

# Oracle Database 12c: RAC and Data Guard Integration Workshop

In the Oracle Database 12c: Real Application Cluster (RAC) and Data Guard Integration Workshop, you'll learn how to practice deploying, configuring, administering, maintaining, and using noteworthy features associated with Oracle Database 12c RAC and Data Guard.

## Learn To

---

In the Oracle Database 12c: Real Application Cluster (RAC) and Data Guard Integration Workshop, you'll learn how to practice deploying, configuring, administering, maintaining, and using noteworthy features associated with Oracle Database 12c RAC and Data Guard.

### Learn To:

- Understand High Availability Best Practices.
- Perform RAC and Data Guard Deployment.
- Perform RAC and Data Guard Configuration.
- Implement Effective Client Failover and Workload in a RAC/Data Guard environment.
- Perform Recovery in a RAC/Data Guard environment.
- Perform Planned Maintenance in a RAC/Data Guard environment.

### Benefits To You

Students benefit from this course by having the ability to practice interesting deployment, configuration, administration, and maintenance tasks that exercise a broad range of features associated with Oracle Database 12c RAC and Data Guard. There is an emphasis on hand-on practice using guided exercises, with accompanying lectures to set the scene. The course enables students to familiarize themselves with noteworthy features and topics, which would otherwise be difficult to explore because of the time and complexity required to configure a test environment and "ramp-up" with the technology. By providing this opportunity, it is envisaged that users will gain the understanding and confidence required to apply the technology to real-world scenarios inside their own workplace.

## Prerequisites

---

### Audience

---

- Administrator
- Database Administrator
- Implementer

## Course Objectives

---

- Convert a single instance to an Oracle RAC Database
- Configure Oracle Net Services in a Data Guard Environment with RAC
- Deploy a Physical Standby Database in an Oracle RAC environment using SQL and RMAN Commands
- Configure Oracle Data Guard in an Oracle RAC environment
- Manage physical Standby Files After structural changes on the Primary Database
- Perform Effective Client Failover using Application Continuity
- Perform Effective Service Failover and Workload Management Using Global Data Services

- Perform Database Recovery in an Oracle Data Guard environment
- Perform Data Guard Standby First Rolling Patch Apply
- Disassociate a Snapshot Standby Database from a Data Guard Configuration
- Perform Database Rolling Upgrade Using Transient Logical Standby Database

## Course Topics

---

### Introduction to High Availability Best Practices

- Understand Oracle Clusterware
- Understand Oracle ASM
- Understand Oracle RAC
- Understand Oracle Data Guard
- Design a Maximum Availability Architecture in your environment

### Converting a Single Instance to an Oracle RAC Database

- Scenario 1: Convert a single instance on a non-clustered environment to RAC
- Scenario 2: Convert a single instance on a clustered environment to RAC

### Configuring Oracle Net Services in a Data Guard Environment with RAC

- Review of Oracle Net Services
- Configuring Oracle Net Services in a Data Guard Environment

### Deploying a Physical Standby Database in an Oracle RAC environment Using SQL and RMAN Commands

- Preparing the Primary Database
- Configuring Oracle Net Services
- Preparing the Standby Hosts
- Starting the standby database instance
- Executing the DUPLICATE TARGET DATABASE FOR STANDBY FROM ACTIVE DATABASE RMAN command
- Completing the RAC Configuration
- Starting the transport and application of redo

### Configuring Oracle Data Guard in an Oracle RAC environment

- Data Guard Broker Configuration
- Redo Transport and Apply Services
- Data Guard Deployment Options
- Role Transition Services
- Flashback Database
- Fast-Start Failover

### Managing Physical Standby Files After Structural Changes on the Primary Database

- Scenario 1: Creating a tablespace
- Scenario 2: Dropping or deleting a tablespace or data file
- Scenario 3: Using Transportable Tablespaces
- Scenario 4: Moving an Online Data File
- Scenario 5: Adding or Dropping a redo log file group
- Scenario 6: NOLOGGING Operations
- Scenario 7: Refreshing the Password File

- Scenario 8: Resetting the TDE Master Encryption Key

## **Effective Client Failover Using Application Continuity**

- Connecting to the appropriate environment
- Fast Notification of Clients
- Automatic Client Failover
- Handling In-Flight Transactions
- Replaying Incomplete Requests
- RAC and Application Continuity
- Data Guard and Application Continuity

## **Effective Service Failover and Workload Management Using Global Data Services**

- Concept Review
- Global Data Services Overview
- Global Service Overview
- Client Connectivity in GDS
- Global Data Services Deployment

## **Performing Database Recovery in an Oracle Data Guard environment**

- Basic concept of the Oracle Database Recovery
- Recovery Considerations in Oracle Data Guard (Media Failures)
- Recovery Considerations in Oracle Data Guard (Logical Failures)

## **Performing Data Guard Standby-First Patch Apply**

- Background: Data Guard Support for Heterogeneous Configuration
- Phases of Data Guard Standby-First Patch Apply

## **Disassociating a Snapshot Standby Database from a Data Guard Configuration**

- Snapshot Standby Databases Overview
- Disassociating a Snapshot Standby from a Data Guard Configuration

## **Rolling Database Upgrade Using Transient Logical Standby**

- Phase 1: Completing Prerequisites
- Phase 2: Preparing for Upgrade
- Phase 3: Performing Pre-Upgrade Tasks
- Phase 4: Upgrading Transient Logical Standby
- Phase 5: Performing Post-Upgrade Tasks
- Phase 6: Preparing Original Primary Database for Upgrade
- Phase 7: Performing the Final Upgrade Tasks