

# Oracle Database 19C RAC, ASM, and Guard Infrastructure



## Online Course

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# Oracle Database 19C RAC, ASM, and Guard Infrastructure

## Course Modules

### 1. RAC Databases and Architecture

- Describe the benefits of Oracle RAC
- Explain the necessity of global resources
- Describe global cache coordination

### 2. Installing and Configuring Oracle RAC

- Install the Oracle database software
- Create a cluster database
- Convert a single instance Oracle database to RAC

### 3. Administering Oracle RAC

- Define redo log files in a RAC environment
- Define undo tablespaces in a RAC environment
- Start and stop RAC databases and instances
- Modify initialization parameters in a RAC environment

### 4. Managing Backup and Recovery for RAC

- Config the RAC database to use ARCHIVELOG mode
- Configure RMAN for the RAC environment





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## 5. Managing Global Resources

- Explain the need for global concurrency control
- Describe the Global Resource Directory
- Explain how global resources are managed
- Explain global enqueue and instance lock management
- Explain global buffer cache management
- Explain use of Affinity to reduce Global Resource Contention

## 6. RAC Database Monitoring and Tuning

- Identify RAC-specific tuning components
- Determine RAC-specific wait-events, global enqueues
- Implement the most common RAC tuning practices
- Use the Cluster Database Performance pages
- Use the Automatic Workload Repository (AWR) in RAC
- Use Automatic Database Diagnostic Monitor (ADDM) in RAC
- RAC Database SGA Runtime Management

## 7. Managing High Availability of Services

- Configure and manage services in a RAC environment
- Use services with client applications
- Configure services aggregation and tracing



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## 8. Managing High Availability for Connections and Applications

- Configure client-side connect-time load balancing and failover
- Configure server-side connect-time load balancing
- Use the Load Balancing Advisory (LBA)
- Explain the benefits of Fast Application Notification (FAN)
- Configure Transparent Application Failover (TAF)
- Co-location Tag for Client Routing
- Transparent Application Continuity
- Dynamic Services Fallback

## 9. Upgrading and Patching Oracle RAC

- Plan for rolling patches and rolling updates
- Install a patchset with the Oracle Universal Installer (OUI) utility
- Install a patch with the opatch utility

## 10. Managing Oracle RAC One Node

- Convert an Oracle RAC One Node database to a RAC database
- Use DBCA to convert a single-instance database to a RAC





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## 11. Using Oracle Database Quality of Service Management (QoS)

- Explain the purpose and benefits of using QoS
- Explain the operation of QoS

## 12. Using Multitenant Architecture in a RAC Environment

- Describe the multitenant architecture in RAC & non-RAC environment
- Create a RAC multitenant container database (CDB)
- Create a pluggable database (PDB) in a RAC CDB
- Use the default CDB and PDB services
- Create PDB services to associate PDB services with server pools
- Automated PDB Patching and Relocation

## Grid Infrastructure Administration

## 13. Introduction to Clusterware

- Explain the principles and purposes of clusters
- Describe Cluster hardware best practices
- Describe how Grid Plug and Play affects Clusterware



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## 14. Oracle Clusterware Architecture

- Explain the Oracle Clusterware architecture
- Describe Oracle Clusterware startup details

## 15. Flex Clusters

- Explain the Flex Cluster architecture and components
- Describe the effect of node failure in a Flex Cluster

## 16. Grid Infrastructure Installation Planning and Pre-Tasks

- Plan for Grid Infrastructure installation
- Verify system and network requirements
- Create groups and users
- Create directories

## 17. Grid Infrastructure Installation

- Install Grid Infrastructure
- Verify the installation
- Configure ASM disk groups
- Optional Install for the Grid Infrastructure Mngmet Repository



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## 18. Managing Cluster Nodes

- Perform the prerequisite steps to extend a cluster
- Delete a node from a cluster
- Use DBCA to ADD new nodes to extend the cluster

## 19. Traditional Clusterware Management

- Perform day to day Clusterware administration tasks
- Perform Oracle Cluster Registry (OCR) backup and recovery
- Manage network settings
- Explain the scope and capabilities of what-if command evaluation
- Secure Cluster Communication

## 20. Policy-Based Cluster Management

- Architecture and components of policy-based cluster mngmt
- Administer server categorization
- Administer a policy set
- Activate a policy





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## 26.FLEX ASM

- Describe the architecture and components of Flex ASM
- Install and configure Flex ASM
- Manage Flex ASM

## 27.Administering ASM Disk Groups

- Create and delete ASM disk groups
- Set the attributes of an existing ASM disk group
- Perform ongoing maintenance tasks on ASM disk groups
- Explain key performance and scalability considerations

## 28.Administering ASM Files, Directories and Templates

- Use client tools to access ASM files
- Describe the format of a fully qualified ASM file name
- Explain how ASM files, directories and aliases are created
- Describe and manage disk group templates





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## **29.Administering Oracle CloudFS**

- Administer ASM Dynamic Volume Manager
- Manage ASM volumes
- Implement ASM Cluster File System (ACFS)
- Use ACFS snapshots

## **30.Oracle CloudFS Advance Topics**

- Configure ACFS auditing
- Implement ACFS encryption
- Configure and manage ACFC replication
- Implement ACFS tagging
- Configure High Availability NFS

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