

# RAC with Oracle 11g

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**Duration: 50 Hours**

**Prerequisites**

- Oracle 11g DBA

**Course Contents**

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**1. Grid Infrastructure Concepts**

- What is a Cluster
- History of Oracle RAC
- Grid Components
- Oracle Clusterware Architecture
- Describe ASM Architecture
- Oracle Clusterware Software and Storage

**2. Grid Infrastructure Installation and Configuration**

- Hardware Requirements
- Network Requirements
- DNS and DHCP Configuration
- Single Client Access Names
- Grid Installation
- Post installation tasks

**3. Administering ASM Instances**

- ASM Initialization Parameters
- Adjusting ASM Instance Parameters in SPFILEs
- Starting and Stopping ASM Instances Using srvctl
- Starting and Stopping ASM Instances Using ASMCA and ASMCMD
- Starting and Stopping ASM Instances Containing Cluster Files
- Starting and Stopping the ASM Listener

**4. Administering ASM Disk Groups**

- Creating And Deleting ASM Disk Groups
- ASM Disk Group Attributes
- ASM Disk Group Maintenance Tasks
- Performance And Scalability Considerations For ASM Disk Groups

**5. ASM Files, Directories, and Templates**

- Using Different Client Tools to Access ASM Files
- Fully Qualified ASM File Name Format
- Creating and Managing ASM files, Directories and Aliases
- Managing Disk Group Templates

**6. Real Application Clusters Database Installation**

- RAC Architecture
- Difference between Single instance Vs. RAC Environment
- Components of RAC

- Oracle Clusterware
- Oracle Cluster Registry (OCR)
- Cluster Synchronization Service (CSS)
- Configuring Public, Private and Virtual I/P's
- Creation of Oracle user & Groups and Setting environmental variable
- Configuring SSH
- Configuring storage for database
- Configuring OCFS for Voting & OCR storage
- Install CRS
- Install Database Software
- Configuring ASM & Creating A Cluster Database
- Post-database Creation Tasks
- Background Processes Specific to Oracle RAC

**7. Oracle RAC Administration**

- Redo Log Files In A RAC Environment
  - Undo Tablespace In A RAC Environment
  - Starting And Stopping RAC Databases And Instances
  - Initialization Parameters In A RAC Environment
  - Administration through SRVCTL
  - Administration through CRSCTL
  - Determining the Location of the Oracle Clusterware Configuration Files
  - Oracle Local Registry
  - Locating the OCR Automatic Backups
  - Checking OCR Integrity
  - Dumping OCR to a file
  - Adding, Deleting, or Migrating Voting Disks
  - Migrating OCR Locations to ASM
  - Managing & Maintaining OCR
  - Backup and Recovery of OCR & Voting Disk
  - Recover OCR & Voting disk without any Backup
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## **8. Oracle Clusterware High Availability**

- Oracle Clusterware high availability components
- Server pool functionality
- TAF/FAN functionality
- Introduction to Cache Fusion
- Split Brain Syndrome
- Application Virtual IPs
- Managing application resources
- High availability events

## **9. Managing Oracle Clusterware**

- Prerequisite Steps for Extending a Cluster
- Add a Node to a Cluster
- Delete a Node from a Cluster
- Installing A Patch With The opatch Utility
- Rolling Patches, And Rolling Upgrades
- Cloning of RAC (ASM) to Non RAC (Non ASM)
- Cloning of Non RAC (Non ASM) to RAC (ASM)

## **10. Services**

- Configure and Manage Services in a RAC environment
  - Using Services with Client Applications
  - Using Services with the Database Resource Manager
  - Use Services with the Scheduler
  - Managing Services From the Command Line
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