Authorized Training Center

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Oracle Database 10g : Administration Workshop I (Release 2) Course
36 Contact Hours

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, which is one of the two exams required for the OCP DBA 10g certification.

Learn To :

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

Audience

Database Administrator, Database Designers, Project Manager, Support Engineer, Technical Consultant

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

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Course Outline

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

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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