Advanced Oracle DBA – RAC/ASM

Duration: 18 hours

Pre-requisite: Knowledge of Oracle DBA

Oracle 11g R2 Grid Infrastructure Concepts
- What is a Cluster
- Grid Foundation Components
- Oracle Clusterware Architecture
- Oracle Clusterware Software and Storage
- Describe ASM Architecture
- Creating and Managing ASM Disk Groups
- Creating and Managing ASM Cluster File systems
- Administering Oracle Clusterware
- Troubleshooting Oracle Clusterware

Grid Infrastructure Installation and Configuration
- Hardware Requirements
- Network Requirements
- Software Requirements
- DNS and DHCP Configuration
- Grid Plug and Play Considerations
- Single Client Access Names
- Post installation tasks

Oracle Automatic Storage Management concepts
- ASM Instance
- ASM Disks
- ASM Disk Groups
- ASM Redundancy

Cluster installation Prerequisite for Oracle 11g R2 RAC
- Linux OS Software Installation
- Create OS Group and User Accounts
- Networking
- Synchronizing the Time on ALL Nodes
- Configuring Kernel Parameters

- Set shell limits for the Oracle & grid user
- Create the Oracle Inventory Directory
- Creating the Oracle Grid Infrastructure Home Directory
- Creating the Oracle Base Directory
- Creating the Oracle RDBMS Home Directory
- Stage the Oracle Software
- Check OS Software Requirements
- Cluster Verification Utility

Shared Storage Configuration
- Types of Shared Storage
- Partition the Shared Disks
- Installing and Configuring ASMLib
- Using ASMLib to Mark the Shared Disks as Candidate Disks

Oracle 11g Grid Infrastructure Installation
- Basic/Advanced Grid Infrastructure Install (without GNS and IPMI)
- Grid Infrastructure Home Patching
- RDBMS Software Install
- Run ASMCA to create diskgroups

Oracle 11g R2 RAC Database Software Installation
- Installing the Oracle Database Software
- Creating a Cluster Database
- Post database Creation Tasks

Administering Oracle Clusterware
- Managing Clusterware with Enterprise Manager
- Determining the Location of the Oracle Clusterware Configuration Files
- Backing Up and Recovering the Voting Disk

- Adding, Deleting, or Migrating Voting Disks
- Locating the OCR Automatic Backups
- Oracle Local Registry
- Migrating OCR Locations to ASM
- Managing Network Settings
- Managing Oracle Clusterware

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
- Administering ASM Disk Groups
- Creating & Deleting ASM Disk Groups
- ASM Disk Group Attributes
- ASM Disk Group Maintenance Tasks
- Viewing ASM Disk Statistics

Prerequisite Steps for Extending a Cluster
- Using addNode.sh to add a Node to a Cluster
- Rolling Patches & Rolling Upgrades

- Installing a Patchset with the OUI Utility
- Installing a Patch With The opatch Utility

Cluster Node Management
- Add/Deleting the instance
- Add the Node
- Remove the Node
- Single-Instance Conversion Using rconfig
- Single-Instance Conversion Using DBCA

Troubleshooting Oracle Clusterware
- Oracle Clusterware Log Files
- Gathering Log Files Using diagcollection.pl
- Component-level Debugging
- RAC-Specific Wait Events, Global Enqueues, and System Statistic
- Implementing the Most Common RAC Tuning Tips
- Using the Cluster Database Performance Pages
- Using the Automatic Workload Repository in RAC
- Using Automatic Database Diagnostic Monitor in RAC