based applications, including Oracle Enterprise Manager Database Control. This screen displays the URLs configured for these applications. Make a note of the URLs used. The port numbers used in these URLs are also recorded in the following file:</p> <pre>oracle_home/install/portlist.ini</pre> <p>To exit from Oracle Universal Installer, click Exit and then click Yes.</p>

10 What to Do Next?

After you have successfully installed Oracle Client, refer to *Oracle Database Client Installation Guide for Solaris Operating System (x86-64)* for information about required and optional postinstallation steps.

11 Documentation Accessibility

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