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

- Reviewing Information About This Guide
- Logging In to the System as root
- Configuring Servers for Oracle Database
- Reviewing Operating System Security Common Practices
- About Operating System Requirements
- Operating System Requirements for Oracle Solaris on SPARC (64-Bit)
- Additional Drivers and Software Packages for Oracle Solaris
- Checking the Software Requirements
- Verifying Operating System Packages on Oracle Solaris 11
- Verifying Operating System Patches on Oracle Solaris 10
- Separate 32-Bit Client Software for 64-Bit Platforms
- Creating Required Operating System Groups and Users
- Creating Required Directories
- Configuring Oracle Software Owner Environment
- Mounting the Product Disc
- Installing Oracle Database Client
- What to Do Next?
- Additional Information
- Documentation Accessibility

1 Reviewing Information About This Guide

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. If there is an existing Oracle software installation on this system, then refer to Oracle Database Client Installation Guide for Oracle Solaris for more detailed installation instructions.

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. It also does
not describe how to perform an in-place client upgrade.

**Where to Get Additional Installation Information**

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

The product documentation for Oracle Database products is available in both HTML
and PDF formats online:

http://docs.oracle.com/

**2 Logging In to the System as root**

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

---

**Note:** Unless you intend to complete a silent-mode installation, 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.

---

- Following are the steps for installing the software from an X Window System
  workstation or X terminal:

  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**:
Following are the steps for installing the software from a PC or other system with X server software:

3 Configuring Servers for Oracle Database

This section describes the following operating system tasks you must complete before you install Oracle Database:

- Checking Server Hardware and Memory Configuration
- General Server Minimum Requirements
- Server Storage Minimum Requirements
- Server Memory Minimum Requirements

### 3.1 Checking Server Hardware and Memory Configuration

Run the following commands to check your current system information:

1. To determine the available RAM and swap space, enter the following command to obtain the system activity report:

   ```
   # sar -r n i
   
   For example:
   
   # sar -r 2 10
   
   Where, \( n \) is the number of seconds to delay for the next iterations and \( i \) is the number of iterations you want to test
   
   If the size of the physical RAM installed in the system is less than the required size, then install more memory before continuing.
   
2. To determine the size of the configured swap space, enter the following command:
# /usr/sbin/swap -l

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

---

**Note:** Review your Oracle Solaris documentation for swap space allocation guidance for your server. The Oracle Solaris documentation guidelines supersede the swap space requirements listed in this guide.

---

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

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

The `df -k` command displays disk space in 1 kilobyte blocks. On most systems, you can use the `df` command with the `-h` flag (`df -h`) to display output in "human-readable" format.

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

```bash
# df -k
# df -h
```

5. To determine the RAM size, enter the following command:

