Oracle® Database

Quick Installation Guide

11*g* Release 2 (11.2) for Oracle Solaris on SPARC (64-Bit)

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This guide describes how to quickly install Oracle Database 11*g* Release 2 (11.2) for Oracle Solaris on SPARC (64-Bit) systems. It includes information about the following:

- Reviewing Information About This Guide
- Logging In to the System as root
- Checking the Hardware Requirements
- Checking the Software Requirements
- Creating Required Operating System Groups and User
- Creating Required Directories
- Configuring Kernel Parameters on Oracle Solaris 10
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1 Reviewing Information About This Guide

This guide describes how to install Oracle Database by using the default installation options.

Tasks Described in This Guide

The procedures in this guide describe how to:

- Configure your system to support Oracle Database
- Install Oracle Database on a local file system by using the Typical Installation option
- Configure a general-purpose Oracle Database installation that uses the local file system for database file storage

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Results of a Successful Installation

After you successfully install Oracle Database:

- The database that you created and the default Oracle Net listener process run on the system.

- Oracle Enterprise Manager Database Control run and can be accessed by using a web browser.

Tasks Not Described in This Guide

This guide covers the Typical Installation scenario and does *not* describe how to complete the following tasks:

- Using the Advanced Installation option to install the software

- Installing the software on a system that has an existing Oracle software installation

- Installing Oracle Clusterware and Oracle Real Application Clusters (Oracle RAC) on a cluster

- Enabling Enterprise Manager e-mail notifications or automated backups

- Enabling core file creation

- Verifying UDP and TCP kernel parameters

- Using alternative storage options such as Automatic Storage Management

- Installing and configuring Oracle Grid Infrastructure

Where to Get Additional Installation Information

For more information about installing Oracle Database, including information about the tasks not described in this guide, refer to one of the following guides:

- If you want to install the software on a single system, then refer to *Oracle Database Installation Guide*.

- If you want to install Oracle grid infrastructure for a standalone server, then refer to the "Oracle Grid Infrastructure" chapter in *Oracle Database Installation Guide*.

- If you want to perform an Oracle Real Application Clusters installation, then refer to *Oracle Grid Infrastructure Installation Guide* and *Oracle Real Application Clusters Installation Guide*. These guides describe how to install Oracle Clusterware and Oracle Real Application Clusters. Oracle clusterware is a prerequisite for Oracle Real Application Clusters installations.

All these guides are available on the product disc. To access them, use a web browser to open the `welcome.htm` file located in the top-level directory of the media. Platform-specific documentation is available in PDF and HTML formats in the Documentation section..

2 Logging In to the System as root

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

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

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

    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:

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

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

    > **Note:** If necessary, refer to your X server documentation for more information about completing this procedure. Depending on the X server software that you are using, you may 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:

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

3 Checking the Hardware Requirements

The system must meet the following minimum hardware requirements:

- Memory Requirements

- System Architecture

- Disk Space Requirements

3.1 Memory Requirements

The following are the memory requirements for installing Oracle Database 11*g* Release 2 (11.2):

- **Minimum**: 1 GB of RAM

  Recommended: 2 GB of RAM or more

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

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

  If the size of the physical RAM is less than the required size, then you must install more memory before continuing.

- The following table describes the relationship between installed RAM and the configured swap space recommendation:

  > **Note:**   On Oracle Solaris, if you use non-swappable memory, like ISM, then you should deduct the memory allocated to this space from the available RAM before calculating swap space.
  >
  > If you plan to install Oracle Database on systems using DISM, then available swap space must be at least equal to the sum of the SGA sizes of all instances running on the servers.

Available RAM	Swap Space Required
Between 1 GB and 2 GB	1.5 times the size of the RAM
Between 2 GB and 16 GB	Equal to the size of the RAM
More than 16 GB	16 GB

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

  ```
  # /usr/sbin/swap -l
  ```

  > **Note:**   The output of this command shows the total/available swap blocks, where each block equals to 512 bytes and not 1 KB.

