

ORACLE 10g Data Base Administration I

Duration: 5 days

Develop the basic skills to effectively install and maintain and administer an Oracle 10g Database

Course Description:

In this class, you'll cover how to install and maintain an Oracle database. You can gain a conceptual understanding of the Oracle database architecture and how its components work and interact with one another. You can 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. Hands-on exercises reinforce the material covered. This course is designed to prepare you for the Oracle Certified Associate exam.

You can learn to...

- Install and configure the Oracle 10g Database
- Create and administer user accounts in the Oracle 10g Database
- Backup and Recover the database
- Monitor, troubleshoot, and maintain the database
- Configure Oracle Net services for the database

Who Needs to Attend:

Database Administrators, Support Engineers
Technical Consultants, Systems
Administrators, Network Managers and
Technical Support Personnel

Prerequisites:

Knowledge of SQL

Introduction to Oracle 10g SQL and SQL Plus* course or equivalent experience

Introduction to Oracle 10g PL/SQL course or equivalent experience is highly recommended.

Course Labs:

Lab 1: Creating an Oracle database

Lab 2: Starting And Stopping The Database

Lab 3: Using the Database Console

Lab 4: Managing Tablespaces

Lab 5: Oracle Database Files

Lab 6: Using Oracle-Managed Files

Lab 7: Creating Tables, Indexes and Constraints

Lab 8: Users and Security

Lab 9: Import, Export, Data Pump and SQL Loader

Lab 10: Oracle Auditing

Lab 11: Oracle Listener

Lab 12: Using Shared Servers

Lab 13: Performance metrics and monitoring

Lab 14: The Undo Advisor

Lab 15: Lock Conflict Identification

Lab 16: Configuring the database for backup

Lab 17: Basic Database Media Recovery

Course Content:

Introduction

- Describe the basic concepts of a relational database
- Discuss core database administrator tasks

Installing Oracle Database 10g Software

- Identify system requirements
- Use optimal flexible architecture
- Install software with the Oracle Universal Installer

Create an Oracle Database

- Describe Oracle Database Architecture
- Understand the instance architecture
- Use the management framework, and the Database Creation Assistant

Database interfaces

- Use structured query language (SQL), Procedural Language/Structured Query Language (PL/SQL), and Java, and the Oracle C++ Call Interface (OCCI)

Controlling the database

- Start and stop the agent, the enterprise manager database console, and the listener
- Startup and shutdown the database

Storage Structures

- Define the purpose of tablespaces and data files
- Create and Manage tablespaces, and Use Oracle Managed Files (OMF)
- Obtain tablespace information

Administering users

- Create and manage database user accounts, and manage roles
- Grant and revoke privileges
- Control resource usage by users

Managing Schema Objects

- Create and modify tables, indexes and views, and Define constraints
- View the attributes and the contents of a table

Managing Data

- Manipulating data through SQL,
- Use Import, Export, Data Pump and SQL Loader

PL/SQL

- Identify PL/SQL objects
- Understand triggers and triggering events
- Identify configuration options that affect PL/SQL performance

Oracle Database Security

- Apply the principal of least privilege, and Manage default user accounts
- Implement standard password security

Oracle Net Services

- Understand Oracle Net concepts
- Use Oracle Net Manager to create and configure listeners, and configure client and middle-tier connection
- Use the listener control utility to control the Oracle Net Listener
- Use TNSPING to test Oracle Net connectivity

Oracle Shared Server

- Understand when to use Oracle Shared Servers, and Configure and Monitor Oracle Shared Servers

Performance Monitoring

- Troubleshoot invalid and unusable objects, and Gather optimizer statistics
- View performance metrics, and react to performance issues

Proactive Maintenance: Objectives

- Set warning and critical alert thresholds
- Collect and use baseline metrics
- Use tuning and diagnostic advisors, and the Automatic Database Diagnostic Monitor (ADDM)
- Manage the Automatic Workload Repository

Undo Management

- Monitor and administer undo information
- Configure and Guarantee undo retention, and Use the undo advisor

Monitoring and Resolving Lock Conflicts

- Detect and resolve lock conflicts, and Manage deadlocks

Backup and Recovery Concepts

- Describe the basics of database backup, restore and recovery
- List the types of failure that may occur in an Oracle Database, and Describe ways to tune instance recovery
- Identify the importance of checkpoints, redo log files, and archived log file
- Configure ARCHIVELOG mode

Database backups

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

Database Recovery

- Recover from loss of a control file, a redo log file, or a data file

A Day in the Life of a DBA

- Daily, Weekly, Monthly and As Needed Tasks