Migrating Your Oracle Database to Oracle Cloud Infrastructure

This course teaches you how to migrate your Oracle Database to Oracle Cloud Infrastructure. It's ideal for experienced DBAs who want to learn techniques and methods involved in migrating Oracle Database from an On-Premises platform and Oracle Cloud Infrastructure-Classic (OCI-C) environment to Oracle Cloud Infrastructure (OCI).

Learn To

You will learn to analyze and prepare the source system for migration and to choose the best migration strategy that meets your requirements. As part of the hands-on labs you will create a Virtual Machine DB System and try out various migration methods.

This course is ideal for experienced DBAs who are looking to enhance their cloud migration skills. Taking this hands-on training will prepare DBAs for Cloud DBA certification exams.

Learn To:

- Analyze and compare your source and target environments
- Identify the benefits of migrating to Oracle Cloud Infrastructure (OCI)
- Describe the steps involved in the migration process
- Prepare source and target systems for migration
- Migrate on-premises database tables using SQL Developer
- Migrate on-premises database schema to using Data Pump
- Use transportable tablespace method for migration
- Migrate on-premises PDB using Data Pump Export/Import method
- Migrate a PDB from OCI-C using Data Pump Export/Import method
- Migrate a PDB from OCI-C using the Unplug/Plug method
- Migrate a CDB from OCI-C using RMAN
- Migrate Oracle Database to OCI using backups from OCI-C Object Store
- Describe advanced migration methods using Data Guard and GoldenGate

Prerequisites

Required Prerequisite

- Oracle Cloud Infrastructure Fundamentals Ed 1
- Oracle Database Cloud for DBAs on Oracle Cloud Infrastructure
- General understanding of Oracle Cloud technology
- Experience in Oracle Database 11g and/or 12c Administration

Audience

- Administrator
- Cloud Administrator
- Database Administrator

Course Objectives

- Migrating to Oracle Database 18c on Oracle Cloud Infrastructure
- Create a Virtual Machine DB System on Oracle Cloud Infrastructure for migration
- Explore the RMAN backup and restore mechanism

- Review migration use cases
- Understand what changes after migration and the post migration tasks
- Identify the building blocks of Oracle Cloud Infrastructure (OCI)
- Get familiar with OCI terminology such as tenant, region, availability domain, shapes
- Analyze and compare your source and target environments
- Learn to prepare source and target systems for migration

Course Topics

- Migrating Oracle Database to Oracle Cloud Infrastructure: Why, What, and How
  - OCI: Specifically Architected for Oracle Databases
  - Managing Oracle Database: On-Premises Versus Oracle Cloud Infrastructure
  - Considerations for Choosing a Migration Method
  - Subscribing to an Oracle Cloud Service
  - Universal Credits & Bring Your Own License
- Getting Started with Oracle Cloud Infrastructure
  - Regions, Availability Domains, and Backbone Network
  - Comprehensive Virtual Network with Off-box Virtualization
- Analyzing and Choosing Your Migration Strategy
  - Migration Life Cycle of a Target Cloud Database
  - Migration Methods & Prerequisites
  - Migration Strategy: Selection Criteria
  - Choosing a Method
  - Choosing a Hardware Configuration: Compute Shapes
  - Moving Large Data Sets to Oracle Cloud
- Preparing Source and Target Systems for Migration
  - Preparing Source On-Premises Oracle Database for Migration
  - Preparing Source DBCS Service Instance for Migration
  - Creating the Target System: OCI Virtual Machine DB System
- Migrating Using SQL Developer
  - Migrating Tables by Using SQL Developer
  - Migrating Selected Tables by Using SQL Developer INSERT Statements
  - Migrating Selected Tables by Using SQL Developer and SQL*Loader
- Migrating an Oracle Database to OCI by Using Data Pump
  - Migrating an On-Premises 12c CDB Schema to OCI 18c CDB: Conventional Mode
  - Migrating an On-Premises 12c PDB to 18c PDB on OCI: Conventional Mode
  - Migrating an On-Premises 12c Database Tablespace to OCI 18c CDB: Transportable Tablespace
  - Data Pump Full Transportable Mode
- Migrating Oracle Database to OCI Using Unplug/Plug and Remote Cloning Method
  - Unplugging & Plugging In an On-Premises Non-CDB
  - Unplugging/Plugging a PDB: High-Level Overview
  - Unplugging & Plugging In an On-Premises PDB
  - Migrating a 12.1 PDB to a 12.2 CDB in Database Cloud Service
  - Remote Cloning Method: Migration Compatibility
  - Remote Cloning an On-Premises Non-CDB & PDB
- Migrating an Oracle Database to OCI by Using Recovery Manager (RMAN)
  - RMAN Cross-Platform Transportable Tablespace Backup Sets
  - RMAN Migration Methods to Oracle Cloud and Version Compatibility
  - Tablespace Transport by Using RMAN CONVERT
  - Cross-Platform PDB Transport
  - Use-Case: Migrating a 12c On-Premises Database to Oracle Cloud by Using RMAN Cross-Platform Transportable Tablespace
  - Cross-Platform Transportable Tablespace to a Different Endian Platform with RMAN Backup Sets
  - Migrating by Using RMAN Cross-Platform Transportable Tablespace
- Migrating Oracle Database to OCI by Using Oracle Database Cloud Backup Module

- Oracle Backup Module Installation Prerequisites
- Installing the Oracle Database Cloud Backup Module
- Creating a Tiering Container When Installing the Oracle Database Cloud Backup Module
- Restoring Oracle Database from Object Storage Classic in OCI
- Use Case: Migrating Oracle Database from OCI-C to OCI Bare Metal Using Data Guard
- Use Case: Migrating DBCS Single-Instance Database from OCI-C to OCI VM Using the IBKUP Utility
- Use Case: Near Zero Downtime Migration by Using Oracle GoldenGate
- What Changes After Migration?
  - Network Access to the Compute Node and Database
  - Creating Security Lists & Configuring Connections to the Compute Node
  - Security Lists & Security Rule
  - Tablespace Encryption in Database Cloud Service
  - Backup and Recovery Strategy
  - Patching Database Cloud Service
  - Post-Migration Best Practices