

Oracle AI Database: Deploy, Patch, and Upgrade Workshop LVC

Oracle Database

DURATION

2 Days

MODULES

12 Lectures

COURSE CODE

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Course Overview

After completing this course, you should be able to: Develop advanced skills in deploying and patching Oracle Database 19c, essential for maintaining and improving database environments. Gain familiarity with the best practices for upgrading Oracle Database 19c to Oracle Database 23ai, ensuring your skills are current and relevant. Learn to troubleshoot and resolve common issues related to database deployment, patching, and upgrading, improving your problem-solving capabilities. Understand how to streamline database management tasks, leading to more efficient operations and reduced downtime.

What You Will Learn

- I Oracle Database 23ai: Deploy, Patch, and Upgrade
- Course Intended for I-2
- Running Auto Data Placement Advisor I-3
- Course Outline I-4
- What's Next? I-5

Installation Overview

- Objectives
- Planning Your Installation
- Oracle Software Installation Decisions
- Oracle Grid Infrastructure Software Groups
- Oracle Database Software Groups
- Oracle Extended Database Groups
- Accounts and Group Assignments: Example
- Oracle Software Installation Decisions
- Method for Root Privilege Access
- Oracle Software Installation Decisions
- Preparing the Operating System for Oracle Software
- Oracle Software Installation Decisions
- Oracle Database Instance Configurations
- Oracle Software Installation Decisions

- Storage Options: File Systems
- Storage Options: Automatic Storage Management
- Methods for Disks Ownership, Naming, and Persistence
- Summary

Preparing to Install Oracle Software

- Objectives
- Checking Server Hardware and Memory Configuration
- Creating Groups for Job Role Separation
- Modifying and Creating Users
- Viewing and Adjusting Pluggable Authentication Module (PAM) Limits
- Creating Initial Installation Directories
- Summary

Installing Oracle Grid Infrastructure for a Stand-Alone Server

- Objectives
- Overview of Oracle Grid Infrastructure
- Configuring Storage for Oracle Automatic Storage Management
- Oracle Grid Infrastructure Installation: System Requirements for
 - Linux x86-64 Systems
 - Installation Option
 - Create ASM Disk Group
 - ASM Password
 - Management Options
 - Operating System Groups
 - Installation Location
 - Create Inventory
 - Root Script Execution
 - Prerequisite Checks
- Summary
- Install Product
- Finish
- Oracle ASMCA: Home
- Oracle ASMCA: Create Disk Group
- Summary

Installing Oracle Database Software

- Objectives
- Oracle Database Software Installation: System Requirements
- Select Installation Option
- Select Database Installation Option
- Select Database Edition
- Specify Installation Location
- Privileged Operating System Groups

- Root Script Execution Configuration
- Perform Prerequisite Checks
- Summary
- Install Product
- Finish
- Installer Logs
- Summary

Creating an Oracle Database Using Oracle DBCA

- Objectives
- Planning the Database
- Select Database Operation
- Select Database Creation Mode
- Select Database Deployment Type
- Specify Database Identification Details
- Select Database Storage Option
- Select Fast Recovery Option
- Specify Network Configuration Details
- Select Oracle Data Vault Config Option
- Specify Configuration Options
- Specify Management Options
- Specify Database User Credentials
- Select Database Creation Option
- Summary
- Progress Page
- Finish
- Configure an Existing Database
- Delete Database
- Manage Templates
- Manage Pluggable Databases
- Summary

Patching Oracle Grid Infrastructure and Oracle Database

- Objectives
- Overview of the Patch Process
- Oracle Patches Maintenance
- Oracle Patches Prior to 19.17.0
- Oracle Patches 19.17.0 and Forward
- Proactive Maintenance with RUs and MRPs
- Oracle Database Server Risk Matrix
- Oracle Patching Tools
- Oracle Patching Tools: OPatch
- Oracle Patching Tools: OPatchAuto
- Oracle Patching Tools: opatchauto -binary
- Minimizing Downtimes: Rolling Patching

