Oracle - Oracle Database 12c R2: RAC Administration Ed 2

**Code:** 12cDB-RAC  
**Length:** 4 days  
**URL:** [View Online](#)

This Oracle Database 12c R2: Real Application Cluster (RAC) Administration training will teach you about Oracle RAC database architecture. Expert Oracle University instructors will deep dive into Global Resources and Cache Fusion. In this course, you will be introduced to Oracle Database Exadata Cloud Service.

**Learn To:**

- Install Oracle RAC software.
- Create cluster databases.
- Configure Oracle RAC Reader Nodes.
- Administer both administrator and policy-managed Oracle RAC databases.
- Explain the benefits of Local Temporary tablespaces.
- Monitor and address performance issues.
- Learn about services in a RAC environment as well as highly available connection features including Application Continuity and Transaction Guard.
- Create and administer a RAC One Node Database.
- Create and manage multitenant RAC databases.
- Gain an understanding of the Oracle Database Exadata Cloud Service.

**Benefits to You**

Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling consolidation onto database clouds.

**Skills Gained**

- Configure RMAN for the RAC environment
- Describe the benefits of Oracle RAC
- Explain the necessity of global resources
- Configure the RAC database to use ARCHIVELOG mode and the fast recovery area
- Convert a single-instance Oracle Database to RACs
- Create a cluster database
- Gain an understanding of the Oracle Database Exadata Cloud Service
- Explain the principles and purposes of clusters
- Install the Oracle Database software
- Modify initialization parameters in a RAC environment
• Perform post-database-creation tasks
• Define redo log files in a RAC environment
• Define undo tablespaces in a RAC environment
• Describe global cache coordination
• Describe how Grid Plug and Play affects Clusterware
• Describe the Oracle Clusterware architecture

Prerequisites
• Oracle Database 12c R2: Clusterware Administration
• Working knowledge of Oracle Clusterware, ASM RAC on Linux
• Working knowledge of Oracle Database 11g: Release 2, including Clusterware, ASM and RAC

Course Details

Grid Infrastructure: Overview
• What is a Cluster
• What is a Flex Cluster
• Clusterware Characteristics
• Oracle Clusterware
• Hardware and Software Concepts (High level)
• RAC and Flex ASM

RAC Databases Overview Architecture
• Overview of Oracle RAC
• Oracle RAC One Node (High level)
• Cluster-Aware Storage Solutions
• Benefits of Using RAC
• Scaleup and Speedup
• I/O Throughput Balanced
• Global Resources

Installing and Configuring Oracle RAC
• Installing the Oracle Database Software
• Installation options
• Creating the Cluster Database
• Configuring Oracle RAC Reader Nodes
• Post-installation Tasks
• Single Instance to RAC Conversion using DBCA and rconfig

Oracle RAC Administration
• Separation of Duty for Administering Oracle RAC
Upgrading and Patching Oracle RAC

- Overview of Upgrades and Patching
- Release and Patch Set Upgrades
- PSU, CPU and Interim Patches
- Merge Patches
- Performing Out of Place Database Upgrades
- Planning and Preparing for Upgrade
- Post Upgrade Tasks

Managing Backup and Recovery for RAC

- Instance Failure And Recovery In RAC - LMON and SMON
- Redo Threads and Archive Logs Configurations and Admin
- Parameter Settings Affecting Parallel Recovery and MTTR
- RAC and the Fast Recovery Area
- RMAN Configuration
- RMAN Admin for RAC: Channels, Instances, Backup Considerations

RAC Global Resource Management and Cache Fusion

- Globally Managed Resources and Management
- Library Cache Management
- Row cache management
- Buffer cache fusion
- Buffer Cache Management Requirements
- Accessing single blocks in RAC
- Multi-block read considerations in RAC
- Undo and read consistency considerations in RAC

RAC Database Monitoring and Tuning

- OCPU and Wait Time Latencies
- Wait Events for RAC
- Common RAC Tuning
- Session and System Statistics
- RAC specific V$ Views
Managing High Availability of Services in a RAC Environment
- Oracle Services
- Services for Policy - and Administrator-Managed Databases
- Service-Oriented Buffer Cache Access
- Creating Services
- Managing Services
- Use Services with Client Applications
- Services and Connection Load Balancing
- Services and Transparent Application Failover

Managing High Availability of Connections
- Types of Workload Distribution
- Client-Side Load Balancing
- Server-Side Load Balancing
- Runtime Connection Load Balancing and Connection Pools
- Fast Application Notification
- The Load Balancing Advisory FAN Event
- Server-Side Callouts
- Configuring the Server-Side ONS

Application Continuity
- What is AC
- What problem does it solve
- Benefits of AC
- How AC works
- AC Architecture
- Side Effects
- Restrictions
- Application requirements

RAC One Node
- RAC One Node Concepts
- Online database migration
- Adding Oracle RAC One Node Database to an Existing Cluster
- Convert an Oracle RAC One Node database to a RAC database
- Convert an Oracle RAC database to a RAC One Node database
- Use DBCA to convert a single instance database to a RAC One Node database
Oracle Database In-Memory in RAC
- Architecture of In-Memory Column Store
- Implementing In-Memory Column Store in RAC
- Implementing In-Memory FastStart

Multitenant Architecture and RAC
- Non-CDB Architecture
- Multitenant Architecture: Benefits
- CDB in a Non-RAC Environment
- Containers
- Terminology and Data Dictionary Views
- Connection to a Non-RAC CDB
- Oracle RAC and Multitenant Configuration
- Oracle RAC and Multitenant Architecture

Quality of Service Management
- QOS Management concepts
- Describe the benefits of using QoS Management
- QoS Management components
- QoS Management functionality

Oracle Database Exadata Cloud Service Overview
- Introducing Exadata Cloud Service
- Service Configuration Options Service Connection Options
- Service Architecture Availability
- Management Responsibilities
- Storage Configuration Management Details
- Simple Web-Based Provisioning Management
- REST APIs
- Migrating to Exadata Cloud Service