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

- To determine the available RAM and swap space, enter the following command:

  ```
  # sar -r -i n
  ```

  where, n is the number of seconds to delay for the next iterations and i is the number of iterations you want to test.

> **IMPORTANT:**
>
> - Oracle recommends that you take multiple values for the available RAM and swap space before finalizing a value. This is because the available RAM and swap space keep changing depending on the user interactions with the computer.
>
> - Contact your operating system vendor for swap space allocation guidance for your server. The vendor guidelines supersede the swap space requirements listed in this guide.

3.2 System Architecture

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

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

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

3.3 Disk Space Requirements

The following are the disk space requirements for installing Oracle Database 11*g* Release 2 (11.2):

- At least 1 GB of space in the `/tmp` directory

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

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

  This 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

  If there is less than 1 GB of free space 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.

    See Also: "Configuring the oracle User's Environment" on page 1-15 for more information on setting `TMP` and `TMPDIR`

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

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

  ```
  # df -k
  ```

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

Installation Type	Requirement for Software Files (GB)
Enterprise Edition	4.7
Standard Edition	4.6
Standard Edition One	4.6
Custom (Enterprise Edition + custom install options)	4.7

Additional disk space, either on a file system or on an Automatic Storage Management disk group is required for the fast recovery area if you choose to configure automated backups.

4 Checking the Software Requirements

Depending on the products that you intend to install, verify that the following software are installed on the system.

> **Note:** Oracle Universal Installer performs checks on the system to verify that it meets the listed requirements. To ensure that these checks pass, verify the requirements before you start Oracle Universal Installer.

- Operating System Requirements
- Package Requirements
- Compiler Requirements
- Additional Software Requirements
- Patch Requirements

4.1 Operating System Requirements

The following are the operating system requirements for Oracle Database 11*g* Release 2 (11.2):

- Oracle Solaris 10 U6 (5.10-2008.10)

Starting with Oracle Database 11*g* Release 2 (11.2.0.3), Oracle Database is also supported on the following operating system version (or later):

- Oracle Solaris 11 11/11 SPARC

> **Note:** No special kernel parameters, packages, or patches are required at the time of this release for Oracle Solaris 11.

To determine the distribution and version of Oracle Solaris installed, enter the following command:

```
# uname -r
```

```
5.10
```

In this example, the version shown is Oracle Solaris 10 (5.10). If necessary, refer to your operating system documentation for information about upgrading the operating system.

To determine the update level of Oracle Solaris installed, enter the following command:

```
$ cat /etc/release
```

4.2 Package Requirements

The following packages (or later versions) are required for Oracle Database 11g Release 2 (11.2) on Oracle Solaris 10:

- SUNWarc

- SUNWbtool

- SUNWhea

- SUNWlibC

- SUNWlibm

- SUNWlibms

- SUNWsprot

- SUNWtoo

- SUNWi1of

- SUNWi1cs (ISO8859-1)

- SUNWi15cs (ISO8859-15)

- SUNWxwfnt

- SUNWcsl

You may also require additional font packages for Java, depending on your locale. Refer to the following website for more information:

http://java.sun.com/j2se/1.4.2/font-requirements.html

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

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

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

4.3 Compiler Requirements

Oracle Solaris Studio 12 (C and C++ 5.9) is supported with Pro*C/C++, Oracle Call Interface, Oracle C++ Call Interface, and Oracle XML Developer's Kit (XDK) for Oracle Database 11g Release 2.

4.4 Additional Software Requirements

Depending on the components you want to use, you must ensure that the following software are installed:

- Oracle Messaging Gateway

- Programming Languages

- Oracle JDBC/OCI Drivers

- Browser Requirements

4.4.1 Oracle Messaging Gateway

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

- IBM MQ Series V6.0, client and server

- TIBCO Rendezvous 7.2

If you require a CSD for WebSphere MQ, then refer to the following website for download and installation information:

http://www-947.ibm.com/support/entry/portal/Downloads/Software/WebSphere/WebSphere_MQ

4.4.2 Programming Languages

The following products are certified for use with:

- **Pro* COBOL**

  Micro Focus Server Express 5.1

- **Pro* FORTRAN**

  Oracle Solaris Studio 12 Fortran F 95

4.4.3 Oracle JDBC/OCI Drivers

Use JDK 6 (Java SE Development Kit `1.6.0.20`) or JDK 5 (`1.5.0.24`) with the JNDI extension with the Oracle Java Database Connectivity and Oracle Call Interface drivers. However, these are not mandatory for the database installation. IBM JDK 1.5 is installed with this release.

