Oracle AI Database: High Availability New Features Live Class

Oracle Database

DURATION	MODULES	COURSE CODE
2 Days	**5 Lectures**	**—**

Course Overview

This course covers the latest improvements and enhancements in the high availability area of Oracle Database 23ai. It equips Oracle Database Administrators with new capabilities and enhancements for Clusterware, ASM, RAC, Data Guard, and Diagnosability. With hands-on practices, you'll be be able to reinforce the learning of the new high availability features and capabilities of Oracle Database 23ai. This course is targeted at Database Administrators, Oracle Grid Infrastructure Administrators, Oracle RAC Administrators, Data Guard Administrators, and Database Architects

What You Will Learn

Oracle Clusterware

- Objectives
- Improve Monitoring and Auto Correct Resource States
- Typical Problems Applicable and Remedies
- Primary CRSD Hang: Example
- Unmounted OCR Disk Group: Example
- ASM Listener Issue Affecting Flex ASM Functionality: Example
- Detecting and Resolving Memory Leaks: Example
- New crsctl Commands: Example
- CVU Enhancements: Diagnostics
- CVU Enhancements: Fixups
- CVU Enhancements: Error Reporting
- Autonomous Health Framework (AHF) Repository
- Review of CHM and CHA
- CHM Improved Diagnosability
- New oclumon Commands: Example
- FPP Overview: Background
- High-Level FPP Architecture
- FPP Archiving of Gold Images
- Summary

Oracle ASM

- Objectives
- On-Demand Scrubbing: Background
- Extent-Based Scrubbing
- Summary

Oracle RAC

- Objectives
- Simplified Database Deployment
- Automatic PDB Resource Management
- PDB Placement Choice: Fill or Spread
- Ranking and CPU
- Rank and CPU: Startup Order
- Failure Handling
- Last Node Standing
- Configuring a PDB with Cardinality and Rank: Example
- Oracle RAC Connection Management: Overview
- Distribute Connections Based on Service Attribute
- Load Balancing Options in Oracle RAC: Example
- Performance Considerations
- Smart Connection Rebalance
- Testing Smart Connection Rebalance: Example
- Outcome without Smart Connection Rebalance: Example
- Outcome with Smart Connection Rebalance: Example
- Index Block Contention: Background
- Sequence Usage in Oracle RAC
- Right-Growing Index Optimizations
- Ordered Sequence Enhancement in Oracle RAC
- Ordered Sequence Optimization in 19c: Example
- Ordered Sequence Optimization in 23ai: Example
- Review of Buddy Recovery for Reconfiguration
- Smooth Reconfiguration
- Single-Server Rolling Database Maintenance: Overview
- Local Rolling Database Maintenance: Overview
- Patching Oracle RAC Database in Local Rolling Mode: Example
- Oracle RAC Two-Stage Rolling Patches: Overview
- Summary

Oracle Data Guard Part 1

- Objectives
- Oracle Active Data Guard
- Automatic Primary Database Preparation
- Creating a Temp File after PDB Creation
- Automatic Temp File Creation on the Standby Database

- DML on Active Data Guard
- Improved Performance of Redirected Transactions
- PL/SQL API for Data Guard Broker Management
- ORDS REST API for Data Guard Management
- Easier Checking of Data Guard Configurations
- Easier Checking of Fast-Start Failover Configurations
- Easier Tracking of Role Transitions
- Fast-Start Failover Lag Histogram
- Enhanced Observer Diagnostic
- Remote Snapshot Configuration for ADG Database
- Simplified AWR Snapshots on Active Data Guard
- Max Performance without Fast-Start Failover
- Max Performance with Fast-Start Failover
- Automatic Failover with MaxPerformance
- Minimized Stall in Fast-Start Failover Maximum Performance
- Choose the Lag Type for Maximum Performance Mode
- Strict Validation of Switchover Readiness
- New Command: VALIDATE DGConnectIdentifier
- New Commands: SHOW|EDIT ALL MEMBERS
- Summary

Oracle Data Guard Part 2

- Objectives
- Traditional Per-CDB Data Guard Architecture
- Oracle Data Guard for Container Databases
- Data Guard Per PDB (DGPDB)
- DGPDB Integration Enhancements
- Current Limitations in DGPDB
- DGPDB Implementation: Overview
- Two Primary CDBs
- Prepare Both CDBs for Data Guard
- Set Up the Passwords in the Wallet
- Two Data Guard Configurations
- Add the Broker Configurations
- Internal Communication between CDBs
- Prepare the Configuration for DGPDB
- Add Target Pluggable Databases to Data Guard
- Check the PDBs Before Adding Them
- Add the PDBs to DGPDB
- Target Pluggable Databases Require Manual Copy
- Manual Copy: Example with scp on File System
- Manual Copy: Example with RMAN and ASM
- Transport Architecture
- Add the Standby Redo Logs to the Target PDBs
- The Apply Architecture
- Start the Redo Apply

- Show the Status of the PDBs
- PDB Switchover
- DGPDB and Transparent Data Encryption
- Copy the TDE Encryption Keys
- Application Continuity: Overview
- Use Cases
- What is Hybrid Data Guard?
- Hybrid DR Configurations: Challenges
- Possible Solutions
- How to Use It: Examples
- Summary