Oracle® Database

Client Quick Installation Guide

10*g* Release 2 (10.2) for Linux x86

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This guide describes how to quickly install Oracle Database Client on Linux x86 systems. It includes information about the following:

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. It describes how to install one of the following installation types:

- **Administrator:** Enables applications to connect to an Oracle Database instance on the local system or on a remote system. It also provides tools that enable you to administer Oracle Database.

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

- **Instant Client:** Enables you to install only the shared libraries required by Oracle Call Interface (OCI), Oracle C++ Call Interface (OCCI), Pro*C, or Java database connectivity (JDBC) OCI applications. This installation type requires much less disk space as compared to the other Oracle Database Client installation types.

> **See Also:**   *Oracle Call Interface Programmer's Guide* for more information about Instant Client

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

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Where to Get Additional Installation Information

For more detailed information about installing Oracle Database Client, refer to *Oracle Database Client Installation Guide for Linux x86*.

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

2 Logging In to the System as root

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

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

- If you are installing the software from an X Window System workstation or X terminal, then:

  1. Start a local terminal session, for example, an X terminal (`xterm`).

  2. If you are not installing the software on the local system, then enter the following command to enable the remote host to display X applications on the local X server:

     ```
     $ xhost fully_qualified_remote_host_name
     ```

     For example:

     ```
     $ xhost somehost.us.acme.com
     ```

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

     ```
     $ telnet fully_qualified_remote_host_name
     ```

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

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

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

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

  1. Start the X server software.

2. Configure the security settings of the X server software to permit remote hosts to display X applications on the local system.

3. Connect to the remote system where you want to install the software and start a terminal session on that system, for example, an X terminal (xterm).

4. If you are not logged in as the root user on the remote system, then enter the following command to switch user to root:

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

3 Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- 512 MB of physical RAM

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

Available RAM	Swap Space Required
Up to 512 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 TMP space required is 115 MB. The minimum disk space requirement in the /tmp directory depends on the installation type you have selected. The following table lists the minimum disk space requirements for the /tmp directory in each type of installation.

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

- The disk space requirement for each installation type is given in the following table.

Installation Type	Requirement for Software Files (MB)
Instant Client	130
Administrator	850
Runtime	495
Custom (maximum)	790

> **Note:** If you want to configure only the Instant Client Light
> component of Instant Client, you need 34 MB of disk space to store the
> related files. To configure Instant Client Light, refer to the *Oracle
> Database Client Installation Guide for Linux x86*.

To ensure that the system meets these requirements:

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

   ```
   # grep MemTotal /proc/meminfo
   ```

   If the size of the physical RAM installed in the system is less than the
   specified value, then you must install more memory before continuing.

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

   ```
   # grep SwapTotal /proc/meminfo
   ```

   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
   ```

   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 to meet the disk space
     requirement.

   - Set the TMP and TMPDIR environment variables when setting the
     oracle user's environment (described later).

   - Extend the file system that contains the /tmp directory. If necessary,
     contact your system administrator for information about extending file
     systems.

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

   ```
   # df -k
   ```

   This command displays the disk space usage on all mounted file systems.
   You must identify a file system with sufficient disk space.

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

   ```
   # grep "model name" /proc/cpuinfo
   ```

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

4 Checking the Software Requirements

The system must meet the following minimum software requirements.

Item	Requirement
Operating system	One of the following operating system versions: ■ Red Hat Enterprise Linux AS/ES 3.0 (Update 4 or later) ■ Red Hat Linux 4.0 ■ SUSE Linux Enterprise Server 9.0 with SP2 or later ■ Asianux 1.0 ■ Asianux 2.0
Kernel version	The system must be running the following kernel version (or a later version): **Red Hat Enterprise Linux 3.0 and Asianux 1.0:** 2.4.21-27.EL **Note:** This is the default kernel version. **Red Hat Enterprise Linux 4.0 and Asianux 2.0:** 2.6.9-5.EL **SUSE Linux Enterprise Server 9.0:** 2.6.5-7.201

Item	Requirement
Packages	The following packages (or later versions) must be installed:

Red Hat Enterprise Linux 3.0 and Asianux 1.0:

```
make-3.79.1
gcc-3.2.3-34
glibc-2.3.2-95.20
compat-db-4.0.14-5
compat-gcc-7.3-2.96.128
compat-gcc-c++-7.3-2.96.128
compat-libstdc++-7.3-2.96.128
compat-libstdc++-devel-7.3-2.96.128
openmotif21-2.1.30-8
setarch-1.3-1
```

Red Hat Enterprise Linux 4.0 and Asianux 2.0:

