Oracle Database 11gR2 Course content

No. Of Hours: 35 – 40 Hrs.

Demo-Session

- DBA Trainer Introduction.
- Students Introduction with discussion on the Expectations from the training.
- Introduction to the world of Oracle.

Prerequisites

- Unix/Linux (Oracle Enterprise Linux 6.4)
- SQL

Overview of Oracle DBA

- Oracle Database Overview.
- Introduction to DBA.
- DBA Roles & Responsibilities.

Oracle Architecture

- Instance Vs Database.
- Understanding Oracle Architectural components.
- User, Server & Background Processes
- SQL Processing Concepts.

Linux Installation, Oracle Installation & Database Creation

- Installation of Linux OEL6.4 on Oracle VM Virtual Box Manager.
- Oracle Database 11g\12c Software Installation on OEL6.4.
- Oracle Database 11g\12c Creation using DBCA (Database Configuration Assistant).
- Enterprise Manager Configurations.
- Deleting Database.
- Changing DBID, changing Database Name.

Managing an Oracle Instance

- Understanding Data Dictionary Contents.
- Initialization Parameter files.
- Managing Control files, Multiplexing & Recreating Control Files.
- Understanding and Managing Redo Log files.
- Adding and Dropping Redo Log groups and members.
- Understanding Options of Startup & Shutdown.
- Monitoring Alert Log files, Background trace files and User Trace files.

Tablespace Management

- Managing Tablespaces & Datafiles.
- Understanding Dictionary & Locally Managed Tablespaces.
- Understanding Temporary Tablespaces.
- Difference between Normal Tablespaces & Big File Tablespaces,
- Describing the relationship between data files, Tablespaces and table.
- Altering Tablespace status, size.

Storage Structures

- Using appropriate Storage settings
- Types of segments.
- Automatic segment space management, Extents and Blocks.
- Creating & Maintaining Indexes, Rebuilding Indexes.

Managing Undo Data

- Understanding undo segments.
- Automatic undo management.
- Undo Retention policy.
- Switching Undo Tablespaces.

User Management

- Creating & Managing Database Users.
- Tablespace quota.
- Managing Resources with profiles.

- Managing Privileges & Roles.

Networking Overview

- Understanding client/server Configuration.
- Oracle net Architecture & key components.
- Configuring the Listener.
- Understanding Static & Dynamic service registrations.
- Listener control utility.
- Dedicated & shared servers.
- Creating DB Links.

Datapump Backup

- EXPDP & IMPDP of tables, schemas and full databases.

Backup & Recovery Overview

Backup & Recovery issues, categories of failures, Backup & Recovery strategies

Instance & Media Recovery Structures

Understanding Background processes, Memory structures and Files related to recovery, Phases for instance recovery.

Database Utilities (Data Migration or Logical Backups) Using Export & Import, Using Data Pump, Using SQL Loader

Configuring Archive Log mode

Configuring the Database Archive Log mode, changing the Archive mode, Enabling Automatic Archiving, Manually Archiving Redo Log files.

Configuring and using Flashback Database

Using Flashback Queries

Understanding Flashback Database, Configuring Flashback Database, and Recovery using Flashback Database.

RMAN (Recovery Manager) Overview & Configuration

- Understanding RMAN, Features & Components, Repository, Configuring the environment.
- Backup & Recovery Using RMAN.
- Differential Incremental & Cumulative Incremental backups, compressed backups.

- Complete & Incomplete Recovery using RMAN.
- Recovery Scenarios

User Managed Backup & Recovery

- User managed Closed & Open Database (Cold & Hot) backups.
- Database Cloning.
- Recover data-file, tablespace and block corruption using RMAN.
- Differences between 11g & 12c RMAN features.

ASM (Basics Only):

Configuring ASM (ASM libs and raw devices)

Creating ASM Instance using DBCA

Creating ASM Instance Manually

Creating Database on ASM disk group

Managing ASM Disk Groups

Migrating Database to ASM using RMAN

Database Upgradation & Patching

- Upgrading from oracle 11g to 12c.
- Applying patches

Performance Tuning

- Gather Optimizer statistics.
- View performance metric.
- Manage the automatic workload repository (AWR)
- Using ADDM (Automatic Database Diagnostic Monitor).
- Using TKPROF, SQL trace.
- Explain Plan SQL tuning adviser.
- ASMM.

11gR2 RAC (Basics Only)

- Overview & Introduction to Clustering
- Managing RAC Database with srvctl & crsctl commands.
- Managing database services in an RAC environment
- Managing Oracle Clusterware
- Administer the Oracle Clusterware and storage products using command line utilities

Real Time Project Discussion

- Discussing ITIL Framework
- Monitoring Tools used in Projects
- Incident Management
- Change Management
- Problem Management
- How to work in real time following the process
- How to use tools like Putty, Superputty, SQL Developer, Toad, WinSCP and X-ming