



Oracle® Database 11g: Administration Workshop I

Duration: 5 Days

Method: Instructor-Led

*Certification: Oracle Database 11g Administrator Certified Associate Exam:
Oracle Database 11g Administration I Code: 1Z0-052*

Course Description

This 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 exam.

Target Audience

This course is intended for:

- Database Administrators
- Java Developers
- Support Engineers
- Technical Consultants
- Technical Administrators

Prerequisites

To attend this course, candidates should have:

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

Course Objectives

Upon successful completion of this course, candidates will be able to:

- 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



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Course Content

Module 1: 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

Module 2: 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

Module 3: 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

Module 4: Managing the Oracle® Database Instance

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

Module 5: Manage the ASM Instance

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

Module 6: 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

Module 7: 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)

Module 8: Administering User Security

- Database User Accounts
- Predefined Administrative Accounts
- Benefits of Roles
- Predefined Roles
- Implementing Profiles

Module 9: Managing Data Concurrency

- Data Concurrency
- Enqueue Mechanism
- Resolving Lock Conflicts
- Deadlocks

Module 10: Managing Undo Data

- Data Manipulation
- Transactions and Undo Data
- Undo Data Versus Redo Data
- Configuring Undo Retention

Module 11: Implementing Oracle® Database Auditing

- Describe DBA responsibilities for security
- Enable standard database auditing
- Specify audit options
- Review audit information
- Maintain the audit trail

Module 12: 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

Module 13: 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

Module 14: 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

Module 15: 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

Module 16: 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

Module 17: 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

Module 18: Working with Support

- Use the Enterprise Manager Support Workbench
- Work with Oracle® Support
- Log service requests (SR)
- Manage patches