

**5 Days**

## Oracle Database 12c: Admin, Install and Upgrade Accelerated

This Oracle Database 12c: Admin, Install and Upgrade Accelerated training is a worthwhile 8-day training consolidated in a 5-day training program for participants to provide a comprehensive understanding of the Oracle Database architecture. This five-day program covers the curriculum of the following two programs that are also conducted separately:

1. Oracle Database 12c: Administration Workshop Ed 1 course (5 days)
2. Oracle Database 12c: Install and Upgrade Workshop Ed 1 course (2 days)

Being guided about the Oracle Database architecture, participants will also learn to manage an Oracle Database instance along with the learning to install and administer Oracle Database 12c.

Completion of this training course will enable candidates in:

- Upgrading an existing Oracle Database to Oracle Database 12c.
- Creating and managing an Oracle Database Instance.
- Creating and managing Storage Structures.
- Configuring the Oracle Network Environment.
- Monitoring the database and manage performance.
- Learning basic information on backup and recovery techniques.
- Gaining an understanding of the Oracle Database Cloud Service.

## Course Details

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### Course Outline

#### 1. Introduction

- Course Objectives & Course Schedule
- Oracle Database 12c Overview
- Oracle Cloud Overview
- HR Schema Overview
- Introduction to Oracle Database 12c

## 2. Exploring the Oracle Database Architecture

- Overview of Oracle Database Architecture
- Oracle Database Instance Configurations
- Connect to the Oracle Database Instance
- Overview of Oracle Database Memory Structures
- Process Architecture & Structures
- Process Startup Sequence

## 3. Oracle Software Installation Basics

- Installation Planning
- Configure Oracle Linux with Oracle RDBMS Pre-Install RPM
- Operate System Groups and Users
- Environment Variables
- Configure the Oracle Software Owner Environment
- Use Oracle Universal Installer (OUI)
- Installation Option: Silent Mode

## 4. Installing Oracle Database Software

- Types of Installations
- System Requirements for Oracle Database
- Create Operating System Groups and Users

## 5. Creating an Oracle Database by Using DBCA

- Plan the Database Storage Structure
- Types of Databases (based on workload)
- Choose the Appropriate Character Set
- Understand How Character Sets are Used?
- Set the NLS\_LANG Initialization Parameter
- Use the Database Configuration Assistant (DBCA)

## 6. Oracle Database Management Tools

- Introduce Oracle Database Management Tools
- Use SQL\*Plus
- Use SQL Developer
- Log in to Oracle Enterprise Manager Database Express
- Use the Enterprise Manager Database Express Home, Page
- Understand the Enterprise Manager Cloud Control Framework
- Use Enterprise Manager Cloud Control

## **7. Managing the Database Instance**

- Initialization Parameter Files
- Start an Oracle Database Instance
- Shut Down an Oracle Database Instance
- View Log Files
- Use Trace Files
- Use the Dynamic Performance Views

## **8. Configuring the Oracle Network Environment**

- Oracle Net Services Overview
- Oracle Net Listener Overview
- Establish Oracle Network Connections
- Connect to a Server
- Tools for Configuring and Managing the Oracle Network
- Deploy the Listener Control Utility
- Use Oracle Net Configuration Assistant
- Deploy Oracle Net Manager

## **9. Administering User Security**

- Database User Accounts
- Predefined Administrative Accounts
- Create a User
- Unlocking a User Account and Resetting the Password
- Privileges & Roles

## **10. Managing Database Storage Structures**

- Understand Storage of Data
- Database Block contents
- Explore the Storage Structure
- Create a New Tablespace
- Manage Tablespaces
- View Tablespace Information
- Use Oracle Managed Files

## **11. Managing Space**

- Space Management Overview

- Block Space Management
- Row Chaining and Migration
- Free Space Management Within Segments
- Types of Segments
- Allocate Extents & Space
- Create Tables Without Segments

## **12. Managing Undo Data**

- Undo Data Overview
- Transactions and Undo Data
- Store Undo Information
- Compare Undo Data and Redo Data
- Manage Undo
- Configure Undo Retention
- Guarantee Undo Retention
- Change an Undo tablespace to a Fixed Size

## **13. Managing Data Concurrency**

- Overview of Locks
- Locking Mechanism
- Data Concurrency
- DML Locks
- Enqueue Mechanism

## **14. Implementing Oracle Database Auditing**

- Separation of Responsibilities
- Database Security
- Monitor for Compliance
- Standard Database Auditing
- Unified Audit Data Trail
- AUDIT\_ADMIN and AUDIT\_VIEWER roles
- Configure the Audit Trail
- Specify Audit Options

## **15. Backup and Recovery Concepts**

- Categories of Failures
- Flashback Technology
- Understand Instance Recovery

- Phases of Instance Recovery
- Tune Instance Recovery
- Use the MTTR Advisor
- Compare Complete and Incomplete Recovery

## **16. Backup and Recovery Configuration**

- Configure for Recoverability
- Configure the Fast Recovery Area
- Multiplex the Control File
- Online Redo Log File
- Multiplex the Online Redo Log File
- Archived Redo Log Files
- Archiver Process
- Archived Redo Log File Naming and Destinations

## **17. Performing Database Backups**

- Backup Solutions Overview
- Oracle Secure Backup
- User-Managed Backup
- Backup Terminology and Types of Backups
- Use Recovery Manager (RMAN)
- Configure Backup Settings
- Oracle-Suggested Backup
- Back Up the Control File to a Trace File

## **18. Performing Database Recovery**

- Data Recovery Advisor
- Loss of a Control File
- Loss of a Redo Log File
- Loss of a Noncritical Datafile in ARCHIVELOG Mode
- Loss of a System-Critical Datafile in ARCHIVELOG Mode
- Loss of a Datafile in NOARCHIVELOG Mode

## **19. Moving Data**

- General Architecture of Moving Data
- Oracle Data Pump
- External Tables

## 20. Performing Database Maintenance

- Overview of Database Maintenance
- Terminology
- Automatic Workload Repository (AWR)
- Statistic Levels
- Advisory Framework
- Automatic Database Diagnostic Monitor (ADDM)
- Enterprise Manager and Advisors

## 21. Managing Performance

- Performance Monitoring & Performance Planning
- Tune Activities
- Performance Tuning Methodology
- Monitor Performance
- Manage Memory

## 22. Oracle Database Cloud Service: Overview

- Database as a Service Architecture, Features and Tooling
- Software Editions: Included Database Options and Management Packs
- Automated Database Provisioning
- Manage the Compute Node Associated with a Database Deployment
- Manage Network Access to Database as a Service
- Enable Access to a Compute Node Port
- Scale a Database Deployment & Patching Database as a Service
- Use the Oracle Database Cloud Service Console to Manage Patches

## Who Should Attend

The Oracle Database 12c Admin, Install, Upgrade Accelerated Training Course is ideal for those working with the profile of:

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

# Pre Requisite

## Required:

- Possess Working knowledge of SQL and use of PL/SQL packages

## Suggested Prerequisites:

- Basic knowledge of Linux Operating System

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