

## Oracle Database 11g: Administration Workshop I Release 2

**Duration:** 5 Days

### What you will learn

This Oracle Database 11g: Administration Workshop I Release 2 course explores the fundamentals of basic database administration. Expert Oracle University instructors will reinforce topics with structured hands-on practices that will prepare you for the corresponding Oracle Certified Associate exam.

### Learn To:

Install Oracle Grid Infrastructure.

Create and manage users.

Install and configure an Oracle Database.

Create and manage storage structures.

Administer the Oracle Database.

Understand the Oracle database architecture and how its components work and interact with one another.

Perform backup and recovery.

### Benefits to You

Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling smooth and rapid consolidation within your Datacenter.

### Create an Operational Database

You will also learn how to create an operational database and properly manage the various structures in an effective and efficient manner. This includes performance monitoring, database security, user management and backup/recovery techniques.

### Training Requirements

This Oracle Database 11g: Administration Workshop I Release 2 course fulfills the training requirement for an Oracle Certification Path. Only instructor-led online (LVC, LWC), in-class (ILT) or Training On Demand courses fulfill the requirement. Please note that Self-Study Courses and Knowledge Center courses do not fulfill the training requirement.

### Related Training

#### *Required Prerequisites*

Taken Oracle Introduction to SQL course or equivalent experience

#### *Suggested Prerequisites*

Taken Oracle PL/SQL course or equivalent experience

## Course Objectives

Create and administer user accounts

Manage data concurrency

Perform basic backup and recovery of a database

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

## 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

### **Related Courses**

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