

Course Outline

Oracle Database 12c: Admin, Install and Upgrade Accelerated

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Education Partner

Duration: 5 days (30 hours)

Learning Objectives:

- Use Oracle Restart to manage components
- Upgrade database to Oracle Database 12c
- Install Oracle Grid Infrastructure for a Standalone Server
- Create a container database
- Create an Oracle Database
- Install Oracle Database 12c software
- Monitor the Database
- Manage Database Performance
- Implement Database Auditing
- Configure the Database Instance Such That Resources Are Appropriately Allocated Among Sessions and Tasks
- Schedule Jobs to Run Inside or Outside of the Database
- Configure Oracle Net Services
- Configure your Database For Backup and Recovery Operations
- Describe Oracle Database Architecture
- Manage the Oracle Database Instance
- Manage Oracle Database Storage structures

Target Audience

- Database Designers
- Support Engineer
- Technical Administrator
- Database Administrators
- Data Warehouse Administrator

Prerequisites:

- Working knowledge of SQL and use of PL/SQL packages
- Basic knowledge of Linux Operating System

Topics Covered:

- Oracle Database 12c Overview
 - Oracle Database 12c Introduction
 - Oracle Database Architecture Overview
 - Oracle Database Instance Configurations
 - Oracle Database Memory Structures

- Process Structures
- Database Storage Architecture
- Logical and Physical Database Structures
- Container and Pluggable Database Overview
- Installing Oracle Grid Infrastructure for a Standalone Server
 - Overview of Oracle Grid Infrastructure for a Standalone Server
 - System Requirements for Oracle Grid Infrastructure
 - Configuring Storage for Oracle Automatic Storage Management (ASM)
 - Installing Oracle Grid Infrastructure for a Standalone Server
 - Upgrading Oracle Grid Infrastructure for a Standalone Server
- Installing Oracle Database Software
 - Planning Your Installation
 - System Requirements for Oracle Database
 - Preparing the Operating System
 - Using 4 KB Sector Disks
 - Setting Environment Variables
 - Checking the System Requirements
 - Using the Oracle Universal Installer (OUI)
 - Performing a Silent Mode Installation
- Creating an Oracle Database by Using DBCA
 - Planning the Database Storage Structure
 - Choosing non-CDB or CDB
 - Types of Databases (based on workload)
 - Choosing the Appropriate Character Set
 - Understanding How Character Sets are Used
 - Setting the NLS_LANG Initialization Parameter
 - Using the Database Configuration Assistant (DBCA)
- Using Oracle Restart
 - Oracle Restart Overview
 - Oracle Restart Process startup
 - Controlling Oracle Restart
 - Choosing the Correct SRVCTL Utility
 - Oracle Restart Configuration
 - Using the SRVCTL Utility
 - Obtaining Help for the SRVCTL Utility
 - Starting Components by Using the SRVCTL Utility
- Introduction to Upgrading to Oracle Database 12c
 - Upgrade Methods
 - Data Migration Methods
 - Supported Releases for Direct Upgrade
 - Overview of Upgrade Process
 - Performing a Rolling Upgrade
 - Upgrading a CBD
- Preparing to Upgrade to Oracle Database 12c
 - Developing a Test Plan
 - Performance Testing
 - Requirements for Databases Using Oracle Label Security or Oracle Database Vault
 - Requirement for Databases Using Oracle Warehouse Builder
 - Using the Pre-Upgrade Information Tool
 - Backing Up the Database
 - Installing the Oracle Database 12c Software
 - Preparing the New Oracle Home
- Upgrading to Oracle Database 12c
 - Upgrading by Using the Database Upgrade Assistant (DBUA)
 - Manually Upgrading to Oracle Database 12c
 - Migrating a non-CDB to a CDB

- Performing Post-Upgrade Tasks
 - Migrating to Unified Auditing
 - Performing Post-Upgrade Tasks Following a Manual Upgrade
- Migrating Data by Using Oracle Data Pump
 - Data Pump Overview
 - Migrating by Using Data Pump
 - Importing by Using a Network Link
- Exploring the Oracle Database Architecture
 - Oracle Database Architecture: Overview
 - Oracle Database Instance Configurations
 - Connecting to the Oracle Database Instance
 - Oracle Database Memory Structures
 - Process Architecture
 - Process Structures
 - Process Startup Sequence
 - Database Storage Architecture
- Managing the Database Instance
 - Introducing Oracle Database Management Tools
 - Understanding the Enterprise Manager Management Framework
 - Logging in to Oracle Enterprise Manager Database Express
 - Using the Enterprise Manager Database Express Home Page
 - Using Enterprise Manager Cloud Control
 - Using SQL*Plus
 - Using SQL Developer
 - Initialization Parameter Files
- Configuring the Oracle Network Environment
 - Oracle Net Services Overview
 - Oracle Net Listener Overview
 - Establishing Oracle Network Connections
 - Tools for Configuring and Managing the Oracle Network
 - Using the Listener Control Utility
 - Using Oracle Net Configuration Assistant
 - Using Oracle Net Manager
 - Using Enterprise Manager Cloud Control
- Managing Database Storage Structures
 - Understanding Storage of Data
 - Database Block Contents
 - Exploring the Storage Structure
 - Creating a New Tablespace
 - Overview of Tablespaces Created by Default
 - Managing Tablespaces
 - Viewing Tablespace Information
 - Using Oracle Managed Files
- Administering User Security
 - Database User Accounts
 - Predefined Administrative Accounts
 - Creating a User
 - Authentication
 - Unlocking a User Account and Resetting the Password
 - Privileges
 - Roles
 - Profiles
- Managing Data Concurrency
 - Overview of Locks
 - Locking Mechanism
 - Data Concurrency

- DML Locks
- Enqueue Mechanism
- Lock Conflicts
- Managing Undo Data
 - Undo Data Overview
 - Transactions and Undo Data
 - Storing Undo Information
 - Comparing Undo Data and Redo Data
 - Managing Undo
 - Configuring Undo Retention
 - Guaranteeing Undo Retention
 - Changing an Undo Tablespace to a Fixed Size
- Implementing Oracle Database Auditing
 - Separation of Responsibilities
 - Database Security
 - Monitoring for Compliance
 - Standard Database Auditing
 - Unified Audit Data Trail
 - Separation for Duties for Audit Administration (AUDIT_ADMIN and AUDIT_VIEWER roles)
 - Configuring the Audit trail
 - Specifying Audit Options
- Performing Database Maintenance
 - Database Maintenance
 - Viewing the Alert History
 - Terminology
 - Automatic Workload Repository (AWR)
 - Statistic Levels
 - Automatic Database Diagnostic Monitor (ADDM)
 - Advisory Framework
 - Enterprise Manager and Advisors
- Managing Performance
 - Performance Monitoring
 - Tuning Activities
 - Performance Planning
 - Instance Tuning
 - Performance Tuning Methodology
 - Performance Tuning Data
 - Monitoring Performance
 - Managing Memory
- Managing Performance: SQL Tuning
 - SQL Tuning
 - Oracle Optimizer
 - SQL Plan Directives
 - Adaptive Execution Plans
 - SQL Advisors
 - Automatic SQL Tuning Results
 - Implement Automatic Tuning Recommendations
 - SQL Tuning Advisor
- Managing Resources by Using Database Resource Manager
 - Database Resource Manager Overview
 - Database Resource Manager Concepts
 - Using the Resource Manager
 - Default Maintenance Resource Manager Plan
 - Default Plan Example
 - Resource Manager Workflow
 - Specifying Resource Plan Directives
 - Resource Allocation Methods for Resource Plans