- Minimizing Downtimes: Standby-First Patching
- Minimizing Downtimes: Patching a Cloned Home
- Summary

Oracle Restart

- Objectives
- Oracle Restart
- Oracle Restart Process Startup
- Oracle Restart Configuration & Management
- Oracle Restart Configuration
- Managing Oracle Restart
- Server Control Utility (SRVCTL)
- Using the SRVCTL Utility
- Choosing the Correct SRVCTL Utility
- Obtaining Help for the SRVCTL Utility
- Starting Components Using the SRVCTL Utility
- Stopping Components Using the SRVCTL Utility
- Viewing Component Status
- Displaying the Oracle Restart Configuration for a Component
- Manually Adding Components to the Oracle Restart Configuration
- Oracle Restart Maintenance Operations
- Stopping and Restarting Restart for Maintenance Operations
- Stopping and Restarting Restart: Example
- Summary

Upgrading to Oracle Grid Infrastructure 23ai

- Objectives
- Upgrading Oracle Grid Infrastructure: Restrictions and Guidelines
- Checklist for Upgrading Oracle Grid Infrastructure
- Installing the Oracle Preinstallation RPM
- Creating a Copy of the Preinstallation Configuration File for the Grid User
- Select Configuration Option
- Specify Management Options
- Specify Installation Location
- Root Script Execution
- Perform Prerequisite Checks
- Summary
- Install Product
- Finish
- Installer Logs
- Summary

Before Upgrading to Oracle Database 23ai

- Objectives

- Defining Upgrade and Data Migration
- Database Upgrade
- Database Migration
- AutoUpgrade Methods
- AutoUpgrade Utility: Advantages and Disadvantages
- Upgrade Paths
- AutoUpgrade Method Limitations
- Upgrading to a New Release of Oracle Database
- Migration Methods with Data Movement
- Defining Upgrade and Data Migration
- Migration Methods with Data Movement
- Summary

Upgrading to Oracle Database 23ai

- Objectives
- Preparing to Upgrade
- Planning the Upgrade
- Developing a Test Plan
- Performance Testing
- Performance Testing: Database Replay
- Performance Testing: SQL Performance Analyzer
- Requirements for Databases Using Oracle Label Security or Oracle Database Vault
- Installing Oracle Database 23ai Software Using OUI
- Select Configuration Option
- Select Database Installation Option
- Select Database Edition
- Specify Installation Location
- Privileged Operating System Groups
- Root Script Configuration
- Perform Prerequisite Checks
- Perform Prerequisite Checks Results (For Errors)
- Summary
- Install Product
- Finish
- Installer Logs
- Upgrading Using the AutoUpgrade Utility
- AutoUpgrade Command-Line Syntax
- AutoUpgrade with Source and Target Database Homes on Same Server
- AutoUpgrade with Source and Target Database Homes on Different Servers
- Overview of AutoUpgrade Job Stages
- AutoUpgrade Command-Line Parameters and Options
- AutoUpgrade Help
- AutoUpgrade Version
- AutoUpgrade Sample Configuration File

- Configuration File for AutoUpgrade
- AutoUpgrade Utility System Checks
- Running AutoUpgrade Fixups
- Backing Up the Database
- Summary

Performing Postupgrade Tasks

- Objectives
- Required Tasks After Database Upgrade
- Recommended Tasks After Database Upgrade
- Summary

Migrating Data Using Oracle Data Pump

- Objectives
- Oracle Data Pump: Overview
- Data Pump Export and Import Clients: Overview
- Data Pump Utility: Interfaces and Modes
- Migrating Using Oracle Data Pump
- Importing Using a Network Link
- Creating a Container Database by Using Oracle DBCA
- Plugging a Non-CDB Database into a CDB
- Creating an Empty New PDB from PDB\$SEED
- Exporting from a Non-CDB and Importing into a PDB
- Summary