Advanced Concepts Training Corporation

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ORACLE 11g DBA I

Duration: 5 days

You can develop the basic skills to effectively administer an Oracle Server Database and configure an Oracle Database

Course Description:

Through hands-on experience in administering an Oracle 11g Database you can understand the Oracle Server architecture, expand the size of the database, implement security, and know why and how specific database administration tasks are performed.

You can learn…

- Oracle Server Architecture
- To install Oracle Server Software
- To Start and Stop an Oracle Database
- To manage Tablespaces and Undo Segments
- To create an Oracle Database
- To create Tables, Constraints and Indexes
- To create all other Database Objects
- To manage Redo Logs
- To manage Tablespaces and Datafiles
- To manage Controlfiles
- To manage Security
- To audit the database
- To manage Oracle networking
- To perform appropriate backups
- To perform complete and incomplete recoveries

Who Needs to Attend:

Data Analysts, Database Administrators, Systems Administrators, Network Managers and Technical Support Personnel

Prerequisites:

Knowledge of SQL, the *Introduction to Oracle 11g SQL and SQL* Plus* course or equivalent experience. The *Introduction to Oracle 11g PL/SQL* course or equivalent experience is highly recommended.

Course Labs:

Lab 1: Architecture
Lab 2: Database Startup and Shutdown
Lab 3. Using and Managing SPFILES and Parameters
Lab 4: Creating Tables, Indexes and Constraints
Lab 5: Creating Other Database Schema Objects
Lab 6: Users and Security
Lab 7: Undo Segments
Lab 8: Segments
Lab 9. Managing Tablespaces
Lab 10: Multiple Block Size Management
Lab 11: Advanced Memory Management
Lab 12: Oracle Database Files
Lab 13 : Data Loading
Lab 14: Backup and Archivelog Mode
Lab 15: Complete Recovery
Lab 16: Incomplete Recovery

Course Content:

Introduction and Duties of the DBA
- Oracle RDBMS Components
- DBA Responsibilities

Tables, Constraints and Indexes
- Introduction to Datatypes and Tables
- Integrity Constraints
- Temporary tables, partitioned tables (range, hash, list), external tables, IOTs
- Indexes and Skip Scanning
- Online reorganization
- Database workspace management

Other Database Schema Objects
- DDL Commands used
- Views, Materialized views
- Sequences, Synonyms, Database Links
- Outlines, Dimensions, Hierarchies
- PL/SQL Program Units
- Supplied Packages
- Oracle Data Dictionary
- Storage of Large Objects (BFILEs, BLOBs, CLOBs)

Starting and Stopping the Database
- What Tool to Use?
- Connecting as a Privileged User
- Password file authentication
- Starting a Database
- Shutting Down a Database
- Reading the Alert Log / Trace Files
- Quiescing the database
- SPFILE / Parameter management

How Space is Physically Consumed – Blocks and Extents
- Basic Definitions
- Blocks & Extents
- Fragmentation / Deallocation

How Space is Logically Consumed – Segments
- Introduction to Segments
- Managing Undo Segments
- Automatic Undo Management
- Managing sort activity
- Managing Data Segments
- Managing Index Segments
- Monitoring database segments

Managing Tablespaces – Default behavior of CREATE TABLESPACE command
- Tablespace Overview
- System Tablespace
- Types of Tablespaces
- Creating additional tablespaces
- Altering tablespaces
- Temporary Tablespaces - Default Temporary Tablespaces
- Tablespace Quotas
- Monitoring Tablespaces

Basic Oracle Architecture
- Architecture Overview
- Database structures
- Process structures
- Memory structures – SGA
- Memory structures – PGA
- Alternative configurations

Oracle Database Files
- Basic Structures of an Oracle RDBMS
- Data Files
- Redo Log Files
- Archived Redo Log Files
- Control Files
- Oracle-Managed Files (OMF)

Users and Security
- Managing Database Users
- System / Object Privileges
- Managing Roles / Profiles
- Resource and Password Management
- The Virtual Private Database

NETWORKING
- Duties of the DBA for Networking
- Overview of Oracle Network Architecture
- Name Resolution
- Oracle Net Client Configuration
- Oracle Net Server Configuration
- Tools
- Configuring the Listener
- Shared Server

Physical NOARCHIVELOG Mode Backups
- Oracle Database Backups
- Automatic Recovery Architecture
- NOARCHIVELOG Mode
- ARCHIVELOG Mode
- Physical Backups
- Closed Backups in NOARCHIVELOG Mode

Configuring Archivelog Mode

Physical ARCHIVELOG Mode Backups
- Configuration of the database for archiving
- Setting the ARCHIVELOG mode
- Establishing multiple archiving destinations
- Closed backups in ARCHIVELOG mode
- Open backups in ARCHIVELOG mode
- Controlfile Backup

Complete Recovery
- Recovery Structures and Processes
- Recovery in NOARCHIVELOG and ARCHIVELOG Mode

Incomplete Recovery
- What is incomplete recovery?
- Recovering From Loss Of Current Redo Log Files

Data Loading
- SQL*Loader
- External Tables
- Data Pump

Automation Tools
- The New Enterprise Manager
- DB Console
- Mgt. & Advisory Framework
- Automated Workload Repository
- ADDM