```
binutils-2.15.92.0.2-13.EL4
compat-db-4.1.25-9
compat-libstdc++-296-2.96-132.7.2
control-center-2.8.0-12
gcc-3.4.3-22.1.EL4
gcc-c++-3.4.3-22.1.EL44
glibc-2.3.4-2.9
glibc-common-2.3.4-2.9
gnome-libs-1.4.1.2.90-44.1
libstdc++-3.4.3-22.1
libstdc++-devel-3.4.3-22.1
make-3.80-5
pdksh-5.2.14-30
sysstat-5.0.5-1
xscreensaver-4.18-5.rhel4.2
setarch-1.6-1
```

SUSE Linux Enterprise Server 9:

```
binutils-2.15.90.0.1.1-32.5
gcc-3.3.3-43.24
gcc-c++-3.3.3-43.24
glibc-2.3.3-98.28
gnome-libs-1.4.1.7-671.1
libstdc++-3.3.3-43.24
libstdc++-devel-3.3.3-43.24
make-3.80-184.1
pdksh-5.2.14-780.1
sysstat-5.0.1-35.1
xscreensaver-4.16-2.6
```

Item	Requirement
Oracle Messaging Gateway	Oracle Messaging Gateway supports the integration of Oracle Streams Advanced Queuing (AQ) with the following software:

- IBM WebSphere MQ V5.3, client and server, with corrective service diskette 5 (CSD05) or later:

  ```
  MQSeriesClient
  MQSeriesServer
  MQSeriesRuntime
  ```
- TIBCO Rendezvous 7.2

Item	Requirement
PL/SQL native compilation, Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK)	The version of GNU C and C++ compilers listed earlier for your distribution is supported for use with these products.
	Notes: Intel C++ Compiler v7.1.0.28 or later is also supported. However, it is not required for installation. On Red Hat Enterprise Linux 3, OCCI is supported with both version 2.96-128 and version 3.2 of the GNU C++ compiler. However, version 3.2 is the default compiler version. OCCI is also supported with Intel Compiler v8.0 with gcc 3.2.3 standard template libraries. Intel C++ Compiler v7 does not support OCCI.
Oracle JDBC/OCI Drivers	You can use the following optional JDK version with the Oracle JDBC/OCI drivers, however it is not required for the installation:
	Sun JDK 1.4.2 with the JNDI extension
Oracle ODBC Drivers	You should install ODBC Driver Manager for UNIX. You can download and install the Driver Manager from the following URL:
	http://www.unixodbc.org

To ensure that the system meets these requirements:

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

   ```
   # cat /etc/issue
   ```

   > **Note:**   Only the distributions and versions listed earlier in this section are supported. Do not install the software on other versions of Linux.

2. To determine whether the required kernel is installed, enter the following command:

   ```
   # uname -r
   ```

   On a Red Hat Enterprise Linux 3.0 system, the output may be as follows:

   ```
   2.4.21-27.EL
   ```

   In this example, the output shows the kernel version (`2.4.21`) and errata level (`27.EL`). If the errata level is less than `27`, then install the latest kernel update. Kernel updates are available from the Red Hat Network.

   On a SUSE Linux Enterprise Server 9 system, the output may be as follows:

   ```
   2.6.5-7.97
   ```

   In this example, the output shows the kernel version on the system. If the kernel version is less than `2.6.5-7.97`, then contact SUSE for information about obtaining and installing the kernel updates.

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

   ```
   # rpm -q package_name
   ```

If a package is not installed, or if the version is lower than the required version, then install it from your Linux distribution media or download the required package from your Linux vendor's Web site.

5 Creating Required Operating System Group and User

The following local operating system group and user must exist on the system:

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

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

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

   ```
   # more /etc/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 command to create the `oinstall` group:

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

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

   ```
   # id oracle
   ```

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

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

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

   - If the `oracle` user exists, but its primary group is not `oinstall`, then enter a command similar to the following, where the `-g` option specifies `oinstall` as the primary group and the `-G` option specifies any existing groups to which the `oracle` user belongs:

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

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

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

     This command creates the `oracle` user and specifies:

     - `oinstall` as the primary group

       –   `dba` as an optional secondary group

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

```
# passwd oracle
```

6 Creating an Oracle Base Directory

> **Note:** You need *not* perform this procedure if an Oracle base directory already exists on the system. If you determine that the `oinstall` group exists, then, typically, the Oracle base directory is the parent directory of the Oracle Inventory directory.

To create the Oracle base directory:

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

```
# df -h
```

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
- 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.

