

Oracle Database 11g: Administration Workshop I - LVC 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

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Audience

Database Administrators

Java Developer

Support Engineer

Technical Administrator

Technical Consultant

Prerequisites

Required Prerequisites

Taken Oracle Introduction to SQL course or equivalent experience

Taken Oracle PL/SQL course or equivalent experience

Suggested Prerequisites

Oracle Database: Introduction to SQL - LVC

Course Objectives

- Describe Oracle Database Architecture
- Install Oracle Grid Infrastructure
- Install and configure Oracle Database 11g
- Configure Oracle Net services
- Monitor performance
- Monitor and administer undo data
- Manage the database storage structures
- Create and administer user accounts
- Manage data concurrency
- Perform basic backup and recovery of a database

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)

