2

Installing the Oracle Database Software

Objectives

After completing this lesson, you should be able to do the following:

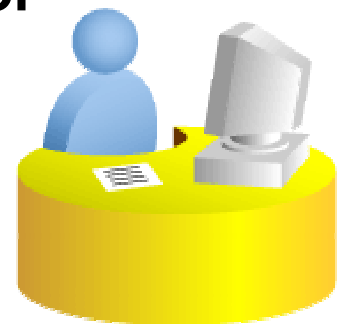- Describe your role as a database administrator (DBA), and explain typical tasks and tools
- Plan an Oracle database installation
- Use Optimal Flexible Architecture (OFA)
- Install the Oracle software by using Oracle Universal Installer (OUI)

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Tasks of an Oracle Database Administrator

A prioritized approach for designing, implementing, and maintaining an Oracle database involves the following tasks:

1. Evaluating the database server hardware
2. Installing the Oracle software
3. Planning the database and security strategy
4. Creating, migrating, and opening the database
5. Backing up the database
6. Enrolling system users and planning for their Oracle Network access
7. Implementing the database design
8. Recovering from database failure
9. Monitoring database performance

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Tools Used to Administer
an Oracle Database

- **Oracle Universal Installer**

- **Database Configuration Assistant**

- **Database Upgrade Assistant**

- **Oracle Net Manager**

- **Oracle Enterprise Manager**

- **SQL*Plus and *i*SQL*Plus**

- **Recovery Manager**

- **Oracle Secure Backup**

- **Data Pump**

- **SQL*Loader**

- **Command-line tools**

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Installation: System Requirements

- **Memory requirements:**
  - **1 GB for the instance with Database Control**
- **Disk space requirements:**
  - **1.5 GB of swap space**
  - **400 MB of disk space in the `/tmp` directory**
  - **Between 1.5 GB and 3.5 GB for the Oracle software**
  - **1.2 GB for the preconfigured database (optional)**
  - **2.4 GB for the flash recovery area (optional)**
- **Operating system: See documentation.**

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Checking the System Requirements

```
[oracle@EDRSR4P1 solutions]$ cd /stage/Disk1
[oracle@EDRSR4P1 Disk1]$ ls
doc  install  response  runInstaller  stage  welcome.html
[oracle@EDRSR4P1 Disk1]$ ./runInstaller
Starting Oracle Universal Installer...

Checking installer requirements...

Checking operating system version: must be redhat-3, SuSE-9, redhat-4, UnitedLin
ux-1.0, asianux-1 or asianux-2
                                    Passed


All installer requirements met.

Preparing to launch Oracle Universal Installer from /tmp/OraInstall2005-10-18_02
-17-50PM. Please wait ...[oracle@EDRSR4P1 Disk1]$
```
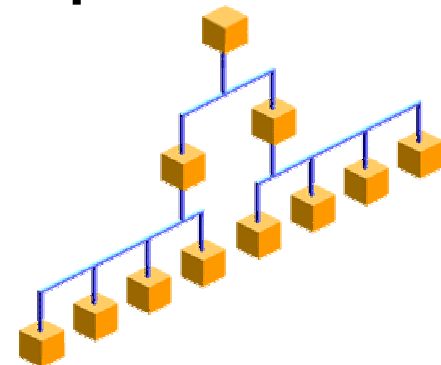
- **Adequate temporary space**

- **64-bit versus 32-bit issues**

- **Checks for the correct operating system (OS)**

- **OS patch level**

- **System packages**

- **System and kernel parameters**

- **X Server permissions**

- **Sufficient swapping**

- **Nonempty `ORACLE_HOME`**
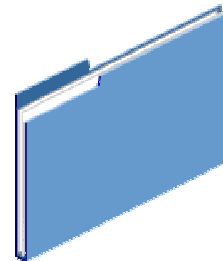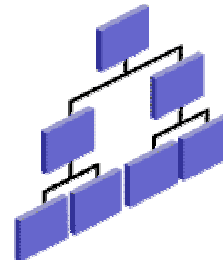
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Optimal Flexible Architecture (OFA)

OFA is designed to:

- Organize large amounts of software
- Facilitate routine administrative tasks
- Facilitate switching between multiple Oracle databases
- Manage and administer database growth adequately
- Help eliminate fragmentation of free space

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Using Optimal Flexible Architecture

- **Naming mount points:**
  - `/u01`
  - `/disk01`
- **Naming directories:**
  - `/u01/app/oracle`
  - `/u01/app/applmgr`
- **Naming files:**
  - **Control files:** `controln.ctl`
  - **Redo log files:** `redon.log`
  - **Data files:** `tn.dbf`

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Setting Environment Variables

- **`ORACLE_BASE`: The base of the Oracle directory structure for OFA**
- **`ORACLE_HOME`: The directory containing the Oracle software**
- **`ORACLE_SID`: The initial instance name (by default, `ORCL`)**
- **`NLS_LANG`: The language, territory, and client character set settings**

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Oracle Universal Installer (OUI)

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Installing the Oracle Software

Specify Inventory directory and credentials

You are starting your first installation on this host. As part of this install, you need to specify a directory for installer files. This is called the "inventory directory". Within the inventory directory, the installer automatically sets up subdirectories for each product to contain inventory data and will consume typically 150 Kilobytes per product.

