

Course Outline: Oracle Database 10g: Administration Workshop I Release 2

Learning Method: Instructor-led Classroom Learning

Duration: 5.00 Day(s)/ 40 hrs

Overview:

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

Who Should Attend: This course is intended for:

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

At Course Completion:

- 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

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Outline:

Module 1: Introduction (Database Architecture)

Lessons:

- Describe course objectives
- Explore the Oracle 10g database architecture

Module 2:

Lessons

Installing the Oracle Database Software

Lessons:

- Explain core DBA tasks and tools
- Plan an Oracle installation
- Use optimal flexible architecture
- Install software with the Oracle Universal Installer (OUI)

Module 3: Create an Oracle Database

Lessons:

- Create a database with the Database Configuration Assistant (DBCA)
- Create a database design template with the DBCA
- Generate database creation scripts with the DBCA

Module 4: Managing the Oracle

Instance

Lessons:

- 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

Module 5: Managing Database Storage Structures

Lessons:

- Describe table data storage (in blocks)
- Define the purpose of table spaces and data files
- Understand and utilize Oracle Managed Files (OMF)
- Create and manage tablespace
- Obtain tablespace information
- Describe the main concepts and functionality of Automatic Storage Management (ASM)

Module 6: Administering User Security

Lessons:

- Create and manage database user accounts
- Authenticate users
- Assign default storage areas (tablespaces)

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- Grant and revoke privileges
- Create and manage roles
- Create and manage profiles
- Implement standard password security features
- 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

Module 7: Managing Data and Concurrency

Lessons

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

Module 8: Managing Undo Data

Lessons

- Manipulating data through SQL
- Using Import
- Using Export
- Using SQL Loader

Module 9: Implementing Oracle

Database Security

Lessons:

- 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

Module 10: Configuring the Oracle Network Environment

Lessons:

- 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

Module 11: Proactive Maintenance

Lessons

- Use statistics
- Manage the Automatic Workload Repository (AWR)

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

Module 12: Performance Management

Lessons

- 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

Module 13: Backup and Recovery

Concepts

Lessons

- 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

Module 14: Backup and Recovery

Concepts

Lessons:

- 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

Module 15: Performing Database Backups

Lessons

- Create consistent database backups
- Back your database up without shutting it down
- Create incremental backups
- Automate database backups
- Monitor the flash recovery area

Module 16: Performing Database Recovery

Lessons:

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- 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

Module 17: Performing Flashback Lessons

- 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

- Use Data Pump Export and Import to move data between Oracle databases
- Use external tables to move data via platform-independent files

Module 18: Moving Data Lessons

- 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

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