

## Oracle Database 10g: 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. This course counts towards the Hands-on course requirement for the Oracle Database 10g Administrator Certification. Only instructor-led inclass or instructor-led online formats of this course will meet the Certification Hands-on Requirement. Self Study CD-Rom and Knowledge Center courses DO NOT meet the Hands-on Requirement.

Learn To:

- Install the Database
- Back up and Recover Data
- Administer Users
- Transport Data between Databases
- Manage Data
- Configure the Network

- Database Administrators
- Database Designers
- Project Manager
- Sales Consultants
- Support Engineer
- Technical Consultant

### Prerequisites

*Suggested Prerequisites*  
Working knowledge of SQL

### Course Objectives

- Install Oracle Database 10g and configure a database
- Manage the Oracle instance
- Manage the Database storage structures
- Create and administer user accounts
- Perform backup and recovery of a database
- Monitor, troubleshoot, and maintain a database
- Configure Oracle Net services

Move data between databases and files

## Course Topics

### Introduction (Database Architecture)

Describe course objectives

Explore the Oracle 10g database architecture

### Installing the Oracle Database Software

Explain core DBA tasks and tools

Plan an Oracle installation

Use optimal flexible architecture

Install software with the Oracle Universal Installer (OUI)

### Creating an Oracle Database

Create a database with the Database Configuration Assistant (DBCA)

Create a database design template with the DBCA

Generate database creation scripts with the DBCA

### Managing the Oracle Instance

Start and stop the Oracle database and components

Use Enterprise Manager (EM)

Access a database with SQL\*Plus and iSQL\*Plus

Modify database initialization parameters

Understand the stages of database startup

View the Alert log

Use the Data Dictionary

### Managing Database Storage Structures

Describe table data storage (in blocks)

Define the purpose of tablespaces and data files

Understand and utilize Oracle Managed Files (OMF)

Create and manage tablespaces

Obtain tablespace information

Describe the main concepts and functionality of Automatic Storage Management (ASM)

### Administering User Security

Create and manage database user accounts

Authenticate users

Assign default storage areas (tablespaces)

Grant and revoke privileges

Create and manage roles

Create and manage profiles

Implement standard password security features

Control resource usage by users

### Managing Schema Objects

Define schema objects and data types

Create and modify tables

Define constraints

View the columns and contents of a table

Create indexes, views and sequences  
Explain the use of temporary tables  
Use the Data Dictionary

### **Managing Data and Concurrency**

Manage data through SQL  
Identify and administer PL/SQL Objects  
Describe triggers and triggering events  
Monitor and resolve locking conflicts

### **Managing Undo Data**

Explain DML and undo data generation  
Monitor and administer undo  
Describe the difference between undo and redo data  
Configure undo retention  
Guarantee undo retention  
Use the undo advisor

### **Implementing Oracle Database Security**

Describe DBA responsibilities for security  
Apply the principal of least privilege  
Enable standard database auditing  
Specify audit options  
Review audit information  
Maintain the audit trail

### **Configuring the Oracle Network Environment**

Use Enterprise Manager for configuring the Oracle network environment  
Create additional listeners  
Create Net Service aliases  
Configure connect-time failover  
Control the Oracle Net Listener  
Test Oracle Net connectivity  
Identify when to use shared versus dedicated servers

### **Proactive Maintenance**

Use statistics  
Manage the Automatic Workload Repository (AWR)  
Use the Automatic Database Diagnostic Monitor (ADDM)  
Describe advisory framework  
Set alert thresholds  
Use server-generated alerts  
Use automated tasks

### **Performance Management**

Use Enterprise Manager pages to monitor performance  
Use the SQL Tuning Advisor  
Use the SQL Access Advisor  
Use Automatic Shared Memory Management  
Use the Memory Advisor to size memory buffers  
Use performance related dynamic views  
Troubleshoot invalid or unusable objects

## **Backup and Recovery Concepts**

Identify the types of failure that may occur in an Oracle Database

Describe ways to tune instance recovery

Identify the importance of checkpoints, redo log files, and archived log files

Configure ARCHIVELOG mode

## **Performing Database Backups**

Create consistent database backups

Back your database up without shutting it down

Create incremental backups

Automate database backups

Monitor the flash recovery area

## **Performing Database Recovery**

Recover from loss of a control file

Recover from loss of a redo log file

Perform complete recovery following the loss of a data file

## **Performing Flashback**

Describe Flashback database

Restore the table content to a specific point in the past with Flashback Table

Recover from a dropped table

View the contents of the database as of any single point in time with Flashback Query

See versions of a row over time with Flashback Versions Query

View the transaction history of a row with Flashback Transaction Query

## **Moving Data**

Describe available ways for moving data

Create and use directory objects

Use SQL\*Loader to load data from a non-Oracle database (or user files)

Explain the general architecture of Data Pump

Use Data Pump Export and Import to move data between Oracle databases

Use external tables to move data via platform-independent files

## **Related Courses**

Oracle Database 10g: Administration Workshop I Self-Study CD Course