

## Oracle Database 11g: RAC Administration Release 2

**Duration:** 4 Days

### What you will learn

This Oracle Database 11g: RAC Administration Release 2 NEW training explores RAC database administration in the Oracle Grid Infrastructure environment. Expert Oracle University instructors will help you develop the skills to administer cluster databases using Enterprise Manager and command-line utilities like SRVCTL, CRSCTL and SQL\*Plus.

### Learn To:

Install Oracle Clusterware and Real Application Clusters.

Administer a RAC Database.

Administer database services in an RAC environment.

Administer Oracle Clusterware.

Add/Remove a node to/from a cluster.

Patch Oracle Clusterware and RAC software.

Upgrade and patch Oracle RAC databases.

Study the new connection architecture and how to make those connections highly available.

### 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 smooth and rapid consolidation within your Datacenter.

### Backup and Recovery

You'll also study backup and recovery issues relative to cluster database environments. Explore Oracle RAC One Node, online migration and quality of service concepts. New materials and labs have been added to enhance the customer experience with the latest information.

### Counts as Hands-On Certification Requirement

This course counts toward the hands-on course requirement for the following certifications:

Oracle Database 11g Administrator Certification

Oracle Database 10g: Real Application Clusters Administrator Certified Expert

### Please Note:

Only Classroom Training, Live Virtual Class or Training On Demand formats of this course will meet the certification hands-on requirement.

## Audience

Data Warehouse Administrator  
Database Administrators  
Support Engineer  
Technical Administrator

## Related Training

### *Required Prerequisites*

General understanding of database administration

Oracle Grid Infrastructure 11g: Manage Clusterware and ASM Release 2

### *Suggested Prerequisites*

Oracle Database 11g: Administration Workshop I Release 2

Oracle Database 11g: New Features for Administrators DBA Release 2

Oracle Database 11g: Taller de Administración I Versión 2 (Español)

Oracle Database 11g: Workshop de Administração I Release 2

## Course Objectives

Install, create, administer, and monitor a Real Application Clusters database

Use configuration and management tools for Real Application Clusters databases

Setup services for workloads management, and applications high availability

Develop a backup and recovery strategy for Real Application Clusters databases

Configure and monitor Oracle Clusterware resources

Review high availability best practices

Identify Real Application Clusters components

## Course Topics

### **Grid Infrastructure: Overview**

Oracle Grid Infrastructure

What Is a Cluster?

What Is Clusterware?

Oracle Clusterware

Oracle Clusterware Architecture and Services

Goals for Oracle Clusterware

Oracle Clusterware Networking

## **RAC Concepts**

- Overview of Oracle RAC
- RAC One Node Single-Instance High Availability
- Oracle RAC One Node
- Oracle RAC One Node and Oracle Clusterware
- Cluster-Aware Storage Solutions
- Oracle Cluster File System
- Benefits of Using RAC
- Clusters and Scalability

## **Installing and Configuring Oracle RAC**

- Installing the Oracle Database Software
- Creating the Cluster Database
- Database Type Selection
- Database Identification
- Cluster Database Management Options
- Passwords for Database Schema Owners
- Database File Locations
- Recovery Configuration

## **Oracle RAC Administration**

- Oracle RAC Administration
- Cluster Database Instance Home Page
- Cluster Home Page
- Configuration Section
- Topology Viewer
- Enterprise Manager Alerts and RAC
- Enterprise Manager Metrics and RAC
- Enterprise Manager Alert History and RAC

## **Managing Backup and Recovery for RAC**

- RAC and Instance Recovery
- Instance Recovery and Database Availability
- Instance Recovery and RAC
- Protecting Against Media Failure
- Media Recovery in Oracle RAC
- Parallel Recovery in RAC
- Archived Log File Configurations
- RAC and the Fast Recovery Area

## **Global Resource Management Concepts**

- Need for Global Concurrency Control
- Global Resource Directory (GRD)
- Global Resource Management
- Global Resource Remastering
- Global Resource Recovery
- Global Resource Background Processes
- Global Resource Access Coordination
- Global Enqueues

## **RAC Database Monitoring and Tuning**

- CPU and Wait Time Tuning Dimensions
- RAC-Specific Tuning
- Analyzing Cache Fusion Impact in RAC
- Typical Latencies for RAC Operations
- Wait Events for RAC
- Wait Event Views
- Global Cache Wait Events: Overview
- Global Enqueue Waits

## **Managing High Availability of Services**

- Oracle Services
- Services for Policy- and Administrator-Managed Databases
- Default Service Connections
- Creating Service with Enterprise Manager
- Creating Services with SRVCTL
- Managing Services with Enterprise Manager
- Managing Services with EM
- Managing Services with srvctl

## **High Availability of Connections**

- Types of Workload Distribution
- Client-Side Connect-Time Load Balancing
- Client-Side Connect-Time Failover
- Server-Side Connect-Time Load Balancing
- Fast Application Notification: Overview
- Fast Application Notification: Benefits
- FAN-Supported Event Types
- FAN Event Status

## **Upgrading and Patching Oracle RAC**

- Types of Patches
- Patch Properties
- Configuring the Software Library
- Setting Up Patching
- Obtaining Oracle RAC Patches
- Downloading Patches
- Reduced Down-Time Patching for Cluster Environments
- Rolling Patches

## **Oracle RAC One Node**

- Verifying an Existing RAC One Node Database
- Oracle RAC One Node Online Migration
- Online Migration Considerations
- Performing an Online Migration
- Online Migration Illustration
- Online Maintenance: Rolling Patches
- Adding an Oracle RAC One Node Database to an Existing Cluster
- Converting a RAC One Node Database to RAC

## **Quality of Service Management**

- QoS Management Background

QoS Management Overview  
QoS Management and Exadata Database Machine  
QoS Management Focus  
QoS Management Benefits  
QoS Management Functional Overview  
QoS Management Policy Sets  
Server Pools

**Design for High Availability**

Causes of Unplanned Down Time  
Causes of Planned Down Time  
Oracle's Solution to Down Time  
RAC and Data Guard Complementarity  
Maximum Availability Architecture  
RAC and Data Guard Topologies  
RAC and Data Guard Architecture  
Data Guard Broker (DGB) and Oracle Clusterware (OC) Integration