



Oracle 12c DBA Course Content

Database Architecture:

- Introduction to Instance and Database
- How user connects to database
- How SQL statement process in the database
- Oracle data dictionary and its role
- Memory components and background process
- In detail SMON instance recovery
- 11g and 12c introduced features
- Alert log and trace files
- Shared server architecture
- 12c In-memory column store

Installation:

- Kernel parameters and their importance in database performance
- 11g and 12c installation using real time tools like winscp, VNC viewer and Xmanager

Managing Database files:

- Multiplexing controlfiles
- Multiplexing redolog files
- Renaming and relocating redolog files
- Enable/disable archivelog mode
- Real time issues with archive log space

Managing Tablespaces:

- Creating and managing tablespaces
- Local vs dictionary managed tablespaces
- Block space utilization parameters
- Bigfile tablespace
- 12c Online datafile movement
- Temporary tablespace group
- Handling temp tablespace issues in real time
- Capacity planning
- Undo tablespace management
- ORA-1555 cause and solution
- 12c temporary UNDO

User and Profile Management:

- Creating and managing users
- Importance of security and its management through password management and privileges
- Resource utilization control

Auditing:

- Importance of Auditing
- Enable/disable different levels of auditing

Networking with Oracle Database:

- Configuring listener.ora, tnsnames.ora and sqlnet.ora
- Real time issues in user connectivity
- Database links, materialized views and their role in distributed database management



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Utilities:

- Export/import, Datapump
- How to handle real time refresh activities
- 12c datapump new features

Backup & Recovery:

- User managed backup and recoveries
- RMAN backup and recoveries
- Recovery catalog
- RMAN incremental backups
- Tuning RMAN backup performance
- 12c single table restore using RMAN
- Tablespace point-in-time recovery
- Block media recovery using RMAN backup

Performance Tuning:

- Phases of tuning
- Gather statistics - 12c incremental statistics/concurrent stats gathering/online stats
- How to analyze if SQL query running slow, Job running slow and database running slow
- Preparing newly created database to avoid performance issues
- Analyzing AWR, ADDM and ASH reports - 12c real time ADDM, ADDM compare
- Wait events
- Multiple indexes on single column
- Partition tables
- 12c online migration of table partition and sub partition
- Invisible columns

Flashback Database:

- Flashback table
- Flashback database

High Availability:

- Dataguard architecture and modes of working
- Configuring physical standby database
- Configuring active dataguard
- Setup dataguard broker and observer
- Changing protection modes, switchover and failover
- Flashback of failed primary database to standby
- Snapshot standby and 12c far sync instance standby
- Archive gap resolution between primary and standby
- Recovering primary database using standby
- Tuning physical standby database performance

ASM:

- What is ASM and its benefits
- Implementing 12c ASM for oracle database
- Real time issues with ASM

Enterprise Manager:

- Enterprise Manager cloud control configuration
- Adding targets and installing EM agent
- Configuring alerts etc

Patching, Cloning & Upgrade:

- Oracle Home and Database cloning
- 11g active database cloning
- Applying PSU on the database
- Applying patch set on the database
- Upgrading lower versions to 12cR1, 12cR2
- Applying PSU to standby database
- Upgrading physical standby database
- Applying PSU to grid home

12c Multitenant database:

- 12c Multitenant architecture - Container Database (CDB) and Pluggable Database (PDB)
- Creating and managing multitenant database
- Performing regular DBA activities on multitenant database
- Patching, Upgrading, Cloning and standby configuration on PDB

Misc Topics:

- Advanced Index compression
- Automatic big table caching
- In-memory database
- In-Database archiving
- Smart flash cache
- Database migration assistant for Unicode (DMU)
- ITIL process to know work culture in MNCs
- Levels of DBA support