

Oracle 12c RAC administration

Course Topics

Grid Infrastructure Overview and Review

What is a Cluster?
What is a Flex Cluster
Clusterware Characteristics
Oracle Clusterware
Hardware and Software Concepts (High level)

RAC Databases Overview & Architecture

Overview of Oracle RAC
RAC One Node
Cluster-Aware Storage Solutions
Benefits of Using RAC
Scaleup and Speedup
I/O Throughput Balanced
Global Resources
RAC and Flex ASM

Installing and Configuring Oracle RAC

Installing the Oracle Database Software
Installation options
Creating the Cluster Database
Post-installation Tasks
Single Instance to RAC Conversion
Cleaning Up Unsuccessful Installs

Oracle RAC Administration

Parameters and RAC - SPFILE, Identical and Unique Parameters
Instance Startup, Shutdown and Quiesce
Undo Tablespaces
Redo Threads
Use Enterprise Manager Cluster Database Pages
RAC Alerts
RAC Metrics

Managing Backup and Recovery for 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
Performing Out of Place Release Install or Upgrade
Post Upgrade Tasks

RAC Backup and Recovery

Instance Failure And Recovery In RAC - LMON and SMON
Redo Threads and Archive Log Configurations and Admin
Parameter Settings Affecting Parallel Recovery and MTTR

Instance Failure And Recovery In RAC - LMON and SMON
RAC and the Fast Recovery Area
RMAN Configuration
RMAN Admin For RAC: Channels, Instances, Backup Distribution
RMAN Restore And Recovery RAC 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
Automatic Database Diagnostic Monitor for RAC

Managing High Availability of Services in a RAC Environment

Oracle Services
Services for Policy - and Administrator-Managed Databases
Creating Services
Managing Services
Use Services with Client Applications
Services and Connection Load Balancing
Services and Transparent Application Failover
Services and the Resource Manager

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

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