

Oracle Database 10g: Real Application Clusters

Duration 5 Days

What you will learn:

This course offers students an introduction to the general features and capabilities of Oracle Database 10g Release 1 for Oracle Real Application Clusters (RAC).

Students learn how to configure and administer a database for use with Real Application Clusters. The course also explains how to setup and use Automatic Storage Management (ASM) in a Real Application Clusters environment. Lectures are reinforced with hands-on practices designed to walk the student through the RAC administration.

This course counts towards the Hands-on course requirement for the Oracle Database 10g Administrator Certification. Only instructor-led inclass or instructor-led online formats of this course will meet the Certification Hands-on Requirement. Self Study CD-Rom and Knowledge Center courses are excellent study and reference tools but DO NOT meet the Hands-on Requirement for certification.

Audience:

- Database Administrators

Prerequisites:

Required Prerequisites:

- [Oracle Database 10g: New Features for Administrators](#)
- [Oracle Database 10g: Administration Workshop I Release 2](#)

Course Objectives:

- Identify Real Application Clusters components
- Install, create, administer, and monitor a Real Application Clusters database
- Use configuration and management tools for Real Application Clusters databases
- Migrate your database storage to Automatic Storage Management
- Setup services for workloads management, and applications high availability
- Develop a backup and recovery strategy for Real Application Clusters databases
- Review high availability best practices

Course Topics:

Introduction

- Define a cluster
- Define Oracle Real Application Clusters
- List the advantages of using RAC
- Define scalability
- High availability and RAC

Architecture and Concepts

- List the various components of Cluster Ready Services (CRS) and Real Application Clusters (RAC)
- Describe the various types of files used by a RAC database
- Describe the various techniques used to share database files across a cluster
- Describe the purpose of using services with RAC

RAC Installation and Configuration Part I

- Outline Oracle 10g RAC Installation
- Preinstallation Tasks
- Cluster Setup Tasks
- Installing OCFS
- Installing Cluster Ready Services

RAC Installation and Configuration Part II

- Install Database Software
- Launching VIPCA with root.sh
- Database Precreation Tasks
- Creating the Cluster Database
- Database Postinstallation Tasks
- Administering Enterprise Manager Jobs in Real Application Clusters
- Node Addition and Deletion and the SYSAUX Tablespace
- AWR snapshots in RAC

RAC Database Instances Administration

- Understand the EM Cluster Database Home Page
- Starting and Stopping RAC Instances
- RAC Initialization Parameter Files
- Adding a Node to a Cluster
- Deleting Instances from a RAC Database
- Quiescing RAC Databases
- Administering Alerts with Enterprise Manager

Administering Storage in RAC Part I

- Describe automatic storage management (ASM)
- Install the ASM software
- Set up initialization parameter files for ASM and database instances
- Start up and shut down ASM instances
- Add ASM instances to the target list of Database Control
- Use Database Control to administer ASM in a RAC environment

Administering Storage in RAC Part II

- Manage redo log groups in a RAC environment
- Manage undo tablespaces in a RAC environment
- Use SRVCTL to manage ASM instances
- Migrate database files to ASM
- Manage and recover the OCR file and voting disk

Services

- Configure and manage services in a RAC environment
- Use services with client applications
- Use services with the Database Resource Manager
- Use services with the Scheduler
- Set performance-metric thresholds on services
- Configure services aggregation and tracing

High Availability of Connections

- Configure client side connect-time load balancing
- Configure client side connect-time failover
- Configure server side connect-time load balancing
- Benefit from Fast Application Notification (FAN)
- Configure server-side callouts
- Configure the server and client-side ONS
- Configure Transparent Application Failover (TAF)

Managing Backup and Recovery in RAC

- Configure RAC Recovery Settings with EM
- Configure RAC Backup Settings with EM
- Initiate Archiving
- Configuring RMAN
- RAC Backup and Recovery Using EM

RAC Performance Tuning

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- Determine RAC specific tuning components
 - Tune instance recovery in RAC
 - Determine RAC specific wait events, global enqueuees, and system statistics
 - Implement most common RAC tuning tips
 - Use the Cluster Database Performance pages
 - Use Automatic Workload Repository and Automatic Database Diagnostic Monitor in RAC

Design for High Availability

- Design a Maximum Availability Architecture in your environment
- Determine the best RAC and Data Guard topologies for your environment
- Configure the Data Guard Broker configuration files in a RAC environment
- Patch your RAC system in a rolling fashion