

Oracle Core DBA Course Content:

1.Introduction

- Types of Databases.
- Duties of a DBA, Classifications of DBA.
- Oracle Versioning and versions history
- Grid ? Advantages of Grid Computing.
- What is Instance? What is Database? What is Database Server?
- Users the DBA interacts with.
- Supported OS.
- Introduction to Linux OS.
- Linux File Layout structure.

2.Installation of Linux OS

- OS Users.
- Installation process.
- Disk layout.
- Different mount points used by oracle.
- Swap Area.
- Creation of User groups.
- Oracle needed file layout.

3.Installation of Oracle Software

- Fulfilling prerequisites for installation.
- Setting up environment.
- Installation.
- Post Installation scripts.
- Changes done to the OS files after installation is complete./etc directory, /home/oracle directory, global inventory, oracle home.

4.Database Creation

- Database files introduction.
- Table spaces and Schemas.
- Control files introduction.
- PFile Introduction, Creation and default parameters(10g/11g).
- Instance States.

- Database Creation Manually and Using DBCA.

5.Background processes and Different stages of Database

- Instance Start, Mount and Open states.
- Dynamic views related to database.
- Oracle memory layout.
- Background processes.
- Instance states more detailed.
- How to look for background processes.

6.Database objects and Tablespaces

- Introducing putty and VNC server(How it works in realtime environment).
- Sys owned objects.
- Data Dictionary.
- User Created objects.
- Sys Tablespaces.
- User Tablespaces.
- Dictionary Managed Tablespace, Locally managed tablespace.
- Bigfile tablespace.
- Managing tablespaces.
- Managing datafiles.
- Datafiles layout, Internal organization.
- Tables and Fragmentation.

7.Threads and Redo log groups

- Archive log, No Archive log.
- Threads and Groups concepts.
- Multiplexing Redo logs.
- Log switching.
- Different stages of Log files.
- Processes related to online Redo logs.
- Adding Threads, Groups.
- Dropping Threads, Groups.

8.Oracle Memory architectureDifferent components of memory(10g/11g)

- Dedicated Server and Shared Server.

- SGA and PGA, Differences between them.
- Different Stages of a query.
- Parsing: Hard parsing and Soft parsing.
- Different stages during an update statement.
- Checkpointing
- Indexes
- Different types of Indexes.
- B-Trees.
- Creation.
- Views related to indexes.
- Index reorganization.
- Statistics collection on indexes.

9.Networking and Remote ConnectionsTNS

- Listeners.
- Listener.ora file.
- Tnsnames.ora file.

10.Views and Materialized views

- Types of views.
- Creation.
- Database links.
- Materialized views.
- Refreshing materialized views.
- Processes related to materialized views.
- Problems with materialized views refresh.

11.Users, Privileges, Roles and Responsibilities

- Security and Passwords(10g/11g).
- User Creation.
- Creating Roles.
- Assigning Privileges, Roles and Responsibilities.
- Dropping users.
- Revoking privileges.
- Password file. Remote sys connect.

12.Pfile and spfile

- Types of parameters(static and dynamic).
- Managing spfile.
- Creating pfile from spfile and vice versa.
- Changing parameters dynamically.

13.Control files

- Multiplexing.
- Details stored in control files.
- Creating, Backing up and Recreating control files.
- Scenarios when a control file needs to be created.
- Changing the Instance name and Database name

14.Backups

- Types of Failures.
- Types of backups.
- Logical Backups using ImpDP, ExpDP(Data Pump).
- Transportable tablespaces.
- Physical backups.
- Cold Backups and Hot Backups.
- Generation of redo during hot backups. Fuzzy blocks.

15.Recovery

- Complete recovery using cold backups.
- Complete recovery using hot backups.
- Partial recovery using cold backups.
- Partial recovery using hot backups.
- Different scenarios in performing recoveries.
- UNNAMED datafiles during recovery.

16.Cloning Databases

- Cold cloning.
- Hot cloning.

17.RMAN(1)

- RMAN tool introduction.

- Catalog mode No-Catalog mode.
- Configurations of RMAN.
- Hot backups using RMAN.
- Backing up Databases, Archivelogs and Controlfiles.
- Channels and Multiple copies.
- Tuning RMAN backups process.
- Retention policies.
- Incremental backups, Cumulative backups.

18.RMAN(2)

- Restoration using RMAN.
- Recovery using RMAN.
- Cloning databases using RMAN.
- Migrating databases using RMAN.
- Restoration from Incremental Backups and Cumulative Backups.

19Automatic Storage Management(ASM)

- Striping and Mirroring.
- RAID concepts.
- ASM concepts and file systems.
- Background processes used by ASM.
- CSS daemon.
- Creating Disk groups and Redundancy.
- RMAN backups in ASM.
- Migrating a NON-ASM database to ASM.
- Rebalancing.
- ASMCMD command-line tool.
- md_backup and md_restore.

20.Patching and Upgrades

- Patches and Patch sets.
- Upgrading within releases.

21.Database Migrations between releases

- Migration from 10g to 11g.

22.Data Guard

- Standby databases.
- Physical Standby databases and Logical Standby databases.
- Different modes of Protection and Availability.
- Creating Standby databases.
- Managing Databases in a Data Guard Environment.
- Switchover and Failover.
- Data Guard Broker.

23.Performance Tuning

- Categories of tuning.
- Areas of tuning.
- SQL Tuning.
- Memory Tuning.
- Disk I/O tuning.
- Tools used for tuning.
- Waits and Contention.
- Latches and Spins.
- Locks and Lock Resolution.
- AWR reports, ADDM reports.
- Oracle Database Replay.

24.Oracle Enterprise Manager and Grid Control

- Maintaining everything for OEM.
- RMAN from OEM.
- Data Guard from OEM.
- AWR Reports and ADDM.
- Tuning from OEM.