



ORACLE CORE DBA 12C CURRICULAM

Overview

This practical Oracle 12c course is designed to provide database administrators practical experience in administering, monitoring, tuning and troubleshooting. You will gain an understanding of the architecture and processes of the Oracle database server and will be able to ensure the integrity and availability of a company's data within the Oracle environment. The course also covers monitoring the performance of the database, how to use the Resource Manager to allocate resources and Schedule jobs.

INTRODUCTION TO ORACLE DATABASE 12C

- Overview of the Oracle Database 12c and the Oracle Cloud
- Relational database concepts
- Database administration tasks

ARCHITECTURE

- Overview of the Oracle database architecture
- The Oracle database instance
- Oracle Database memory structures
- Process architecture and structures
- Server and client processes
- The Oracle database storage architecture
- Connect to the Oracle database instance

Basics of Multitenant Container Database (CDB)

- Benefits of the multitenant architecture
- Differences between the root container and pluggable database containers Structure of the root
- Structure of Pluggable Database (PDB)
- CDB_XXX and DBA_XXX views

Configuring and Creating CDB and PDBs

- Tools: DBCA and SQL*Plus
- Configuration and creation of CDB
- Exploring the Structure (CDB_XXX views and EM)
- Tools used: SQL Developer, DBCA and SQL*Plus and EM Database Express
- Create a new PDB from PDB\$SEED
- Create a PDB from a non-CDB
- Clone a PDB into the same CDB or into another CDB using DB links Plug in an unplugged PDB

Managing CDB and PDBs

- Connect to CDB as administrator
- Connect to a PDB using a service name
- Start up a CDB
- Open / Close a PDB
- Open / Close all PDBs
- Shut down a CDB
- Preserve or discard the PDBs open mode when the CDB restarts
- Change PDB state

ADMINISTER A DATABASE INSTANCE

- Administrative tools available to a DBA
- Use SQL*Plus in Oracle to manage a Database instance
- Use SQL Developer to manage a Database instance
- Administer the database using Enterprise Manager (EM)
- Overview of the Enterprise Manager framework
- Access Enterprise Manager Database Express
- The Enterprise Manager Database Express Home Page
- Initialization parameter files



CONFIGURE THE NETWORK ENVIRONMENT

- Overview of network configuration
- Oracle Net Listener configuration and Management
- Oracle Net naming methods
- Tools for configuring and managing the Oracle network
- Using the Net Configuration Assistant
- Configure client connections with Net Manager
- View listener configuration
- Start and stop the Oracle listener
- Use TNSPING to test Oracle Net connectivity
- Connect to the database
- Configure Net Services with Enterprise Manager

STORAGE STRUCTURES

- Overview of data storage
- The database block
- Overview of tablespaces and datafiles
- Use Enterprise Manager to view the Storage structure Of the database
- Create and alter tablespace commands
- Temporary tablespaces
- Create and manage datafiles
- Use OMF
- Drop tablespaces and datafiles

MANAGE USERS

- Predefined database administration
- Accounts
- User accounts



- Create a user account
- User authentication
- Change a user's password
- Manage a user account
- Drop a user account
- Monitor user information
- Terminate user sessions

MANAGE PROFILES AND RESOURCES

- Overview of user profiles
- Profile resource parameters
- Create profile command
- Manage passwords with profiles
- Control resource usage with profiles
- Maintain profiles

MANAGE PRIVILEGES

- Database access
- Oracle supplied roles
- System and object level privileges
- The grant and revoke commands
- Create, modify and drop roles
- Use predefined roles

DATABASE AUDITING

- Overview of database security
- Overview of database auditing
- Security compliance
- Standard auditing
- Unified audit trail
- Separation of audit responsibilities with the

DATA CONCURRENCY AND LOCK CONFLICTS

- Levels of locking in Oracle
- Methods used to acquire locks
- Data concurrency
- Possible causes of contention
- DML locks
- Prevent locking problems
- Detect lock contention
- Resolve conflicts

UNDO MANAGEMENT

- Undo data overview
- Monitor and administer undo
- Configure undo retention
- Switch undo tablespaces
- Specify the retention period
- Guarantee undo retention
- Retention period for flashback queries
- View undo space information
- Use the undo advisor
- Size the undo tablespace
- Alter an undo tablespace to a fixed size

PROACTIVE DATABASE MAINTENANCE

- Database Maintenance
- View the alert log
- The Automatic Workload
- Repository
- Statistic levels
- The Automatic Database Diagnostic Monitoring
- Monitor an Oracle database
- Use the Advisors

PERFORMANCE MANAGEMENT

- Tuning information sources
- Performance monitoring
- Tuning activities
- Performance planning
- Instance tuning
- Performance tuning methodology
- Performance tuning data
- Monitoring performance
- Managing memory

MOVING DATA

- Create directory objects
- Data Pump architecture
- Data Pump data dictionary views
- Use Data Pump to export data
- Use Data Pump to import data
- Overview of SQL Loader
- Command line parameters

RESOURCE MANAGER

- Overview of the Database
- Resource Manager
- Use the Resource Manager
- Create Resource Plans
- The default maintenance resource manager plan
- Create Resource Plan Directives
- Allocate resources for Resource Plans

MANAGE SPACE

- Overview of space management
- Block space management within segments
- Segment types
- Allocate extents
- Allocate space
- Row chaining and migration
- Create tables without segments

ORACLE SUPPORT

- The Enterprise Manager Support Workbench
- Register for security updates
- work with Oracle Support
- My Oracle Support integration
- Log Service Requests
- Manage patches