

# Oracle Database 11g: RAC for DBA

หลักสูตร Oracle Database 11g: RAC for DBA เป็นหลักสูตรระดับ Expert ด้าน Database โดยเป็นการเรียนรู้ถึง ภาพรวมของ Oracle 11g RAC ตั้งแต่การติดตั้ง สร้างและตั้งค่า Oracle RAC และ Oracle Grid การลดและเพิ่ม node ของ RAC ไปจนถึงการดูแลรักษา Oracle RAC Database และการ Backup

## **Audience:**

- Database Administrators with basic experience with Oracle
- Technical Administrator with basic experience with Oracle
- Support Engineer with basic experience with Oracle
- Technical Consultant with basic experience with Oracle

## **Required Prerequisites:**

- Oracle Database 11g: Introduction to SQL and PL/SQL
- Oracle Database 11g Database : Administration

## **Lesson 1 : Oracle Clusterware Installation and Configuration**

- Describe the installation of Oracle RAC 11g
- Perform RAC preinstallation tasks
- Perform cluster setup tasks
- Install Oracle Clusterware

## **Lesson 2 : RAC Software Installation**

- Install and configure Automatic Storage Management (ASM)
- Install the Oracle database software
- Perform required tasks prior to database creation

## **Lesson 3 : RAC Database Creation**

- Install the Enterprise Manager agent on each cluster node
- Create a cluster database
- Perform required tasks after database creation

#### **Lesson 4 : RAC Database Administration**

- Use Enterprise Manager cluster database pages
- 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
- Manage ASM instances in a RAC environment

#### **Lesson 5 : Managing Backup and Recovery in RAC**

- Configure the RAC database to use ARCHIVELOG mode and the flash recovery area
- Configure RMAN for the RAC environment

#### **Lesson 6 : RAC Performance Tuning**

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

#### **Lesson 7 : 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

#### **Lesson 8 : High Availability of Connections**

- Configure client-side connect-time load balancing
- Configure client-side connect-time failover
- Configure server-side connect-time load balancing
- Use the Load Balancing Advisory (LBA)
- Describe the benefits of Fast Application Notification (FAN)
- Configure server-side callouts
- Configure the server- and client-side ONS
- Configure Transparent Application Failover (TAF)

#### **Lesson 9 : Oracle Clusterware Administration**

- Manually control the Oracle Clusterware stack
- Change voting disk configuration
- Back up or recover your voting disks
- Manually back up OCR

- Recover OCR
- Replace an OCR mirror
- Repair the OCR configuration
- Change VIP addresses
- Use the CRS framework
- Prevent automatic instance restarts

### **Lesson 10 : Diagnosing Oracle Clusterware and RAC Components**

- Collect Oracle Clusterware diagnostic files
- Use Cluster Verify

### **Lesson 11 : Node Addition and Removal**

- Add a new node to your cluster database
- Remove a node from your cluster database

### **Lesson 12 : 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
- Decide on the best ASM configuration to use
- Patch your RAC system in a rolling fashion