



## Installing and Patching Oracle

---

The Oracle procedures described in this chapter should be performed only as directed in the checklist provided in [Installation Scenarios and Checklists, page 1-3](#) for the installation setup that applies to you. Print the appropriate checklist from the PDF and check off each task as you complete it.



### Note

- Oracle 12c is available only for a 64-bit architecture.
  - Use the information in this section in conjunction with the Oracle documentation available on the Oracle website.
- 

This chapter describes how to install Oracle software when you choose to install Prime Optical on an external database rather than on an embedded database. The Oracle software must be installed on the `/oracle` directory. You can choose any username for the Oracle operating system user that owns the Oracle software. In this procedure, the username **oracle** is used. You can replace **oracle** with the chosen username in all commands. You can choose any home directory other than `/oracle` for the Oracle operating system user. In this procedure, the `/cporacle` home directory is used. You can replace `/cporacle` with the chosen home directory in all commands.

## Oracle Prerequisites

This section describes how to create or update an existing **oracle** user before you install Oracle 12c. Also, before you install Oracle 12c, verify that:

- Oracle is not running.
- The Cisco Prime Optical installation DVD is in the drive, or the Cisco Prime Optical installation ISO is mounted.

## Creating a New Oracle User

Follow these steps to create a new **oracle** user:

---

**Step 1** Enter the following command to create a UNIX group for database administrators:

```
groupadd -g 3303 dba
```

**Step 2** Enter the following command to create a UNIX group for installation of the Oracle software:

```
groupadd oinstall
```

**Step 3** Enter the following command to create a UNIX account to own the Oracle software:

```
useradd -g oinstall -G dba -m -s /bin/csh -d /cporacle oracle
```



**Caution** Do not enter /oracle for the home directory.

**Step 4** Enter the following command to change the **oracle** user password:

```
passwd oracle
```

**Step 5** Enter the new password and then reenter it to confirm it.

## Updating an Existing Oracle User

Follow these steps if an **oracle** user already exists:

**Step 1** As a root user, enter the following commands to create and update to the new home directory:

```
mkdir /cporacle  
chown oracle:oinstall /cporacle  
chmod 700 /cporacle
```

**Step 2** As a root user, enter the following command to change the home directory/cporacle:

```
usermod -d /cporacle oracle
```

## Setting Shell Limits for an Oracle User

Follow these steps to set the shell limits for an **oracle** user:

Edit the file /etc/security/limits.conf file by adding the following parameters:

```
oracle hard memlock unlimited  
oracle hard nofile 65536  
oracle hard nproc 16384  
oracle soft nofile 65536  
oracle soft nproc 16384  
oracle soft memlock unlimited
```

Add the following parameters only if Prime Optical is installed with optusr at runtime:

```
optusr soft nofile 65536  
optusr hard nofile 65536  
optusr soft nproc 16384  
optusr hard nproc 16384
```



**Note** Do not add optusr settings if Prime Optical user at runtime is root.

# Installing the Oracle 12c Software with the Response File (\*.rsp) Provided by Cisco

To install Oracle 12c, follow these steps:

- Step 1** Enter the following command to copy the default profile to the Oracle home directory:
- ```
cp <DVD-mount-point>/Disk1/oracle.cshrc /cporacle/.cshrc
```
- Step 2** Enter the following command:
- ```
cp <DVD-mount-point>/Disk1/oracle12_enterp_linux.rsp /oracle
```
- Step 3** Enter the following commands to change ownership of the Oracle software directories:
- ```
chown -R oracle:dba /oracle
chown -R oracle:dba /cporacle
chown -R oracle:dba /db01
chown -R oracle:dba /db02
chown -R oracle:dba /db03
chown -R oracle:dba /db04
chown -R oracle:dba /db05
chown -R oracle:dba /ctm_backup
```
- Step 4** If you are using db01\_rd or db02\_rd, enter the following commands to change ownership of the Oracle software directories:
- ```
chown -R oracle:dba /db01_rd
chown -R oracle:dba /db02_rd
```
- Step 5** Enter the following command to add read-write permissions:
- ```
chmod +rw /cporacle/.cshrc
```
- Step 6** Follow the preinstallation steps in the *Oracle 12c Installation Guide for Linux*, available on the Oracle website. Note the following constraints:
- No RAC configuration
  - No ASM configuration
  - Linux 64-bit
  - No Oracle application server
- Step 7** Enter the following command to log in as the **oracle** user:
- ```
su - oracle
```
- Step 8** Depending on the distribution media of the Oracle software, change to the directory where the runInstaller application is located. For example, if you are using a DVD, enter:
- ```
cd /dvd/dvd0
```
- Step 9** Enter the following command to set the display on your terminal:
- ```
setenv DISPLAY <hostname-or-IP-address>.0.0
```
- Step 10** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```

In the command output, you should see:

```
<hostname-or-IP-address>:0.0
```

If you are using an xterm window or a remote host, as a root user enter the following command to enable the xterm connection from clients:

```
xhost +
```

**Step 11** Enter the following command to start the Oracle installer:

```
./runInstaller -silent -responseFile /oracle/oracle12_enterp_linux.rsp &
```

When this step is complete, you will be prompted to run several shell scripts as root. Instead, press the **Enter** key to return to the prompt.



**Note**

- If you do not have the Oracle installation media, see your Oracle documentation for instructions on how to download and extract the correct software for the installation.
- When carrying out the steps in this section, see the *Oracle Content Database Installation Guide* on the Oracle website.

**Step 12** Enter the following commands to create the local/bin directory:

```
cd /oracle/product/12.1.0/  
mkdir -p local/bin
```

If you were prompted to run the /oracle/product/12.1.0/root.sh script, log in to another terminal window as a root user and do the following:

a. Enter the following command:

```
cd /oracle/product/12.1.0/
```

b. Enter the following command to run the root.sh script:

```
./root.sh
```

**Step 13** Because the client static library is not generated during installation, you must do the following to generate and link your applications to the client static library:

a. Go back to the terminal window where you are logged in as the **oracle** user.

b. Enter the following command to generate the client static library:

```
$_ORACLE_HOME/bin/genclntst
```

**Step 14** As the **oracle** user, enter the following commands to relink Oracle:

```
> setenv ORACLE_HOME /oracle/product/12.1.0/  
> $_ORACLE_HOME/bin/relink all
```

# Downloading and Installing the Required Oracle 12c Patches for Linux Platforms

See the Oracle installation documentation to install the patches listed in [Table 4-1](#). You must install the Oracle patches in the exact order shown.

**Table 4-1** Oracle 12c Patches for Linux

| Installation Order | Patch Number | Package Name                      | Description                                        |
|--------------------|--------------|-----------------------------------|----------------------------------------------------|
| <b>Linux</b>       |              |                                   |                                                    |
| 1                  | 6880880      | p6880880_121010_Linux-x86-64.zip  | Installs Oracle 12.1.0.1.8.                        |
| 2                  | 20831110     | p20831110_121020_Linux-x86-64.zip | Install the Oracle Security Patch (PSU:12.1.0.2.4) |
| 3                  | 21068507     | p21068507_121020_Linux-x86-64.zip | Install the Oracle Java VM Patch (PSU:12.1.0.2.4)  |