JDK 6 is the minimum level of JDK supported on Oracle Solaris 11.

4.4.4 Browser Requirements

Web browsers must support JavaScript and the HTML 4.0 and CSS 1.0 standards. The following browsers meet these requirements. On Oracle Enterprise Manager Database Control:

- Netscape Navigator 8.1

- Netscape Navigator 9.0

- Microsoft Internet Explorer 6.0 SP2

- Microsoft Internet Explorer 7.0 SP1

- Microsoft Internet Explorer 8.0

- Microsoft Internet Explorer 9.0

- Firefox 2.0

- Firefox 3.0.7

- Firefox 3.5

- Firefox 3.6

- Safari 3.1

- Safari 3.2

- Safari 4.0.x

- Google Chrome 3.0

- Google Chrome 4.0

4.5 Patch Requirements

The following or later patches are required for Oracle Database 11*g* Release 2 (11.2) for Oracle Solaris 10:

4.5.1 Operating system-specific patches

Installation Type or Product	Requirement
All installations	**Patches for Oracle Solaris 10:** - 120753-06: SunOS 5.10: Microtasking libraries (libmtsk) patch - 139574-03: SunOS 5.10 - 141444-09 - 141414-02
Pro*C/C++, Pro*FORTRAN, Oracle Call Interface, Oracle C++ Call Interface, Oracle XML Developer's Kit (XDK)	**Patches For Oracle Solaris 10:** - 119963-14: SunOS 5.10: Shared library patch for C++ - 124861-15: SunOS 5.10 Compiler Common patch for Sun C C++ (optional)
Database Smart Flash Cache (An Enterprise Edition only feature.)	The following patches are required for Oracle Solaris on SPARC (64-Bit) if you are using the flash cache feature: 125555-03 140796-01 140899-01 141016-01 139555-08 141414-10 141736-05

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

```
# /usr/sbin/patchadd -p | grep patch_number(without version number)
```

For example, to determine if any version of the 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 My Oracle Support website and install it:

https://support.oracle.com/

5 Creating Required Operating System Groups 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 OSDBA group (typically, `dba`)
- The Oracle software owner (typically, `oracle`)
- The OSOPER group (Optional. Typically, `oper`)

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 /var/opt/oracle/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/oracle/oraInventory
    inst_group=oinstall
    ```

    The `inst_group` parameter shows the name of the Oracle Inventory group, `oinstall`.

2. To determine whether the `dba` group exists, enter the following command:

    ```
    # grep dba /etc/group
    ```

    If the output from this commands shows the `dba` group name, then the group exists.

3. If necessary, enter the following commands to create the `oinstall` and `dba` groups:

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

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

    ```
    # id -a oracle
    ```

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

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

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

  - If the `oracle` user exists, but its primary group is not `oinstall` or it is not a member of the `dba` group, then enter the following command:

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

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

    ```
    # /usr/sbin/useradd -d /export/home/oracle -m -s /bin/bash -g oinstall -G
    dba oracle
    ```

    This command creates the `oracle` user and specifies `oinstall` as the primary group and `dba` as the secondary group.

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

  ```
  # passwd -r files oracle
  ```

6 Configuring Kernel Parameters on Oracle Solaris 10

On Oracle Solaris 10, verify that the kernel parameters shown in the following table are set to values greater than or equal to the minimum value shown.

Note:

  - The kernel parameter values in this section are minimum values only. For production database systems, Oracle recommends that you tune these values to optimize the performance of the system. Refer to your operating system documentation for more information about tuning kernel parameters.

