

Oracle 11g Troubleshooting and Maintenance for Support Administrators (5 Days) CTI 612

This course will enable students to learn troubleshooting and maintaining an Oracle 11g database. This course is designed to equip the DBA with essential maintenance and troubleshooting tools found in the DBA I and DBA II courses.

*Prerequisites: Knowledge of SQL; Introduction to Oracle 11g SQL and SQL*Plus course or equivalent experience; Introduction to Oracle 11g PL/SQL course or equivalent experience is highly recommended.*

Minimum software requirements: Windows Server 2003, Windows XP Pro or Vista Pro; Oracle 11g.

Minimum hardware requirements for all machines: Minimum 512 MB RAM (2 GB preferred); 20 GB of free space on hard drive (before installation). Machines need static IP addresses.

Microsoft PowerPoint and Internet access on instructor's workstation for presentation purposes.

Module 1: Basic Oracle Architecture

- Architecture Overview
- Database Structures
- Process Structures
- Memory Structures - SGA and PGA

Module 2: Starting and Stopping the Database

- 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

Module 3: Logical Components

- Basic Definitions
- Blocks/Extents/Segments/Tablespaces
- Fragmentation/Deallocation
- Managing Undo Segments
- Automatic Undo Management
- Managing Sort Activity
- Managing Data Segments
- Managing Index Segments
- Monitoring Database Segments
- Tablespace Overview
- System Tablespace
- Types of Tablespaces
- Creating Additional Tablespaces
- Altering Tablespaces

Module 4: Oracle Database Files

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

Module 5: Users and Security

- Managing Database Users
- System/Object Privileges
- Managing Roles/Profiles
- Resource and Password Management

Module 6: Physical NOARCHIVELOG Mode Backup

- Oracle Database Backups
- Automatic Recovery Architecture
- NOARCHIVELOG/ARCHIVELOG Physical Backups
- Closed Backups

Module 7: Configuring Archivelog Mode

- Physical ARCHIVELOG Mode Backups
- Establishing Multiple Archiving Destinations
- Open Backups in ARCHIVELOG Mode
- Controlfile Backup

Module 8: Complete Recovery

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

Module 9: Incomplete Recovery

- What is Incomplete Recovery?
- Recovering from Loss of Current Redo Log Files

Module 10: Recovery Manager Configuration

- Parameters Affecting RMAN
- Use of a Flashback Recovery Area
- The CONFIGURE Command
- Persistent Settings
- NOCATALOG/CATALOG Mode
- Channel Allocation
- Controlfile Autobackup
- Retention Policies

Module 11: Recovery Manager Operations

- Using the BACKUP Command
- Compressed Backups
- Whole Database Copying
- Incremental Backups
- Block Change Tracking
- RMAN Backup Monitoring
- REPORT and LIST Commands

Module 12: Non-Critical Loss Recovery

- Password and Network Files
- Read-Only Tablespaces
- Temporary Tablespaces
- Index Tablespaces
- Redo Log Members/Control Files

Module 13: Database Recovery

- Recovering the Control File
- Reasons for Incomplete Recovery
- Recovery After RESETLOGS
- Incomplete Recovery Using EM
- Incomplete Recovery Using RMAN
- Incomplete Recovery Using SQL

Module 14: Flashback Database

- When to Use
- Configuration and Use
- Monitoring Flashback Database
- Using EM for Flashback Database
- Flash Recovery Area Maintenance
- Flash Recovery Area Monitoring

Module 15: User Error Recovery

- The New Recycle Bin
- Flashback a Dropped Table
- Querying Dropped Tables
- Flashback Versions Query
- Flashback Transaction Query

Module 16: Block Corruption Management

- DBVERIFY and ANALYZE
- DBMS_REPAIR
- Block Media Recovery
- DBMS_BLOCK_CHECKING
- Using RMAN for Block Corruption

Module 17: Diagnostic Sources

- Alert Logs and Trace Files
- Enterprise Manager and Alerts
- Controlling Trace File Size
- Alert Notification

Module 18: Performance Tuning

- Application Identification
- Enterprise Manager Tools
- SQL Tuning Advisor
- SQL Access Advisor
- DBMS_SQLTUNE
- DBMS_ADVISOR
- Quick Tune