

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). In this course, you will be introduced to Oracle Database Cloud Service.

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.
- Gain an understand of the Oracle Database Cloud Service.

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.

Related Training

Required Prerequisites

Working knowledge of SQL and use of PL/SQL packages

Suggested Prerequisites

Basic knowledge of Linux Operating System

Course Objectives

Manage Oracle Database Storage Structures

Gain an Understanding of the Oracle Database Cloud Service

Install Oracle Database 12c Software

Upgrade a 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

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

Oracle Database Cloud Service: Overview

- Database as a Service Architecture, Features and Tooling
- Software Editions: Included Database Options and Management Packs
- Automated Database Provisioning
- Managing the Compute Node Associated With a Database Deployment
- Managing Network Access to Database as a Service
- Enabling Access to a Compute Node Port
- Scaling a Database Deployment & Patching Database as a Service
- Using the Oracle Database Cloud Service Console to Manage Patches