  - On Oracle Solaris 10, you are not required to make changes to the `/etc/system` file to implement the System V IPC. Oracle Solaris 10 uses the resource control facility for its implementation. For further information, contact your vendor.

Resource Control	Minimum Value
`project.max-sem-ids`	100
`process.max-sem-nsems`	256
`project.max-shm-memory`	4294967295
`project.max-shm-ids`	100

Use the following procedure to view the current value specified for resource controls, and to change them if necessary:

1. To display the current values of the resource control, enter the following commands:

   ```
   $ id -p // to verify the project id
   uid=100(oracle) gid=100(dba) projid=1 (group.dba)
   $ prctl -n project.max-shm-memory -i project group.dba
   $ prctl -n project.max-sem-ids -i project group.dba
   ```

2. If you must change any of the current values, then:

   a. To modify the value of max-shm-memory to 6 GB:

      ```
      # prctl -n project.max-shm-memory -v 6gb -r -i project group.dba
      ```

   b. To modify the value of max-sem-ids to 256:

      ```
      # prctl -n project.max-sem-ids -v 256 -r -i project group.dba
      ```

   > **Note:** When you use the `prctl` command (Resource Control) to change system parameters, you do not have to restart the system for these parameter changes to take effect. However, the changed parameters do not persist after a system restart.

Use the following procedure to modify the resource control project settings, so that they persist after a system restart:

1. By default, Oracle instances are run as the `oracle` user of the `dba` group. A project with the name group.dba is created to serve as the default project for the oracle user. Run the command id to verify the default project for the oracle user:

   ```
   # su - oracle
   $ id -p
   uid=100(oracle) gid=100(dba) projid=100(group.dba)
   $ exit
   ```

2. To set the maximum shared memory size to 2 GB, run the `projmod` command:

```
# projmod -sK "project.max-shm-memory=(privileged,2G,deny)" group.dba
```

Alternatively, add the resource control value
project.max-shm-memory=(privileged,2147483648,deny) to the last field of the
project entries for the Oracle project.

3. After these steps are complete, check the values for the /etc/project file using the
following command:

```
# cat /etc/project
```

The output should be similar to the following:

```
system:0::::
user.root:1::::
noproject:2::::
default:3::::
group.staff:10::::
group.dba:100:Oracle default
project:::project.max-shmmemory=(privileged,2147483648,deny)
```

4. To verify that the resource control is active, check process ownership, and run the
commands id and prctl, as in the following example:

```
# su - oracle
$ id -p
uid=100(oracle) gid=100(dba) projid=100(group.dba)
$ prctl -n project.max-shm-memory -i process $$
process: 5754: -bash
NAME                     PRIVILEGE     VALUE     FLAG     ACTION     RECIPIENT
project.max-shm-memory   privileged    2.00GB    -        deny
```

> **Note:** The value for the maximum shared memory depends on the
> SGA requirements and should be set to a value greater than the SGA
> size.
>
> For additional information, refer to the Oracle Solaris Tunable
> Parameters Reference Manual.

7 Configure Shell Limits

Oracle recommends that you set shell limits and system configuration parameters as
described in this section.

> **Note:** The shell limit values in this section are recommended values
> only. For production database systems, Oracle recommends that you
> tune these values to optimize the performance of the system. Refer to
> your operating system documentation for more information about
> configuring shell limits.

The ulimit settings determine process memory related resource limits. Verify that the
shell limits displayed in the following table are set to the values shown:

Shell Limit	Recommended Value
TIME	-1 (Unlimited)
FILE	-1 (Unlimited)
DATA	Minium value: 1048576
STACK	Minium value: 32768
NOFILES	Minium value: 4096
VMEMORY	Minium value: 4194304

To display the current value specified for these shell limits enter the following commands:

```
ulimit -t
ulimit -f
ulimit -d
ulimit -s
ulimit -n
ulimit -v
```

8 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
```

9 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
```

