

Oracle DBA, Oracle Developer, Java, Android, SQL Server, Linux, C, C++, MySQL PHP, HTML,CSS, Java Script, MySql DBA, Postgresql DBA, ASP.Net

Oracle RAC

Duration: 32 Hours

- **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, CRSDCTL 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.

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- **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

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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

- **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

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Oracle Clusterware Networking
Oracle Grid Infrastructure for a Cluster

- **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

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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

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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

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- 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

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- **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