Oracle Database 12c: Admin, Install and Upgrade Accelerated

Duration: 5 Days

What you will learn

This Oracle Database 12c: Admin, Install and Upgrade Accelerated course covers 7 days worth of content in only 5 days. It consists of the Oracle Database 12c: Administration Workshop Ed 1 course (5 days) and the Oracle Database 12c: Install and Upgrade Workshop Ed 1 course (2 days). This course will will teach you about the Oracle Database architecture and you will discover how to effectively manage an Oracle Database instance. You will also be provided key information on how to install and administer Oracle Database 12c.

Learn To:

Upgrade an existing Oracle Database to Oracle Database 12c.
Create and manage an Oracle Database Instance.
Create and manage Storage Structures.
Configure the Oracle Network Environment.
Create and manage users.
Monitor the database and manage performance.
Learn basic information on backup and recovery techniques.

Benefits To You

Discover how you can effectively install and manage an Oracle Database instance. Create a container database and provision pluggable databases to support your business needs. Benefit from learning how to configure the Oracle Network Environment to perform database maintenance.

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

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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

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

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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

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

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

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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

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
Database Security
Monitoring for Compliance
Standard Database Auditing
Unified Audit Data Trail
Separation for Duties for Audit Administration (AUDIT_ADMIN and AUDIT_VIEWER roles)

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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
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
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

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