Enter the full path of the inventory directory.

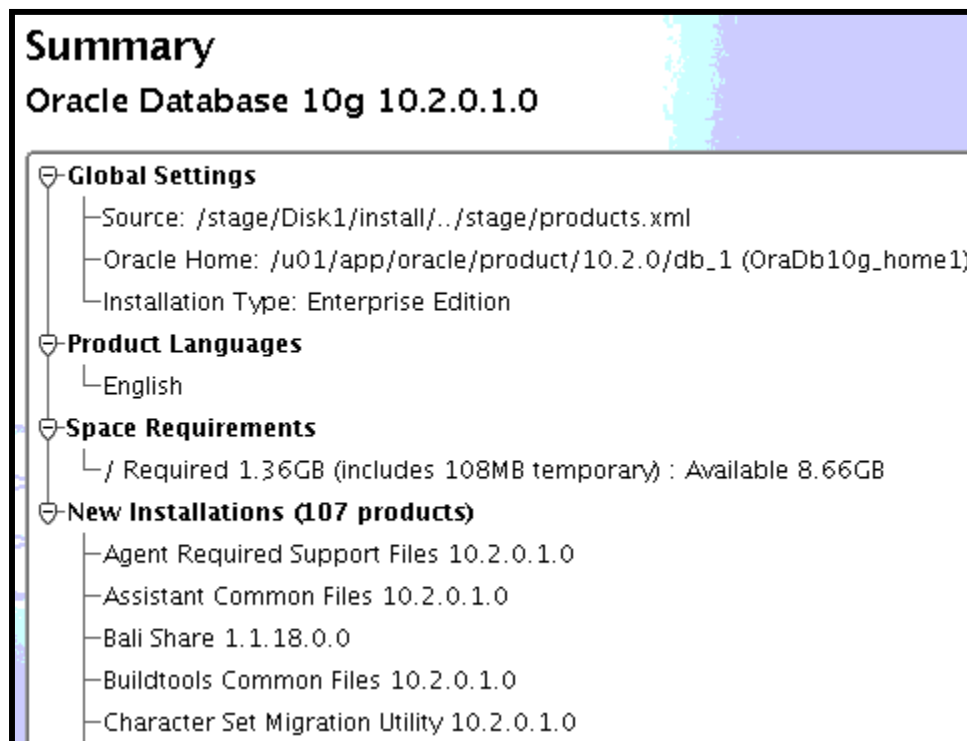`/u01/app/oracle/oraInventory`   Browse...

You can specify an Operating System group that has write permission to the above inventory directory. You can leave the field blank if you want to perform the above operations as a Superuser.

