Top 20 Oracle RAC Interview Questions & Answers

1) Mention what is cluster?

A cluster is referred to a group of independent, but connected servers that behaves as a single system.

2) Mention what is Oracle Real Application Clusters?

RAC or Real Application Cluster is a component of the database product that enables the database to be installed across multiple servers. Oracle RAC uses Oracle Clusterware for the infrastructure to bind multiple servers, so they operate as a single system.

3) Mention what are the main components of an Oracle RAC system?

The main elements of an Oracle RAC system are,

- Shared disk system
- Oracle Clusterware
- Cluster Interconnects
- Oracle Kernel Components

4) Mention what are the benefits of Oracle RAC?

Benefits of RAC is that

- Business Continuity and High Availability
- Workload Management with least expense
- Agility and Scalability
- System management and Standardized deployment

5) Mention what are the file storage options provided by Oracle Database for Oracle RAC?

The file storage options provided by Oracle Database for Oracle RAC are,

- Automatic Storage Management (ASM)
- OCFS2 and Oracle Cluster File System (OCFS)
- A network file system
- Raw devices

6) Mention what is the volume management techniques used in Oracle RAC?

Volume management techniques used in Oracle RAC is that,

- Oracle RAC provides dynamic volume manager. It has a file system that consists of information of the cluster file system
- Cluster file system in Oracle is known as OCFS. It has the connection with the databases that provide raw devices and command line features.

7) Mention what is new feature in Oracle ASM 12c?

The new feature added in Oracle ASM 12c is Oracle Flex ASM. Its a new ASM deployment model which increases instance database availability and reduces the Oracle ASM related resource consumption.

8) Mention how Oracle Flex ASM works?

Oracle Flex ASM instance when fails on a particular node, then the Oracle Flex ASM instance is passed over to another node in the cluster.

9) Mention what are the key characteristics of RAC or why to use RAC?

The key characteristics of RAC are,

- **Reliability**: Eliminates the database server from a single point of failure. If an instance fails, the remaining instances in the cluster remain active and open.
- **Error Detection**: Provides fast detection of problems in the environment. It automatically recovers from failures even before user's notice that a failure has occurred.
- **Recoverability**: Easy to recover from various types of failures.
- **Continuous Operations**: provides continuous service for both unplanned and planned outages

10) Mention what is the function of Cache Fusion in Oracle RAC?

Cache function is used to show the storage of the information in the clustered network with the Oracle database. It involves two nodes, one writes the data to the same disk, and other reads the data block from the disk. For its network connection, RAC uses a dedicated server for its network, and cache function is an internal part of the cluster.

11) Mention what is the difference between single instance environment and RAC environment?

| Single Instance Environment | RAC Environment |

• Instance has its own SGA (System Global Area)	• Each instance has its own SGA
• Datafiles and control files are accessed by only one instance	• Datafiles and control files shared by all instances
• Online redo logfile dedicated for read/write to only one instance	• Online redo logfile only one instance can write, but other instances can read during recovery and archiving.
• Flash recovery log accessed by only one instance	• Flash recovery log shared by all instances
• Alert log and trace files dedicated to the instance	• Alert log and trace files are private to each instance. Other instance never write or read to those files

12) Mention what is split brain syndrome in RAC?

In Oracle RAC, all the instances/servers communicate with each other using a private network. When the instance members in a RAC fail to ping/connect to each other via this private network and continue to process data block independently. Then this process is referred as Split Brain Syndrome.

13) What happens if you keep split brain syndrome in RAC unresolved? How it can be resolved?

If you keep split brain syndrome unresolved, then there would be data integrity issue. The blocks changed in one instance will not be locked and could be over-written by another instance. It is resolved by using the voting disk, it will decide which node(s) will survive and which node(s) will be evicted.

14) Mention how can you determine what protocol is being used for Interconnect traffic?

To determine what protocol is being used for Interconnect traffic you can look at the database alert log for the time period when the database was started up.

15) Mention in RAC what files should be created on shared storage?

In RAC ControlFiles, Spfiles, Redolog files, and Datafiles should be created on shared storage.

16) Mention where does the Clusterware write when there is a network or storage issue?

When there is a network or storage issue the network ping failure is written in $CRS_HOME/log

17) Mention what are the tools provided in Oracle Enterprise Manager?

Tools provided in Oracle Enterprise Manager are,

Grid Control-

- It is used to deliver the centralized management system and provides configuration and administration capabilities.
- It provides the cost reduction plans and provides higher efficiency

Database Control-

- It is used as a graphical management tool to manage the database to make it configure automatically.

- It is related to the Oracle Clusterware. It is used to maintain the services of the Oracle RAC.
- It also manages the server pools that are being created with the Oracle Clusterware and provision to manage it from a single place.

18) Mention what is the difference between Instance recovery and Crash recovery?

A crash recovery takes place when an instance crashes in a single node database on startup. When the same recovery for an instance is performed in RAC environment by the surviving nodes then it is called Instance recovery.

19) What if your OCR (Oracle Cluster Registry) is corrupted?

if your OCR is corrupted, you can either use the logical or physical OCR backup copy to restore the repository.

20) Mention what is OLR?

ORL stands for Oracle Local Repository (OLR). It consists of information which enables the cluster programs to initiate with the OCR in the ASM Storage. Until the grid process are started, the ASM file is unavailable. In such case, a local copy of the data of the OCR is required, that is stored in OLR.

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