```bash
# /usr/sbin/prtconf | grep 'Memory size'
```

6. To determine if the system architecture can run the Oracle software, enter the following command:

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

This command displays the processor type. The following is the expected output of this command:

Oracle Solaris on SPARC (64-Bit):

64-bit sparcv9 kernel modules

If you do not see the expected output, then you cannot install the software on this system. Obtain the correct software for your system architecture before proceeding further.

---

### 3.2 General Server Minimum Requirements

Ensure the following general minimum requirements on your system:

- Ensure that the system is started with run level 3.
- Ensure display cards provide at least 1024 x 768 display resolution, so that Oracle Universal Installer displays correctly while performing a system console-based installation.

---

### 3.3 Server Storage Minimum Requirements

Ensure that your Oracle Solaris system meets the following storage requirements:
- Ensure that your Oracle Solaris system meets the disk space requirement for software files as described in Table 1.

**Table 1  Disk Space Requirements for Software Files on Oracle Solaris on SPARC (64-Bit)**

<table>
<thead>
<tr>
<th>Installation Type</th>
<th>Disk Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instant Client</td>
<td>255 MB</td>
</tr>
<tr>
<td>Administrator</td>
<td>1.9 GB</td>
</tr>
<tr>
<td>Runtime</td>
<td>1.5 GB</td>
</tr>
</tbody>
</table>

- 180 MB of space in the `/tmp` directory.

  If the free space available in the `/tmp` directory is less than what is required, 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.

  **See Also:** "Configuring Oracle Software Owner Environment" on page 1-13 for more information about setting `TMP` and `TMPDIR`.

  - Extend the file system that contains the `/tmp` directory.

**3.4 Server Memory Minimum Requirements**

Ensure that your Oracle Solaris system meets the following memory requirements:

At least 256 MB of RAM.

Table 2 describes the relationship between the installed RAM and the configured swap space recommendation:

**Table 2  Swap Space Requirement for Oracle Solaris**

<table>
<thead>
<tr>
<th>RAM</th>
<th>Swap Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>256 MB</td>
<td>3 times the size of RAM</td>
</tr>
<tr>
<td>Between 256 MB and 512 MB</td>
<td>2 times the size of RAM</td>
</tr>
<tr>
<td>Between 512 MB and 2 GB</td>
<td>1.5 times the size of RAM</td>
</tr>
<tr>
<td>Between 2 GB and 16 GB</td>
<td>Equal to the size of RAM</td>
</tr>
<tr>
<td>More than 16 GB</td>
<td>16 GB</td>
</tr>
</tbody>
</table>

**See Also:** "Consider Memory Allocation and Automatic Memory Management" in Oracle Database Installation Guide for Oracle Solaris

**4 Reviewing Operating System Security Common Practices**

Secure operating systems are an important basis for general system security. Ensure that your operating system deployment is in compliance with common security practices as described in your operating system vendor security guide.
5 About Operating System Requirements

Depending on the products that you intend to install, verify that you have the required operating system kernel and packages installed.

Requirements listed in this document are current as of the date listed on the title page. To obtain the most current information about kernel requirements, see the online version at the following URL:

http://docs.oracle.com/

Oracle Universal Installer performs checks your system to verify that it meets the listed operating system package requirements. To ensure that these checks complete successfully, verify the requirements before you start Oracle Universal Installer.

6 Operating System Requirements for Oracle Solaris on SPARC (64-Bit)

The following Oracle Solaris kernels and packages listed in this section are supported on SPARC 64-bit systems for Oracle Database and Oracle Grid Infrastructure 12c:

- Supported Oracle Solaris 11 Releases for SPARC (64-Bit)
- Supported Oracle Solaris 10 Releases for SPARC (64-Bit)

6.1 Supported Oracle Solaris 11 Releases for SPARC (64-Bit)

Use the following information to check supported Oracle Solaris 11 releases:

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSH Requirement</td>
<td>Secure Shell is configured at installation for Oracle Solaris.</td>
</tr>
<tr>
<td>Oracle Solaris 11 operating system</td>
<td>Oracle Solaris 11.1 SRU 14.5 (Branch: 0.175.1.14.0.5.0) or later SRUs and updates</td>
</tr>
<tr>
<td>Packages for Oracle Solaris 11</td>
<td>The following packages must be installed:</td>
</tr>
<tr>
<td></td>
<td>• pkg://solaris/system/dtrace</td>
</tr>
<tr>
<td></td>
<td>• pkg://solaris/developer/assembler</td>
</tr>
<tr>
<td></td>
<td>• pkg://solaris/developer/build/make</td>
</tr>
<tr>
<td></td>
<td>• pkg://solaris/system/xopen/xcu4 (if not already installed as part of standard Oracle Solaris 11 installation)</td>
</tr>
<tr>
<td></td>
<td>• pkg://solaris/x11/diagnostic/x11-info-clients</td>
</tr>
<tr>
<td></td>
<td>• pkg://solaris/compress/unzip</td>
</tr>
</tbody>
</table>

6.2 Supported Oracle Solaris 10 Releases for SPARC (64-Bit)

Use the following information to check supported Oracle Solaris 10 releases:
Additional Drivers and Software Packages for Oracle Solaris