For example:

```
$ xhost somehost.us.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 computer, then run the following command on the remote system to set the `DISPLAY` variable:

   - Bourne, Bash or Korn shell:

     ```
     $ export 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 local computer to use to display Oracle Universal Installer.

   Run the following command on the remote system to check if the shell and the DISPLAY environmental variable are set correctly:

   ```
   echo $SHELL
   echo $DISPLAY
   ```

   Now to enable X applications, run the following commands on the local computer:

   ```
   $ xhost + fully_qualified_remote_host_name
   ```

   To verify that X applications display is set properly, run a X11 based program that comes with the operating system such as `xclock`:

   ```
   $ xclock
   ```

   In this example, you can find `xclock` at `/usr/X11R6/bin/xclocks`. If the `DISPLAY` variable is set properly, then you can see `xclock` on your computer screen.

   > **See Also:** PC-X Server or operating system vendor documents for further assistance

8. If you determined that the `/tmp` directory has less than 1 GB of free disk space, then identify a file system with at least 1 GB 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 -h /tmp
```

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. Enter commands similar to the following to set the `ORACLE_BASE` and `ORACLE_SID` environment variables:

- Bourne, Bash, or Korn shell:

```
$ ORACLE_BASE=/u01/app/oracle
$ ORACLE_SID=sales
$ export ORACLE_BASE ORACLE_SID
```

- C shell:

```
% setenv ORACLE_BASE /u01/app/oracle
% setenv ORACLE_SID sales
```

In this example, `/u01/app/oracle` is the Oracle base directory that you created or identified earlier and `sales` is the database name (typically no more than five characters).