4. Enter commands similar to the following to create the recommended subdirectories in the mount point directory that you identified and set the appropriate owner, group, and permissions on them:

```
# mkdir -p /mount_point/app/oracle_sw_owner
# chown -R oracle:oinstall /mount_point/app/oracle_sw_owner
# chmod -R 775 /mount_point/app/oracle_sw_owner
```

For example, if the mount point you identify is `/u01` and `oracle` is the user name of the Oracle software owner, then the recommended Oracle base directory path is as follows:

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

7 Configuring the oracle User's Environment

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

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

To set the `oracle` user's environment:

1. Start a new terminal session, for example, an X terminal (`xterm`).

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

   ```
   $ xhost fully_qualified_remote_host_name
   ```

3. Complete one of the following steps:

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

   - If the terminal session is connected to the system where you want to install the software, then switch user to `oracle`:

     ```
     $ su - oracle
     ```

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

   ```
   $ echo $SHELL
   ```

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

   - Bash shell (`bash`) on Red Hat:

     ```
     $ vi .bash_profile
     ```

   - Bourne shell (`sh`), Bash shell on SUSE (`bash`), or Korn shell (`ksh`):

     ```
     $ vi .profile
     ```

   - C shell (`csh` or `tcsh`):

     ```
     % vi .login
     ```

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

   ```
   umask 022
   ```

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

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

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

   - Bash shell on Red Hat:

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

   - Bourne shell, Bash shell on SUSE, or Korn shell:

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

   - C shell:

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

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

- Bourne, Bash, or Korn shell:

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

- C shell:

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

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

11. If you determined that the /tmp directory had insufficient free disk space when checking the hardware requirements, then identify a file system with the required amount of free space and set the TMP and TMPDIR environment variables as follows:

a. Use the df -h command to identify a suitable file system with sufficient free space.

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:

```
$ su - root
# mkdir /mount_point/tmp
# 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
```

12. Enter the following commands to ensure that the ORACLE_HOME and TNS_ ADMIN environment variables are not set:

Bourne, Bash, or Korn shell:

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

C shell:

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

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

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

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

8 Mounting the Product Disc

On most Linux 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:

   - Red Hat:

     ```
     # eject /mnt/dvd
     ```

   - SUSE:

     ```
     # eject /media/dvd
     ```

   In these examples, `/mnt/dvd` and `/media/dvd` are the mount point directories for the disc drive.

3. Insert the disc into the disc drive.

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

   - Red Hat:

     ```
     $ ls /mnt/dvd
     ```

   - SUSE:

     ```
     $ ls /media/dvd
     ```

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

   - Red Hat:

     ```
     # mount -t iso9660 /dev/dvd /mnt/dvd
     ```

   - SUSE:

     ```
     # mount -t iso9660 /dev/dvd /media/dvd
     ```

   In these examples, `/mnt/dvd` and `/media/dvd` are the mount point directories for the disc drive.

9 Installing Oracle Database Client

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

1. To start Oracle Universal Installer, enter the following command:

   ```
   $ /mount_point/client/runInstaller
   ```

If Oracle Universal Installer does not start, then refer to *Oracle Database Installation Guide for Linux x86* for information about how to troubleshoot X display problems.

2. The following table describes the recommended action for each Oracle Universal Installer screen. Use the following guidelines to complete the installation:

   ■ If you need more assistance, or if you want to choose an option that is not a default, then click **Help** for additional information.

   ■ If you encounter errors while installing or linking the software, then refer to *Oracle Database Client Installation Guide for Linux x86* 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
Welcome	Click **Next**.
Select Installation Type	Select **InstantClient**, **Administrator**, or **Runtime**. Then, click **Next**.
Specify Home Details	Specify the name and directory path of the Oracle home.
Product-Specific Prerequisite Checks	Verify that all of the prerequisite checks have succeeded, and then click **Next**.
	Oracle Universal Installer checks the system to verify that it is configured correctly to run Oracle software. If you have completed all of the preinstallation steps in this guide, then all of the checks should pass.
	If a check fails, then review the cause of the failure listed for that check on the screen. If possible, rectify the problem and rerun the check. Alternatively, if you are satisfied that your system meets the requirements, then you can select the check box for the failed check to manually verify the requirement.
Summary	Review the information displayed on this screen, and then click **Install**.
Install	This screen displays status information while the product is being installed.
Configuration Assistants	This screen is displayed only if you select Administrator or Runtime on the Select Installation type screen.
	This screen displays status information for the Oracle Net Configuration Assistant that configures Oracle Net. When the message is displayed at the end of this process, click **OK** to continue.

Screen	Recommended Action
Oracle Net Configuration Assistant: Welcome	This screen is displayed only if you select Administrator or Runtime on the Select Installation Type screen.
	Review the information on this screen, and then click **Next**.
	The Oracle Net Configuration Assistant configures the easy connect naming method. For more information about this naming method, click **Help**.
Oracle Net Configuration Assistant: Done	Click **Finish** to continue.
Execute Configuration Scripts	When prompted, read the instructions and then run the script mentioned on this screen. Click **OK** to continue.
End of Installation	To exit from Oracle Universal Installer, click **Exit**, and then click **Yes**.

10 What to Do Next?

After you have successfully installed Oracle Database Client, refer to *Oracle Database Client Installation Guide for Linux x86* for information about required and optional postinstallation steps.

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