You are not required to install additional drivers and packages, but you may choose to install or configure drivers and packages in the following list:

- Installation Requirements for Open Database Connectivity
- Installation Requirements for Programming Environments for Oracle Solaris
- Installation Requirements for Web Browsers

### 7.1 Installation Requirements for Open Database Connectivity

Review the following sections if you plan to install Open Database Connectivity (ODBC):

- About ODBC Drivers and Oracle Database
- Installing ODBC Drivers for Oracle Solaris

#### 7.1.1 About ODBC Drivers and Oracle Database

Open Database Connectivity (ODBC) is a set of database access APIs that connect to the database, prepare, and then run SQL statements on the database. An application that uses an ODBC driver can access non-uniform data sources, such as spreadsheets and comma-delimited files.
7.1.2 Installing ODBC Drivers for Oracle Solaris
To use ODBC on Oracle Solaris, you require the following package:
unixODBC-2.3.1 or later

Download and install the ODBC Driver from the following website:
http://www.unixodbc.org/

7.2 Installation Requirements for Programming Environments for Oracle Solaris
Review the following sections to install programming environments:
- About Programming Environments and Oracle Database
- Configuring Support for Programming Environments

7.2.1 About Programming Environments and Oracle Database
Oracle Database supports multiple programming languages for application
development in different environments. Some languages require that you install
additional compiler packages for the operating system.

Programming environments are options. They are not required for Oracle Database.

See Also: Oracle Database Development Guide for an overview of
programming environments

7.2.2 Configuring Support for Programming Environments
Ensure that your system meets the requirements for the programming environment
you want to configure:

Table 5  Requirements for Programming Environments for Oracle Solaris

<table>
<thead>
<tr>
<th>Programming Environments</th>
<th>Support Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java Database Connectivity</td>
<td>JDK 6 (Java SE Development Kit release 1.6.0_37 or later updates to 1.6) with the JNDI extension with Oracle Java Database Connectivity. Supported on Solaris 11: JDK 7 (Java SE Development Kit release 1.7.0) Supported on Solaris 10: JDK 7 (Java SE Development Kit release 1.7.0) JDK 1.6 is installed with this release.</td>
</tr>
<tr>
<td>Oracle Call Interface (OCI)</td>
<td>JDK 6 (Java SE Development Kit release 1.6.0_37 or later updates to 1.6) with the JNDI extension, and Oracle Call Interface drivers. JDK 1.6 is installed with this release.</td>
</tr>
</tbody>
</table>
### 7.3 Installation Requirements for Web Browsers

Web browsers are required only if you intend to use Oracle Enterprise Manager Database Express and Oracle Enterprise Manager Cloud Control. Web browsers must support JavaScript, and the HTML 4.0 and CSS 1.0 standards.

For a list of browsers that meet these requirements see the Enterprise Manager certification matrix on My Oracle Support: https://support.oracle.com

### 8 Checking the Software Requirements

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

1. To determine which version of Oracle Solaris is installed, enter the following command:
   
   ```
   # uname -r
   5.11
   ```

   In this example, the version shown is Oracle Solaris 11 (5.11).

2. To determine the release level enter the following command:

   ```
   # cat /etc/release
   Oracle Solaris 11.1 SPARC
   ```

3. To determine if the required packages are installed, enter the following command:

   For Oracle Solaris 10
   
   ```
   pkginfo -i pkg_name
   ```

   For Oracle Solaris 11
   
   ```
   pkg list pkg_name
   ```

   Where `pkg_name` is the name of the package to check.

   For example, to determine if the required Oracle Solaris 10 packages are installed, enter a command similar to the following:

#### Table 5 (Cont.) Requirements for Programming Environments for Oracle Solaris

<table>
<thead>
<tr>
<th>Programming Environments</th>
<th>Support Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle C++</td>
<td>Oracle Solaris Studio 12 (formerly Sun Studio)</td>
</tr>
<tr>
<td>Oracle C++ Call Interface</td>
<td>Additional patches may be needed depending on applications you deploy.</td>
</tr>
<tr>
<td>Pro*C/C++</td>
<td>Download Oracle Solaris Studio from the following URL: <a href="http://www.oracle.com/technetwork/server-storage/solarisstudio/overview/index.html">http://www.oracle.com/technetwork/server-storage/solarisstudio/overview/index.html</a></td>
</tr>
<tr>
<td>Oracle XML Developer’s Kit (XDK)</td>
<td></td>
</tr>
<tr>
<td>Pro*COBOL</td>
<td>Micro Focus Server Express 5.1</td>
</tr>
<tr>
<td>Pro*FORTRAN</td>
<td>Oracle Solaris Studio 12 (Fortran 95)</td>
</tr>
</tbody>
</table>
# pkginfo -i SUNWarc SUNWbtool SUNWheax SUNWlibC SUNWlibm SUNWlibms SUNWsprot SUNWtoo SUNWiloS SUNWils cs SUNWxw ft SUNWcs1 SUNWdt rc

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

**See Also:** [Verifying Operating System Packages on Oracle Solaris 11](https://support.oracle.com)

---

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

---

### 9 Verifying Operating System Packages on Oracle Solaris 11

Use the following command to check if you have the required packages:

