

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 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

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

- 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

- 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)

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)

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