Oracle® Database

Client Quick Installation Guide

12*c* Release 1 (12.1) for Oracle Solaris on x86-64 (64-Bit)

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This guide describes how to quickly install Oracle Database Client on Oracle Solaris on x86-64 (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 x86-64 (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
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- Creating Required Directories
- Configuring Oracle Software Owner Environment
- Mounting the Product Disc
- Installing Oracle Database Client
- What to Do Next?
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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

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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.

> **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. It also does not describe how to perfrom 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 on the Oracle Technology Network (OTN) website:

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`:

```
$ sudo sh
password:
#
```

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

> **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 have 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`:

```
$ sudo sh
password:
#
```

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:

```
# 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:

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

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

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

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

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

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

Oracle Solaris on x86-64 (64-Bit):

```
64-bit amd64 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 x86-64 (64-Bit)

Installation Type	Disk Space
Instant Client	264 MB
Administrator	1.8 GB
Runtime	1.4 GB

- 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 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

RAM	Swap Space
256 MB	3 times the size of RAM
Between 256 MB and 512 MB	2 times the size of RAM
Between 512 MB and 2 GB	1.5 times the size of RAM
Between 2 GB and 16 GB	Equal to the size of RAM
More than 16 GB	16 GB

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 on the Oracle Technology Network 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 x86-64 (64-Bit)

The following Oracle Solaris kernels and packages listed are supported on x86-64 (64-bit) systems for Oracle Database Client 12*c*:

- Supported Oracle Solaris 11 Releases for x86-64 (64-Bit)
- Supported Oracle Solaris 10 Releases for x86-64 (64-Bit)

> **Note:** The platform-specific hardware and software requirements included in this guide were current when this guide was published. However, because new platforms and operating system software versions may be certified after this guide is published, review the certification matrix on the My Oracle Support website for the most up-to-date list of certified hardware platforms and operating system versions:
>
> https://support.oracle.com/

6.1 Supported Oracle Solaris 11 Releases for x86-64 (64-Bit)

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

Table 3   x86-64 (64-Bit) Supported Oracle Solaris 11 Operating System Requirements

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

6.2 Supported Oracle Solaris 10 Releases for x86-64 (64-Bit)

Use the following information to check supported Oracle Solaris 10 releases:

Table 4   x86-64 (64-Bit) Supported Oracle Solaris 10 Operating System Requirements

Item	Requirements
SSH Requirement	Secure Shell is configured at installation for Oracle Solaris.
Oracle Solaris 10 operating system	Oracle Solaris 10 Update 11 (Oracle Solaris 10 1/13 s10x_ u11wos_24a) or later updates

Packages and Patches for Oracle Solaris 10	The following packages and patches (or later versions) must be installed:
	
	`SUNWarc`
	`SUNWbtool`
	`SUNWcsl`
	`SUNWdtrc`
	`SUNWeu8os`
	`SUNWhea`
	`SUNWlibC`
	`SUNWlibm`
	`SUNWlibms`
	`SUNWsprot`
	`SUNWtoo`
	`SUNWi1of`
	`SUNWi1cs (ISO8859-1)`
	`SUNWi15cs (ISO8859-15)`
	`SUNWxwfnt`
	`147441-25`
	
	Note: You may also require additional font packages for Java, depending on your locale. Refer to the following website for more information:
	
	http://www.oracle.com/technetwork/java/javase/solaris-font-requirements-142758.html

7 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

Programming Environments	Support Requirements
Java Database Connectivity	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.
Oracle Call Interface (OCI)	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.
Oracle C++ Oracle C++ Call Interface Pro*C/C++ Oracle XML Developer's Kit (XDK)	Oracle Solaris Studio 12 (formerly Sun Studio)
	Additional patches may be needed depending on applications you deploy.
	Download Oracle Solaris Studio from the following URL:
	http://www.oracle.com/technetwork/server-storage/developerstudio/overview/index.html
Pro*COBOL	Micro Focus Server Express 5.1
Pro*FORTRAN	Oracle Solaris Studio 12 (Fortran 95)

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

> **See Also:**   *Oracle Enterprise Manager Cloud Control Basic Installation Guide* for steps on how to access the Enterprise Manager certification matrix

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
    ```

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

On Oracle Solaris 10

```
pkginfo -i pkg_name
```

On 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:

```
# pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibC SUNWlibm SUNWlibms SUNWsprot \
 SUNWtoo SUNWi1of SUNWi1cs SUNWi15cs SUNWxwfnt SUNWcsl SUNWdtrc
```

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

> **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

> **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

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:

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

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

    https://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 Group and User

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:

    ```
    # 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:

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

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

```
# 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:

> **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. 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
   # exit
   ```

   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:

  `$ ./runInstaller`

  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.

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  1. If you have an existing Oracle Database Client 12*c* 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.**

Note: By default, the Oracle Inventory directory is not installed under the Oracle Base directory. This is because all Oracle software installations share a common Oracle Inventory, so there is only one Oracle Inventory for all users, whereas there is a separate Oracle Base for each user.

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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.

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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:

https://shop.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 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 on the Oracle Technology Network (OTN) website:

http://docs.oracle.com/

19 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

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.