

## 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.

### Audience

Database Administrators

Java Developer

Support Engineer

Technical Administrator

Technical Consultant

### Related Training

### *Required Prerequisites*

Taken Oracle Introduction to SQL course or equivalent experience

Oracle Database: Introduction to SQL

### *Suggested Prerequisites*

Taken Oracle PL/SQL course or equivalent experience

### **Course Objectives**

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 data concurrency

Monitor performance

Describe Oracle Database Architecture

### **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**

- Oracle Database 11g: Administration Workshop I Release 2