```
# /usr/bin/pkg verify [-Hqv] [pkg_pattern ...]
```

The `-H` option omits the headers from the verification output.
The `-q` option prints nothing but return failure if any fatal errors are found.
The `-v` option includes informational messages regarding packages.

If a package that is required for your system architecture is not installed, then download install it from My Oracle Support:

[https://support.oracle.com](https://support.oracle.com)

**See Also:**
- *The Adding and Updating Oracle Solaris 11 Software Packages* guide for more information.
- *Oracle Solaris 11 Product Documentation*
- My Oracle Support note 1021281.1 for update information on support repositories:
  
  [https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1021281.1](https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1021281.1)

### 10 Verifying Operating System Patches on Oracle Solaris 10

**Note:** Your system may have more recent versions of the listed patches installed on it. If a listed patch is not installed, then determine if a more recent version is installed before installing the version listed.

---

Verify that you have the required operating system patches. To ensure that the system meets these requirements, use the following procedure:

1. To determine whether an operating system patch is installed, and whether it is the correct version of the patch, enter a command similar to the following:

```
# /usr/sbin/patchadd -p | grep patch_number
```
For example, to determine if any version of the 119963 patch is installed, use the following command:

```bash
# /usr/sbin/patchadd -p | grep 119963
```

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

http://support.oracle.com

## 11 Separate 32-Bit Client Software for 64-Bit Platforms

The 64-bit Oracle Database Client software does not contain any 32-bit client binaries. If you require 32-bit client binaries on 64-bit platforms, then install the 32-bit binaries from the respective 32-bit client software into a separate Oracle home.

The 64-bit Oracle Database Client preinstallation requirements apply to 32-bit Oracle Database Client also.

**See Also:** My Oracle Support note 883702.1 for more information:

https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=883702.1

## 12 Creating Required Operating System Groups and Users

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

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

To determine whether these groups and users exist, and if necessary, to create them, follow these steps:

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

   ```bash
   # more /etc/oraInst.loc
   ```

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

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

   ```
   inventory_loc=/u01/app/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:

