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Installing Oracle Database Software

Objectives

After completing this lesson, you should be able to:

- Plan an Oracle Database and Oracle Grid Infrastructure for standalone server software installation
- Use the Oracle RDBMS Pre-Install RPM
- Configure the Oracle software owner environment
- Invoke the appropriate Oracle Universal Installer (OUI)
- Describe the operating system groups and users that are required for Oracle Database software installation
- Install the Oracle Database software

Planning Your Installation

- What Oracle software are you installing?
- Does the hardware involved meet the minimum required specifications?
- Is there a recommended order of installation when multiple products are involved?
- Are there prerequisite steps that must be performed by someone other than the DBA?

Oracle Database Installation: System Requirements

- Memory requirements for Linux:
  - Minimum 1 GB (2 GB recommended) for the database instance
  - Swap space:
    - 1 GB – 2 GB RAM, swap space = 1.5 times the size of RAM
    - 2 GB – 16 GB RMAN, swap space = size of RAM
    - 16 GB + RAM, swap space = 16 GB
- Disk space requirements for Linux:
  - 6.4 GB for the Oracle Database software (Enterprise Edition) and data files
  - 1 GB of disk space in the `/tmp` directory
  - 4 GB (default) for the fast recovery area (optional)

**Configuring Oracle Linux with
Oracle RDBMS Pre-Install RPM**

To configure a server using Oracle Linux and the Oracle
RDBMS Pre-Install RPM:

1. Install Oracle Linux.
2. Register your Linux distribution with Oracle Unbreakable
   Linux Network (ULN), or download and configure the yum
   repository for your system.
3. Install the RPM:
   – Oracle RDBMS Pre-Install RPM for Oracle Linux 8
   – Oracle Validated RPM with the RPM for Oracle Linux 8

```
# dnf install oracle-database-preinstall-19c
```

Install Oracle Database prerequisite package

```
oracle-database-preinstall-19c-1.0-2.el8.x86_64
ksh-20120801-254.0.1.el8.x86_64
libXxf86dga-1.1.5-1.el8.x86_64
libdmx-1.1.4-3.el8.x86_64
libstdc++-devel-8.2.1-3.5.0.1.el8.x86_64
sysstat-11.7.3-6.0.1.el8.x86_64
xorg-x11-utils-7.5-28.el8.x86_64
glibc-devel-2.28-42.0.1.el8.x86_64
libaio-devel-0.3.112-1.el8.x86_64
libnsl-2.28-42.0.1.el8.x86_64
libxcrypt-devel-4.1.1-4.el8.x86_64
lm_sensors-libs-3.4.0-23.20180522git70f7e08.el8.x86_64
make-1:4.2.1-10.el8.x86_64
```

Operating System Groups and Users

Oracle Pre-Install RPM configures:
- `oracle`: Oracle Database installation owner
- `oinstall`: Oracle Inventory group
- `dba`: Oracle administrative privileges group
- `backupdba`
- `dgdba`
- `kmdba`

Kernel Parameter Settings Required for Oracle Database

Kernel Parameter	Setting
semmsl	250
semmns	32000
semopm	100
semmni	128
shmmax	4398046511104
shmmni	4096
shmall	1075741824
file-max	6815744
aio-max-nr	1048576
ip_local_port_range	9000–65500
panic_on_oops	1
rmem_default	262144
rmem_max	4194304
wmem_default	262144
wmem_max	1048576

Environment Variables

The following Oracle environment variables are suggested by the OUI during installation:

- ORACLE_BASE: Base of the Oracle directory structure
- ORACLE_HOME: Oracle Grid Infrastructure home directory or Oracle Database home directory depending on the product that is being installed

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Using Oracle Universal Installer (OUI)

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Types of Installations

- Software-only installation
  - Copies the binaries to the specified location
  - Use Database Configuration Assistant (DBCA) to create the database.
- Installation of the software and creation of a database
- Upgrade an existing database

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Summary

In this lesson, you should have learned how to:
- Plan an Oracle Database and Oracle Grid Infrastructure for standalone server software installation
- Use the Oracle RDBMS Pre-Install RPM
- Configure the Oracle software owner environment
- Invoke the appropriate Oracle Universal Installer (OUI)
- Describe the operating system groups and users that are required for Oracle Database software installation
- Install the Oracle Database software

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