

Oracle ASM, RAC and Dataguard Administration

Course Topics:

1. Oracle 12c Automatic Storage Management (ASM) Install and setup

- Introduction and benefits of Oracle ASM.
- Oracle ASM 12c software installation and configuration (Grid Infrastructure).
- Partitioning Disks in LINUX.
- Oracle ASMLib Utility for managing ASM Disk Storage.
- Oracle 12c ASMCA (ASM Configuration Assistant).
- ASM Parameter file, ASM Instance and working with DISKGROUPS.
- Querying ASM Information.
- Creating Database Files using ASM.

2. Oracle Automatic Storage Management (ASM) Mirroring Disks

- Understanding ASM Disk Redundancy (Mirroring).
- Learn about the three levels of ASM redundancy.
- How Oracle manages ASM Disk failures.
- How to replace a failed ASM disk with a new disk.
- ASM Disk Rebalancing operations.

3. Oracle 12c Real Application Clusters (RAC)

- Components of an Oracle RAC environment.
- Understand the various storage, network and hardware requirements in Oracle RAC
- Setup two Linux servers in a network before creating a 2-Node Oracle RAC database.
- Pre-requisites for Oracle RAC installations.
- Installation and configuration of Oracle Grid Infrastructure in cluster mode.
- Understand the functionality of Oracle Clusterware storage (Voting Disk, OCR Disk).

4. RAC Database connections

- Creation of an Oracle 12c Multi-tenant RAC database and instances using ASM storage.
- Differences between a RAC database and the non-RAC database (single instance).
- How to change initialization parameters for an Oracle RAC database.
- Advantages of Oracle Single client access name (SCAN) in RAC database connections.
- Understand and perform connection failovers of SCAN Listeners and Local Listeners.
- Understand database services for Oracle RAC in a multi-tenant architecture.

- Oracle Net Services configuration for a cluster database.

5. Oracle 12c RAC database backup and recovery

- How to backup Oracle RAC databases using RMAN Utility.
- Backup of Oracle RAC databases in a CDB (Multi-tenant) vs non-CDB environment.
- How to setup RMAN backup retention policies in an Oracle RAC database

6. How to perform common administration operations in RAC databases

- How to use the cluster verify utility for performing health checks in Oracle RAC.
- How to utilize Global performance views (GV\$ views) in monitoring RAC instances.
- How to terminate database sessions in Oracle RAC.
- How to clear database transactional row level locks in Oracle RAC.
- How to perform Oracle database export and import operations in cluster mode.
- Understand the new Oracle OPatchauto tool introduced in Oracle 12c.

7. Oracle 12c Data Guard

- Introduction to Oracle 12c Data Guard and its various protection modes.
- How to enable an Oracle database to belong to a Data Guard configuration.
- Understand the initialization parameter requirements of Primary and Standby databases.
- Create a physical standby database using Primary database full RMAN backup.
- How to configure a Primary database to become a future standby database.

8. Managing a Data Guard Environment

- Understand Oracle data dictionary views for monitoring Log Shipping and Log Apply.
- Introduction to Oracle Data Guard broker (DGMGRL) utility.
- Advantages of DGMGRL over the traditional sqlplus utility.
- How to create a Data Guard Broker configuration.
- How to perform a switchover operation using Data Guard Broker.