

Oracle® Database

Client Quick Installation Guide

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

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ORACLE®

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This guide describes how to quickly install Oracle Database 10g on Solaris SPARC systems. It includes information about the following:

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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 (SPARC 64-Bit)* 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 (SPARC 64-Bit)*.

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.

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.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:
#
```

Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- 256 MB of physical RAM
- The following table gives the swap space requirement in terms of available RAM.

Available RAM	Swap Space Required
Up to 256 MB	3 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 installation `TEMP` 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.

Installation Type	Disk Space Required for the /tmp Directory (MB)
Instant	120
Admin	835
Runtime	470
Custom (all components selected)	765

- 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, follow these steps:

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

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

If the size of the physical RAM installed in the system 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 your operating system documentation for information about how to configure additional swap space.

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

```
# df -k /tmp  
# df -h /tmp (in Solaris 10)
```

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

- Delete unnecessary files from the `/tmp` directory.
 - Set the `TEMP` and `TMPDIR` environment variables when setting the `oracle` user's environment (described later).
 - Extend the file system that contains the `/tmp` directory. If required, contact your system administrator for information about extending file systems.
4. To determine the amount of free disk space available on the system, enter the following command:

```
# df -k
# df -h (on Solaris 10)
```

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

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

The following is the expected output of this command:

```
64-bit sparcv9 kernel modules
```

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

Checking the Software Requirements

The system must meet the following minimum software requirements:

- The operating system version must be Solaris 8 Update 7 or later, Solaris 9 update 6 or later, and Solaris 10.
- The following packages (or later versions) must be installed:

```
SUNWarc  
SUNWbtool  
SUNWhea  
SUNWlibm  
SUNWlibms  
SUNWspot  
SUNWtoo  
SUNWi1of  
SUNWi1cs  
SUNWi15cs  
SUNWxwfont  
SUNWspox
```

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, and Oracle XML Developer's Kit (XDK)
Sun ONE Studio 8 (C and C++ 5.5)
gcc 3.4.2
- Pro*COBOL
Micro Focus Server Express 2.2 (On Solaris 8 only)
Micro Focus Server Express 4.0 with SP1 or later
Acucorp AcuCobol v6.1
- Pro*FORTRAN

Sun ONE Studio 8 (FORTRAN 95)

■ Oracle JDBC/OCI Drivers

You can use the following versions of JDK with the Oracle JDBC/OCI drivers:

However, they are not required for the installation.

- Sun Java 2 SDK Standard Edition 1.2.2_14 and the JNDI extension
- Sun Java 2 SDK Standard Edition 1.3.1_09 and the JNDI extension
- Sun Java 2 SDK Standard Edition 1.4.2_b05 or later for 32- and 64-bit with the JNDI extension

JDK 1.4.2 is installed with this release.

To ensure that the system meets these requirements, follow these steps:

1. To determine which version of Solaris is 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.

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

```
# pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm \  
SUNWlibms SUNWsprt SUNWsprx SUNWtoo SUNWilof \  
SUNWilcs SUNWi15cs SUNWxfnt
```

If a package is not installed, or if the version is lower than the required version, then install it.

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, determine whether a more recent version is installed before installing the version listed.

- For all installations on Solaris 8, all of the patches included in the J2SE Patch Cluster for Solaris 8 are required:
 - 108528-23, SunOS 5.8: kernel update patch
 - 108652-66, X11 6.4.1: Xsun patch
 - 108773-18, SunOS 5.8: IIIM and X I/O Method patch
 - 108921-16, CDE 1.4: dtwm patch
 - 108940-53, Motif 1.2.7 and 2.1.1: Runtime lib. patch for Solaris 8
 - 108987-13, SunOS 5.8: Patch for patchadd and patchrm
 - 108989-02, /usr/kernel/sys/acctctl & /.../exacctsyes patch
 - 108993-45, SunOS 5.8: LDAP2 client, libc, libthread and libnsl libraries patch
 - 109147-24, SunOS 5.8: linker patch
 - 110386-03, SunOS 5.8: RBAC Feature Patch
 - 111023-02, SunOS 5.8: /kernel/fs/mntfs and ... sparcv9/mntfs
 - 111111-03, SunOS 5.8: /usr/bin/nawk patch
 - 111308-03, SunOS 5.8: /usr/lib/libmtmalloc.so.1 patch

- 111310-01, SunOS 5.8: /usr/lib/libdhcpagent.so.1 patch
- 112396-02, SunOS 5.8: /usr/bin/fgrep patch

The following additional patches:

- 111721-04, SunOS 5.8: Math Library (libm) patch
 - 112003-03, SunOS 5.8: Unable to load fontset ... iso-1 or iso-15
 - 112138-01, SunOS 5.8: usr/bin/domainname patch
- For all installations on Solaris 9, the following patches are required:

- 112233-11, SunOS 5.9: Kernel Patch
- 111722-04, SunOS 5.9: Math Library (libm) patch

The following additional patches are required for Numa Systems:

- 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

- 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 patch for Solaris 8 and Solaris 9 are required:

112760-05, C 5.5: Patch for S1S8CC C compiler

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

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

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

<http://sunsolve.sun.com>

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
```

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.

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 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. 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 `TEMP` and `TMPDIR` environment variables. Specify a directory on a file system with sufficient free disk space.

- Bourne, Bash, or Korn shell:

```
$ TEMP=directory
$ TMPDIR=directory
$ export TEMP TMPDIR
```

- C shell:

```
% setenv TEMP 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.

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
```

Installing Oracle Database Client

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

1. To start Oracle Universal Installer, enter the following commands 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 (SPARC 64-Bit)* for information about how to troubleshoot X Window 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 (SPARC 64-Bit)* 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 .

Screen	Recommended Action
Product-Specific Prerequisite Checks	<p>Verify that all of the prerequisite checks succeed, then click Next.</p> <p>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.</p> <p>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.</p>
Summary	<p>Review the information displayed on this screen, and then click Install.</p>
Install	<p>This screen displays status information while the product is being installed.</p>
Configuration Assistants	<p>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.</p>
Execute Configuration Scripts	<p>When prompted, read the instructions and then run the scripts mentioned on this screen. Click OK to continue.</p>

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 data-bbox="344 313 793 334"><i>oracle_home/install/portlist.ini</i></pre> <p>To exit from Oracle Universal Installer, click Exit and then click Yes.</p>

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 (SPARC 64-Bit)* 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 (SPARC 64-Bit)* 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.

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.

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<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:

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