10. 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
```

> **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. However, 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 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/c0t2d0s2`.

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
     ```

11 Installing Oracle Database

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

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

   ```
   $ /mount_point/db/runInstaller
   ```

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

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

- If you need more assistance, or 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 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.

Screen	Recommended Action
Configure Security Updates	Enter your e-mail address, preferably your My Oracle Support e-mail address or user name in the **Email** field.
	You can select the **I wish to receive security updates via My Oracle Support** check box to receive security updates.
	Enter your My Oracle Support password in the **My Oracle Support Password** field.
	Click **Next**.
Download Software Updates	Starting with Oracle Database 11*g* Release 2 (11.2.0.2), you can use the Software Updates feature to dynamically download and apply latest updates. Select one of the following options and click **Next**:
	■ Use My Oracle Support credentials for download: Select this option to download and apply the latest software updates.
	Click **Proxy Settings** to configure a proxy for Oracle Universal Installer to use to connect to the Internet. Provide the proxy server information for your site, along with a user account that has access to the local area network through which the server is connecting. Starting with Oracle Database 11*g* Release 2 (11.2.0.3), you can enter the Proxy Realm information if required. The proxy realm information is case-sensitive.
	Click **Test Connection** to ensure that your proxy settings are correctly entered, and the installer can download the updates.
	■ Use pre-downloaded software updates: Select this option to apply previously downloaded software updates.
	■ Skip Software Updates: Select this option if you do not want to apply any updates.
Apply Software Updates	This screen is displayed if you select to download the software updates or provide the pre-downloaded software downloads location.
	If you selected Use My Oracle Support credentials for download in the previous screen, select **Download and apply all updates**, and then click **Next.**
	If you selected Use pre-downloaded software updates in the previous screen, select **Apply all updates**, and then click **Next.**
Select Installation Option	Select **Create and configure a database** from the following list of available options, then click **Next**:
	■ Create and configure a database
	■ Install database software only
	■ Upgrade an existing database

Screen	Recommended Action
System Class	Select **Server Class** from the following options to install the database, and click **Next**. ■ Desktop Class: Choose this option if you are installing on a laptop or desktop class system. ■ Server Class: Choose this option if you are installing on a server class system, such as what you would use when deploying Oracle in a production data center.
Grid Installation Options	Select **Single instance database installation** for the type of database installation you want to perform, and click **Next**. ■ Single instance database installation: This option installs the database and the listener. ■ Real Application Clusters database installation: This option installs Oracle Real Application Clusters. ■ Oracle RAC One Node database installation: This option installs the Oracle RAC One Node database. **Note:** Oracle RAC One Node is supported only with Oracle Clusterware.
Select Install Type	Select **Typical Install** as the installation type from the following options, and click **Next**: ■ Typical Install: This installation method is selected by default. It lets you quickly install Oracle Database using minimal input. ■ Advanced Install: This installation method enables to perform more complex installations.
Typical Install Configuration	Enter the following information according to your requirements: Oracle base: The Oracle base path appears by default. You can change the path based on your requirement. Software location: 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. Storage Type: Select **File System**, or **Oracle Automatic Storage Management** as the database storage option. Database file location: If you select File System as your storage type, then click **Browse** and specify a database file location. ASMSNMP Password: If you select Oracle Automatic Storage Management as your Storage Type, then specify the password for the ASMSNMP user. Database edition: Select the database edition to install. OSDBA Group: The OSDBA group is selected by default. You can also select the OSDBA group from the list. Global database name: Specify the Global Database Name using the following syntax: *database_name.domain* For example, `sales.us.example.com` Administrative password: Enter the password for the privileged database account. Confirm Password: Reenter, and confirm the password for the privileged database account. Click **Next** to continue.
Create Inventory	This screen is displayed only during the first installation of Oracle products on a system. Specify the full path of the Oracle Inventory directory. Ensure that the operating system group selected is `oinstall`. Click **Next** to continue.

Screen	Recommended Action
Perform Prerequisite Checks	Verify that all the prerequisite checks succeed, 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 the preinstallation steps in this guide, all 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.
	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 that your system can install Oracle Database successfully.
Summary	Review the information displayed on this screen, and then click **Install.**
	Note: Starting with Oracle Database 11*g* Release 2 (11.2), 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.
Install Product	This screen states the progress of a database installation. After the database is installed, you are prompted to execute some root configuration script for new inventory as the root user. Click **Next**.
	This screen then displays the status information for the configuration assistants that configure the software and create a database.
	Finally, a message is displayed at the end of Database Configuration Assistant process, and click **OK**.
	Execute the root.sh script as the root user to complete the installation and click **OK**.
Finish	This screen is shown automatically when all the configuration tools are successful.
	Click **Close**.

12 Installing Oracle Database Examples

If you plan to use the following products or features, then download and install the products from the Oracle Database Examples media:

- Oracle JDBC Development Drivers

- Oracle Database Examples

- Various Oracle product demonstrations

For information about installing software and various Oracle product demonstrations from the Oracle Database Examples media, refer to *Oracle Database Examples Installation Guide*.

13 What to Do Next?

To become familiar with this release of Oracle Database, it is recommended that you complete the following tasks:

- Log in to Oracle Enterprise Manager Database Control using a web browser.

  Oracle Enterprise Manager Database Control is a web-based application that you can use to manage a single Oracle Database installation. The default URL for Database Control is similar to the following:

  ```
  http://host.domain:1158/em/
  ```

To log in, use the user name SYS and connect as SYSDBA. Use the password that you specified for this user during the Oracle Database 10*g* installation.

- Refer to *Oracle Database Installation Guide* for information about required and optional postinstallation tasks, depending on the products to use.

- Refer to *Oracle Database Installation Guide* for information about how to use Database Control to learn about the configuration of your installed database.

- To learn more about using Oracle Enterprise Manager Database Control to administer a database, refer to *Oracle Database 2 Day DBA*.

  The *Oracle Database 2 Day DBA* is designed for new Oracle DBAs and describes how to use Database Control to manage all aspects of an Oracle Database installation. It also provides information about how to enable e-mail notifications and automated backups, which you might not have configured during the installation.

14 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 11*g* products is available in both HTML and PDF formats in the following locations:

- On the Oracle Database Documentation Library media:

Use a web browser to view or open the `index.htm` file in the top-level directory on the media.

- From the Oracle Technology Network (OTN) website:

  http://www.oracle.com/technetwork/indexes/documentation/index.html

To view PDF documents, download the free Adobe Acrobat Reader from the Adobe website, if necessary:

http://www.adobe.com

15 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 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.