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

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

   ```bash
   # id 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 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 a command similar to the following to
  modify it:

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

  Specify the primary group using the -g option and any required secondary
group using the -G option.

---

**Note:** Oracle does not support modifying existing Oracle Database
server or other Oracle software installation owners. Oracle only
supports modifying an Oracle Database Client software owner.

---

■ 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 the secondary group.

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

  # passwd oracle

13 Creating Required Directories

Create directories with names similar to the following, and specify the correct owner,
group, and permissions for them:

■ The Oracle base directory
■ An optional Oracle data file directory

Before you create an Oracle base directory, you must identify an appropriate file
system with sufficient free disk space.

---

**Note:** If you do not want to create a separate Oracle data file
directory, you can install the data files in a subdirectory of the Oracle
base directory. However, this is not recommended for production
databases.

---

To determine where to create these directories:

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 disk space requirements mentioned earlier in this section.

3. Note the name of the mount point directory for each file system that you identified.

In the following examples, /u01 is the mount point directory used for the software, and /u02 is the mount point directory used for the Oracle data file directory. You must specify the appropriate mount point directories for the file systems on your system.

To create the required directories and specify the correct owner, group, and permissions for them:

```
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. If you intend to use a second file system for the Oracle Database files, then create an `oradata` subdirectory in the mount point directory that you identified for the Oracle data file directory (shown as /u02 in the examples):
   # mkdir /u02/oradata

3. 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
   # chown -R oracle:oinstall /u02/oradata

4. Change the permissions on the directories that you created to 775:
   # chmod -R 775 /u01/app/oracle
   # chmod -R 775 /u02/oradata
```

### 14 Configuring Oracle Software Owner 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 X terminal session (xterm).

2. Enter the following command to ensure that X Window applications can display on this system:

   $ xhost + RemoteHost

   where RemoteHost is the fully qualified remote host name. For example:

   $ xhost + somehost.example.com

3. If you are not logged in to the system where you want to install the software, then log in to that system as the oracle user.

4. If you are not logged in as the oracle user, then switch user to oracle:

   $ su - oracle

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

   $ echo $SHELL

6. To run the shell startup script, enter one of the following commands:

   - Bash shell:
     $ . ~/.bash_profile
   - Bourne or Korn shell:
     $ . ~/.profile
   - C shell:
     % source ~/.login

7. 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
   - C shell:
     % setenv DISPLAY local_host:0.0

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

8. If you determined that the /tmp directory has less than 400 MB of free disk space, then identify a file system with at least 400 MB of free space and set the TMP and TMPDIR environment variables to specify a temporary directory on this file system:

   a. To determine the free disk space on each mounted file system, use the following command:

      # df -k

   b. If necessary, enter commands similar to the following to create a temporary directory on the file system that you identified, and set the appropriate permissions on the directory:

      $ sudo mkdir /mount_point/tmp
      $ sudo chmod a+wr /mount_point/tmp
c. Enter commands similar to the following to set the TMP and TMPDIR environment variables:

* Bourne, Bash, or Korn shell:
  
  $ TMP=/mount_point/tmp
  $ TMPDIR=/mount_point/tmp
  $ export TMP TMPDIR

* C shell:
  
  % setenv TMP /mount_point/tmp
  % setenv TMPDIR /mount_point/tmp

9. If you have had an existing installation on your system, and you are using the same user account to install this installation, then unset the ORACLE_HOME, ORACLE_BASE, ORACLE_SID, TNS_ADMIN environment variables and any other environment variable set for the Oracle installation user that is connected with Oracle software homes.

Enter the following commands to ensure that the ORACLE_HOME, ORACLE_BASE, ORACLE_SID and TNS_ADMIN environment variables are not set:

  ■ Bourne, Bash, or Korn shell:

  $ unset ORACLE_HOME
  $ unset ORACLE_BASE
  $ unset ORACLE_SID
  $ unset TNS_ADMIN

  ■ C shell:

  % unsetenv ORACLE_HOME
  % unsetenv ORACLE_BASE
  % unsetenv ORACLE_SID
  % unsetenv TNS_ADMIN

Use the following command to check the PATH environment variable:

$ echo $PATH

Ensure that the $ORACLE_HOME/bin path is removed from your PATH environment variable.

---

**Note:** If the ORACLE_HOME environment variable is set, then Oracle Universal Installer uses the value that it specifies as the default path for the Oracle home directory. If you set the ORACLE_BASE environment variable, then Oracle recommends that you unset the ORACLE_HOME environment variable and choose the default path suggested by Oracle Universal Installer.

---

10. 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.

15 Mounting the Product Disc

On most Oracle 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/cxtydzs2 /dvd
   ```