Specify Operating System group name:
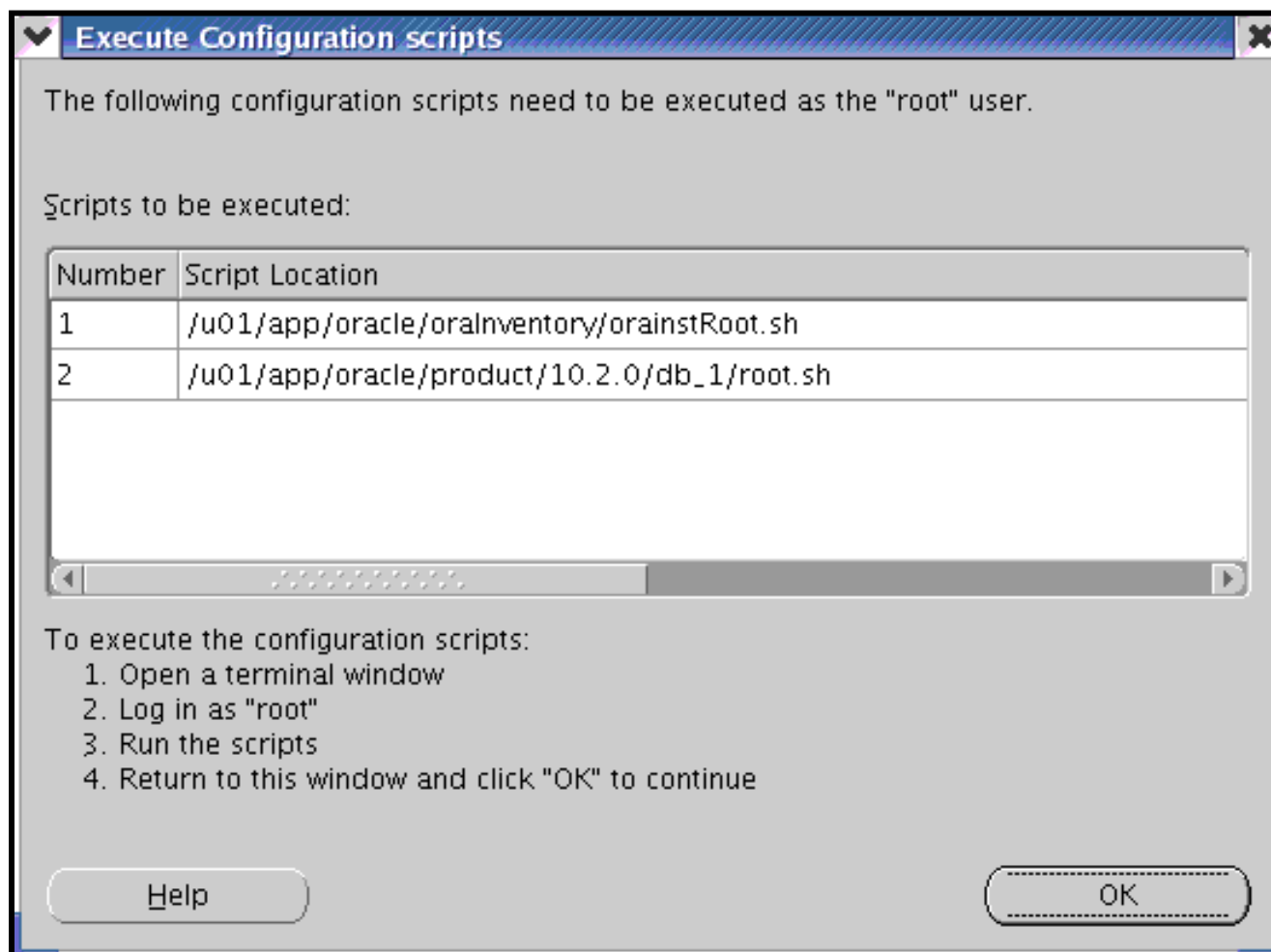
`oinstall`

Product-specific Prerequisite Checks

The installer will now verify that the system meets all the minimum requirements for installing and configuring the chosen product. You are required to manually verify and confirm the items that are flagged as warnings or manual checks. For details on performing those checks, click on the item and see the details at the bottom.

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Database Configuration Options

Summary

Oracle Database 10g 10.2.0.1.0

- **Global Settings**
  - Source: /stage/Disk1/install/../stage/products.xml
  - Oracle Home: /u01/app/oracle/product/10.2.0/db_1 (OraDb10g_home1)
  - Installation Type: Enterprise Edition
- **Product Languages**
  - English
- **Space Requirements**
  - / Required 1.36GB (includes 108MB temporary) : Available 8.66GB
- **New Installations (107 products)**
  - Agent Required Support Files 10.2.0.1.0
  - Assistant Common Files 10.2.0.1.0
  - Bali Share 1.1.18.0.0
  - Buildtools Common Files 10.2.0.1.0
  - Character Set Migration Utility 10.2.0.1.0

