

Oracle Database 11g: Administration Workshop I Release 2

Duration: 5 Days

What you will learn

This course is your first step towards success as an Oracle professional, designed to give you a firm foundation in basic database administration. In this class, you'll learn how to install and maintain an Oracle database. You will gain a conceptual understanding of the Oracle database architecture and how its components work and interact with one another. You will also learn how to create an operational database and properly manage the various structures in an effective and efficient manner including performance monitoring, database security, user management, and backup/recovery techniques. The lesson topics are reinforced with structured hands-on practices. This course is designed to prepare you for the corresponding Oracle Certified Associate exam. The course does not cover the following key Grid technologies: (1) Enterprise Manager Grid Control(2) Real Application Clusters(3) Streams(4) Data Guard. These technologies are addressed by the following courses:(1) Oracle Enterprise Manager 11g Grid Control(2) Oracle Database 11g: RAC Administration(3) Oracle Database 11g: Implement Streams(4) Oracle Database 11g: Data Guard Administration

Learn To:

- Install Oracle Grid Infrastructure
- Create and manage users
- Install and Configure Oracle Database
- Create and manage storage structures
- Administer the Oracle Database
- Backup and Recovery

- Database Administrators
- Java Developer
- Support Engineer
- Technical Administrator
- Technical Consultant

Prerequisites

Suggested Prerequisites

- Taken Oracle Introduction to SQL course or equivalent experience
- Taken Oracle PL/SQL course or equivalent experience

Course Objectives

- Monitor performance
- Describe Oracle Database Architecture
- Install Oracle Grid Infrastructure
- Install and configure Oracle Database 11g
- Configure Oracle Net services
- Monitor and administer undo data
- Manage the database storage structures

- Create and administer user accounts
- Perform basic backup and recovery of a database
- Manage users and schemas
- Manage data concurrency

Course Topics

Exploring the Oracle Database Architecture

- Oracle Database Architecture Overview
- Oracle ASM Architecture Overview
- Process Architecture
- Memory structures
- Logical and physical storage structures
- ASM storage components

Installing your Oracle Software

- Tasks of an Oracle Database Administrator
- Tools Used to Administer an Oracle Database
- Installation: System Requirements
- Oracle Universal Installer (OUI)
- Installing Oracle Grid Infrastructure
- Installing Oracle Database Software
- Silent Install

Creating an Oracle Database

- Planning the Database
- Using the DBCA to Create a Database
- Password Management
- Creating a Database Design Template
- Using the DBCA to Delete a Database

Managing the Oracle Database Instance

- Start and stop the Oracle database and components
- Use Oracle Enterprise Manager
- Access a database with SQLPlus
- Modify database installation parameters
- Describe the stages of database startup
- Describe database shutdown options
- View the alert log
- Access dynamic performance views

Manage the ASM Instance

- Set up initialization parameter files for ASM instance
- Start up and shut down ASM instances
- Administer ASM disk groups

Configuring the Oracle Network Environment

- Use Enterprise Manager to create and configure the Listener
- Enable Oracle Restart to monitor the listener
- Use tnsping to test Oracle Net connectivity
- Identify when to use shared servers and when to use dedicated servers

Managing Database Storage Structures

Storage Structures

How Table Data Is Stored

Anatomy of a Database Block

Space Management in Tablespaces

Tablespaces in the Preconfigured Database

Actions with Tablespaces

Oracle Managed Files (OMF)

Administering User Security

Database User Accounts

Predefined Administrative Accounts

Benefits of Roles

Predefined Roles

Implementing Profiles

Managing Data Concurrency

Data Concurrency

Enqueue Mechanism

Resolving Lock Conflicts

Deadlocks

Managing Undo Data

Data Manipulation

Transactions and Undo Data

Undo Data Versus Redo Data

Configuring Undo Retention

Implementing Oracle Database Auditing

Describe DBA responsibilities for security

Enable standard database auditing

Specify audit options

Review audit information

Maintain the audit trail

Database Maintenance

Manage optimizer statistics

Manage the Automatic Workload Repository (AWR)

Use the Automatic Database Diagnostic Monitor (ADDM)

Describe and use the advisory framework

Set alert thresholds

Use server-generated alerts

Use automated tasks

Performance Management

Performance Monitoring

Managing Memory Components

Enabling Automatic Memory Management (AMM)

Automatic Shared Memory Advisor

Using Memory Advisors

Dynamic Performance Statistics

Troubleshooting and Tuning Views

Invalid and Unusable Objects

Backup and Recovery Concepts

Part of Your Job

Statement Failure

User Error

Understanding Instance Recovery

Phases of Instance Recovery

Using the MTTR Advisor

Media Failure

Archive Log Files

Performing Database Backups

Backup Solutions: Overview

Oracle Secure Backup

User-Managed Backup

Terminology

Recovery Manager (RMAN)

Configuring Backup Settings

Backing Up the Control File to a Trace File

Monitoring the Flash Recovery Area

Performing Database Recovery

Opening a Database

Data Recovery Advisor

Loss of a Control File

Loss of a Redo Log File

Data Recovery Advisor

Data Failures

Listing Data Failures

Data Recovery Advisor Views

Moving Data

Describe ways to move data

Create and use directory objects

Use SQL*Loader to move data

Use external tables to move data

General architecture of Oracle Data Pump

Use Data Pump export and import to move data

Working with Support

Use the Enterprise Manager Support Workbench

Work with Oracle Support

Log service requests (SR)

Manage patches