   In this example, `/dvd` is the disc mount point directory and `/dev/dsk/cxtydzs2` 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
     ```

16 Installing Oracle Database Client

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

- Log on as the Oracle software owner user (typically, `oracle`) to the computer on which to install Oracle components.

- If you are installing the software from installation media, mount the disk if it is not mounted.

- To start Oracle Universal Installer, enter the following command:
  ```
  $ /directory_path/runInstaller
  ```

  If the installation files are on the hard disk, change to the `client` directory and enter the following command:
If Oracle Universal Installer is not displayed, then refer to Oracle Database Client Installation Guide for Oracle Solaris 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 to choose an option that is not a default, click Help for additional information.
  - If you encounter errors while installing or linking the software, then refer to Oracle Database Installation Guide 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. If you have an existing Oracle Database Client 12c Release 1 (12.1.0.1) or later installed on your system, the Select Installation Mode screen is displayed. Select New Install to install Oracle Database Client software in a new location, or select Upgrade and follow the instructions in the "Performing an In-place Oracle Database Client Upgrade" section in Oracle Database Client Installation Guide for Oracle Solaris to upgrade an earlier release of Oracle Database Client.

2. In the Select Installation Type screen, select the type of installation: Instant Client, Administrator, or Runtime and click Next.

3. The Select Product Languages screen enables you to select the language in which you want to run the product.
   - Select the product language from the Available Languages list, transfer it to the Selected Languages list. Click Next.
   - This screen is not displayed if you select Instant Client as the type of installation in Step 2.

4. In the Specify Installation Location screen, enter the following details:
   - **Oracle Base:** This path appears by default. You can change the path based on your requirement. The Oracle Base section is not displayed if you select Instant Client as the type of installation in Step 2.
   - In the **Software Location** section, accept the default value or enter the Oracle home directory path in which you want to install Oracle components. The directory path should not contain spaces. Click Next.

5. In the Create Inventory screen, you are prompted by the installer to specify the directory path for central inventory the first time you install Oracle software on your computer. Select the oraInventory Group Name of the operating system group that should own the Oracle Inventory directory (the Oracle Inventory group), and click Next.
6. The Perform Prerequisite Checks screen verifies if your computer meets the minimum system requirements to install the desired product. Click Next.

Note: Oracle recommends that you use caution in checking the Ignore All option. If you check this option, then Oracle Universal Installer may not confirm if your system can install Oracle Database successfully.

7. Review the information displayed in the Summary screen, and click Finish.

Note: You can save all the installation steps into a response file by clicking Save Response File. Later, this file can be used for a silent installation.

8. The Install Product screen states the progress of a client installation. After Oracle Database Client is installed, execute the root.sh script as a root user to complete the installation, and click OK.

9. In the Finish screen, click Close to exit from Oracle Universal Installer.

17 What to Do Next?

After you have successfully installed Oracle Database Client, refer to Oracle Database Client Installation Guide for Oracle Solaris for information about required and optional postinstallation steps.

18 Additional Information

This section contains information about the following:

- Product Licenses
- Purchasing Licenses and Version Updates
- 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 and Version Updates

You can purchase program licenses and updated versions of Oracle products from the Oracle Store website:
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 website:

http://www.oracle.com/support

Locating Product Documentation
Product documentation includes information about configuring, using, or administering Oracle products on any platform. The product documentation for Oracle Database products is available in both HTML and PDF formats online:

http://docs.oracle.com/

19 Documentation Accessibility
For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

Access to Oracle Support
Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.