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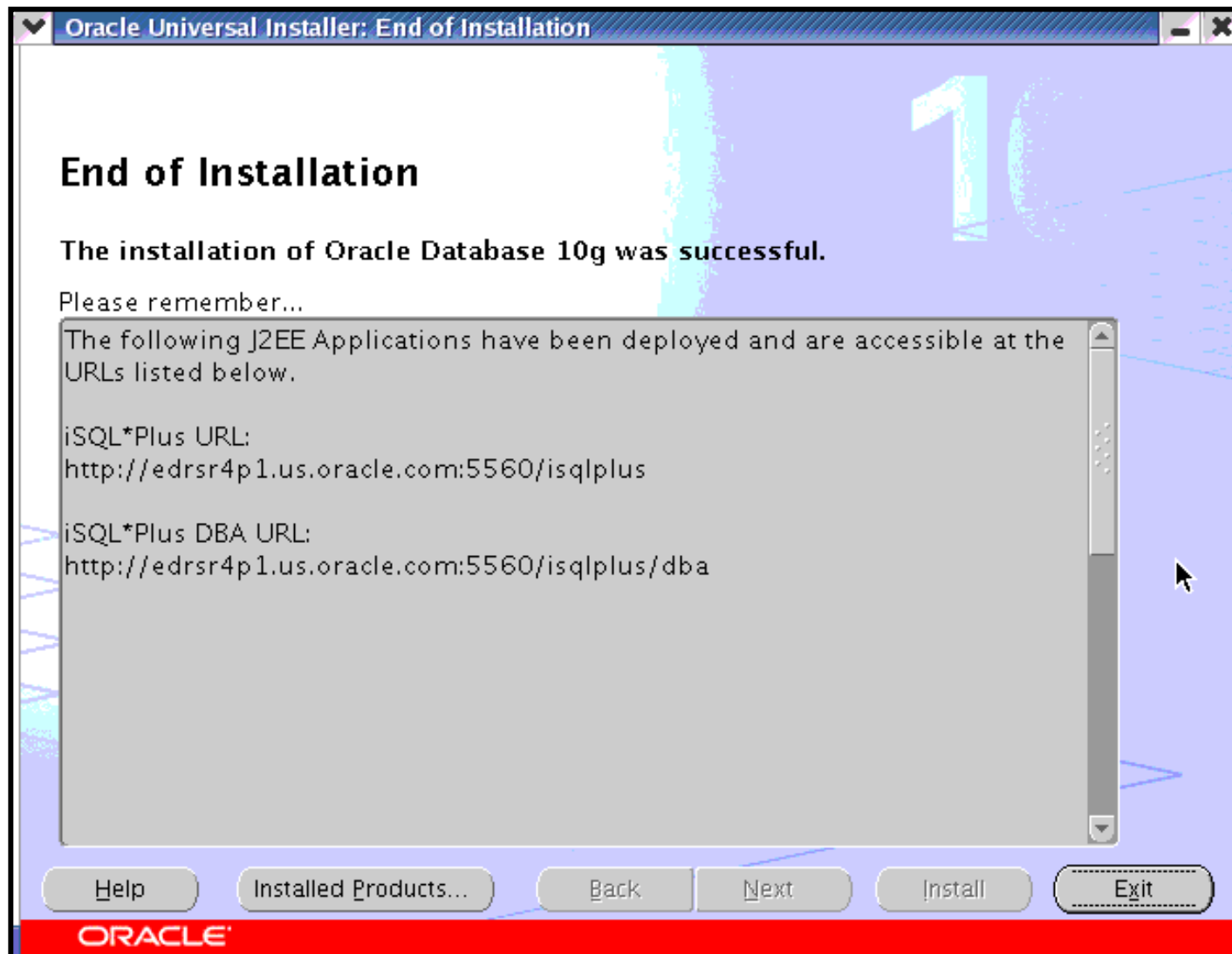
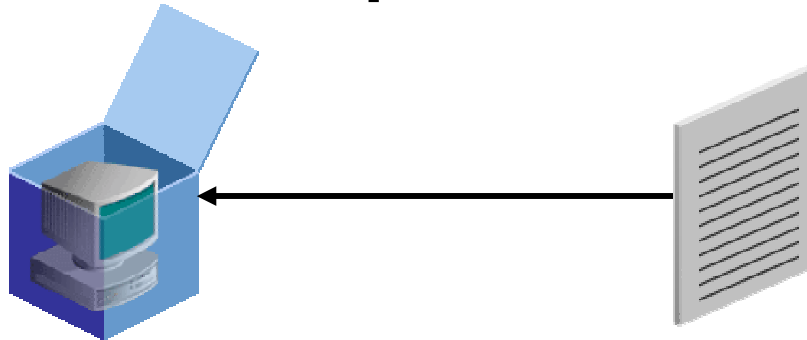# Executing Configuration Scripts

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Completing Your Installation

Advanced Installation Options

- **Database storage options:**
    - **File system**
    - **Automatic Storage Management**
    - **Raw devices**
- **Database management options:**
    - **Enterprise Manager Grid Control**
    - **Enterprise Manager Database Control**
- **Database backup and recovery options**
- **E-mail notification options**
- **Cluster Ready Services**
- **Cloning**

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Installation Option: Silent Mode

To install and configure Oracle products with OUI in silent mode, perform the following steps:

1. **Create the `oraInst.loc` file, if it does not already exist.**

2. **Prepare a response file based on file templates that are delivered with the Oracle software.**

3. **Record a response file:**

   `.runInstaller –record -destinationFile`
   `<filename>`

4. **Run OUI in silent or suppressed mode.**

5. **If required, run NetCA and DBCA in silent mode.**

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Summary

In this lesson, you should have learned how to:

- Describe your role as a DBA, and explain tasks and tools

- Plan your installation, starting with the appropriate documentation

- Perform preinstallation tasks, such as checking system requirements

- Install software by using OUI

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Practice Overview:
Installing the Oracle Software

This practice covers installing the Oracle software by using Oracle Universal Installer.

Note: Completing this practice is critical for all the subsequent practice sessions.

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