

Oracle DBA, Oracle Developer, Java, Android, SQL Server, Linux, C, C++, MySQL PHP, HTML, CSS, Java Script, MySQL DBA, Postgresql DBA, ASP.Net

Oracle 12c - Admin, Install and Upgrade Accelerated

(40 Hours)

- **Audience**

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

- **Related Training**

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

- **Course Objectives**

- Install Oracle Database 12c software
- Upgrade database to Oracle Database 12c
- Create an Oracle Database
- Create a container database
- 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

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- **Course Topics**
- **Introduction**
 - Course Objectives
 - Course Schedule
 - Overview of Oracle Database 12c
 - Overview of Oracle Cloud
 - Overview of the HR Schema
 - Oracle Database 12c Introduction
- **Exploring the Oracle Database Architecture**
 - Oracle Database Architecture: Overview
 - Oracle Database Instance Configurations
 - Connecting to the Oracle Database Instance
 - Oracle Database memory Structures (overview)
 - Process Architecture
 - Process Structures
 - Process Startup Sequence
 - Database Storage Architecture
- **Oracle Software Installation Basics**
 - Planning Your Installation
 - Configuring Oracle Linux with Oracle RDBMS Pre-Install RPM
 - Operating System Groups and Users
 - Environment Variables
 - Configuring the Oracle Software Owner Environment
 - Using Oracle Universal Installer (OUI)
 - Installation Option: Silent Mode

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- **Installing Oracle Database Software**
 - System Requirements for Oracle Database
 - Creating Operating System Groups and Users
 - Types of Installations
- **Creating an Oracle Database by Using DBCA**
 - Planning the Database Storage Structure
 - 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)
- **Oracle Database Management Tools**
 - Introducing Oracle Database Management Tools
 - Using SQL*Plus
 - Using SQL Developer
 - Logging in to Oracle Enterprise Manager Database Express
 - Using the Enterprise Manager Database Express Home Page
 - Understanding the Enterprise Manager Cloud Control Framework
 - Using Enterprise Manager Cloud Control
- **Managing the Database Instance**
 - Initialization Parameter Files
 - Starting an Oracle Database Instance
 - Shutting Down an Oracle Database Instance
 - Viewing Log Files
 - Using Trace Files
 - Using the Dynamic Performance Views
 - Data Dictionary

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- **Configuring the Oracle Network Environment**
 - Oracle Net Services Overview
 - Oracle Net Listener Overview
 - Establishing Oracle Network Connections
 - Connecting to a Server
 - Tools for Configuring and Managing the Oracle Network
 - Using the Listener Control Utility
 - Using Oracle Net Configuration Assistant
 - Using Oracle Net Manager

- **Administering User Security**
 - Database User Accounts (overview)
 - Predefined Administrative Accounts
 - Creating a User
 - Authentication
 - Unlocking a User Account and Resetting the Password
 - Privileges
 - Roles
 - Profiles

- **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

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- **Managing Space**
 - Space Management Overview
 - Block Space Management
 - Row Chaining and Migration
 - Free Space Management Within Segments
 - Types of Segments
 - Allocating Extents
 - Allocating Space
 - Creating Tables Without Segments
 - **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
 - **Managing Data Concurrency**
 - Overview of Locks
 - Locking Mechanism
 - Data Concurrency
 - DML Locks
 - Enqueue Mechanism
 - Lock Conflicts
 - **Implementing Oracle Database Auditing**
 - Separation of Responsibilities
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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

- **Backup and Recovery Concepts**

Categories of Failures
Flashback Technology
Understanding Instance Recovery
Phases of Instance Recovery
Tuning Instance Recovery
Using the MTTR Advisor
Comparing Complete and Incomplete Recovery
Oracle Data Protection Solutions

- **Backup and Recovery Configuration**

Configuring for Recoverability
Configuring the Fast Recovery Area
Multiplexing the Control File
Online Redo Log File
Multiplexing the Online Redo Log File
Archived Redo Log Files
Archiver Process
Archived Redo Log File Naming and Destinations

- **Performing Database Backups**

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Backup Solutions Overview
Oracle Secure Backup (overview)
User Managed Backup (overview)
Backup Terminology and Types of Backups
Using Recovery Manager (RMAN)
Configuring Backup Settings
Oracle-Suggested Backup
Backing Up the Control File to a Trace File

- **Performing Database Recovery**

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

- **Moving Data**

Moving Data: General Architecture
Oracle Data Pump
SQL*Loader
External Tables

- **Performing Database Maintenance**

Database Maintenance (overview)
Viewing the Alert History
Terminology
Automatic Workload Repository (AWR)

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Statistic Levels

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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