

Oracle Database 18c: Administration Workshop

Duration: 5 Days

What you will learn

This course provides detailed information on the architecture of an Oracle Database instance and database, enabling you to manage your database resources effectively. You learn how to create database storage structures appropriate for the business applications supported by your database. In addition, you learn how to create users and administer database security to meet your business requirements. This course provides basic information on backup and recovery techniques. To provide an acceptable response time to users and manage resources effectively, you learn how to monitor your database and manage performance.

What You Will Learn

The Oracle Database 18c: Administration Workshop course provides you with a firm foundation in administration of an Oracle database. In this course, you will gain a conceptual understanding of Oracle Database architecture and learn how to manage an Oracle database in an effective and efficient manner

Learn To:

Manage an Oracle Database instance.

Configure the Oracle Network environment.

Create and manage storage structures.

Manage and move data.

Create and manage users.

Monitor the database and manage performance.

Create and manage Database Cloud Service database deployments.

Benefits To You

You will benefit from this course as you learn detailed information on the architecture of an Oracle Database instance and database, enabling you to manage your database resources effectively. You learn how to create database storage structures appropriate for the business applications supported by your database. In addition, you learn how to create users and administer database security to meet your business requirements. This course provides basic information on backup and recovery techniques. To provide an acceptable response time to users and manage resources effectively, you learn how to monitor your database and manage performance.

Related Training

Required Prerequisites

A working knowledge of SQL and PL/SQL packages is very helpful in the course.

Suggested Prerequisites

Basic knowledge of Linux operating system

Course Objectives

Describe Oracle Database architecture

Explain Oracle Database Cloud Service (DBCS) architecture and features

Create and manage DBCS database deployments

Configure the database to support your applications

Manage database security and implement auditing

Implement basic backup and recovery procedures

Move data between databases and files

Employ basic monitoring procedures and manage performance

Course Topics

Introduction

Oracle Database Editions, Options, and Management Packs

Oracle Cloud Overview

Sample HR Schema

Oracle Database Architecture

Oracle Database Server Architecture

Oracle Database Instance Configurations

Connecting to the Database Instance

Oracle Database Memory and Process Structures

Logical and Physical Database Structures

Multitenant Architecture

Automatic Storage Management (ASM) Overview

Introduction to Oracle Database Cloud

Oracle Database Cloud Service Architecture

Features and Tooling

Automated Database Provisioning

Creating Oracle Database Cloud Service (DBCS) Deployments

Input to the Creation Wizard

SSH Key Pairs
Database File Storage

Accessing an Oracle Database

SQL*Plus
SQL Developer
Database Configuration Assistant (DBCA)
Oracle enterprise Manager Database Express
Oracle Enterprise Manager Cloud Control
Oracle Database Cloud Service Tools

Managing DBCS Database Deployments

Managing the Compute Node
Managing Network Access to DBCS
Scaling a Database Deployment
Patching a Database Deployment

Managing Database Instances

Initialization Parameter Files
Starting Up Oracle Database Instances
Shutting Down Oracle Database Instances
Automatic Diagnostic Repository (ADR)
Alert Log and Trace Files
Dynamic Performance Views
Data Dictionary Views

Oracle Net Services

Oracle Net Listener Overview
Connecting to an Oracle Database Instance
Naming Methods
Oracle Net Services Administration Tools
Configuring Communication Between Database Instances
Comparing Dedicated and Shared Server Configurations

Administering User Security

Managing Oracle Cloud Users, Privileges, and Roles
Managing Oracle Database Users, Privileges, and Roles
User Authentication
Creating and Assigning Profiles
Assigning Quotas to Users
Applying the Principal of Least Privilege

Creating PDBs

Methods and Tools to Create PDBs
Creating PDBs from Seed
Cloning PDBs
Unplugging and Plugging in PDBs
Dropping PDBs

Creating Master Encryption Keys for PDBs

Encryption in Oracle Database Cloud Service
Overview of Transparent Data Encryption (TDE)

CDB and PDB Master Encryption Keys
Creating and Activating an Encryption Key

Creating and Managing Tablespaces

Table Data Storage
Creating, Altering and Dropping Tablespaces
Viewing Tablespace Information
Implementing Oracle Managed Files
Moving and Renaming Online Data Files
Tablespace Encryption by Default in DBCS

Managing Storage Space

Oracle Database Space Management Features
Block Space Management
Types of Segments
Deferred Segment Creation
Space-Saving Features
Table and Row Compression
Shrinkable Segments
Resumable Space Allocation

Managing Undo Data

Transactions and Undo Data
Storing Undo Information
Comparing Undo Data and Redo Data
Comparing Local Undo Mode and Shared Undo Mode
Configuring Undo Retention
Temporary Undo

Moving Data

Oracle Data Pump
SQL*Loader
External Tables
Migrating to Oracle Database Cloud Service

Backup and Recovery Concepts

Categories of Failure
Instance Recovery
Complete Recovery
Point-in-time Recovery
Flashback Technology

Backup and Recovery Configuration

Configuring and Monitoring the Fast Recovery Area
Multiplexing Control Files
Multiplexing Redo Log Files
Archive Redo Log Files
Configuring ARCHIVELOG Mode

Creating Database Backups

Backup Terminology
Using Recovery Manager (RMAN)

RMAN Backup Types

Automatic Backups on Database Cloud Service (DBCS)

On-Demand Backups on DBCS

Performing Database Recovery

Database Recovery Advisor

Recovering Data Files in NOARCHIVELOG Mode

Recovering Data Files in ARCHIVELOG Mode

Recovery Options in Database Cloud Service (DBCS)

Monitoring and Tuning Database Performance

Performance Planning Considerations

Automatic Workload Repository (AWR)

Automatic Database Diagnostic Monitor (ADDM)

Advisory Framework

Managing Metric Thresholds and Alerts

Monitoring Wait Events, Sessions, and Services

Performance Tuning Methodology

Managing Memory Components

SQL Tuning

SQL Tuning Process

Oracle Optimizer

Optimizer Statistics

SQL Tuning Advisor

SQL Access Advisor

SQL Performance Analyzer