

Dear Student,

Based upon your enquiry we are pleased to send you the course curriculum for Oracle DBA 11g

SQL (Structured Query Language)

Software Installation (Environment Setup for Oracle on Window10)

- Network Adopter (Microsoft Loopback)
- Oracle11g on Window10
- Java SDK
- SQL Developer

Database Concepts

- Database
- Schema
- Instance
- DBMS/RDBMS
- Transaction
- Table

Introduction of SQL

- Sub-Language
- DDL
- DML
- DCL
- TCL
- DQL

Data Definition Language (DDL)

- CREATE a Table
- Alter a Table
- Rename a Table
- Drop a Table
- Truncate a Table

Data Manipulation Language (DML)

- INSERT data into a Table
- DELETE data from Table
- UPDATE data from Table
- Difference between DELETE & TRUNCATE
- Difference between DELETE & DROP

Data Control Language (DCL)

- Types of Privileges
 - System Privileges
 - Object Privileges
- GRANT Privileges
- REVOKE Privileges

Transaction Control Language (TCL)

- COMMIT
- ROLLBACK
- SAVEPOINT

Data Query Language (DQL):-

- **SELECT data from table**
 - a) All columns with all rows
 - b) All columns with selected rows
 - c) Selected columns with all rows
 - d) Selected columns with selected rows
- **Filtering Data**
 - 1) WHERE Command
 - a) Comparison Operators (>,>=,<,<=,=)
 - b) Logical Operators (AND, OR & NOT)
 - c) Special Operator (BETWEEN,IN,LIKE,ANY,ALL,EXISTS)
 - d) Working with NULL values (IS NULL & IS NOT NULL)
 - e) Arithmetic operators (+,-,*,/)

- 2) sorting data ORDER BY clause
- 3) Distinct Clause
- 4) NULL values treatment with Sorting Data

SET Operators

- UNION
- UNION ALL
- INTERSECT
- MINUS

Group the data

- Aggregate/Summary Functions (MIN,MAX,AVG,COUNT)
- GROUP BY clause
- GROUP BY with multiple columns
- GROUP BY with HAVING clause
- GROUP By with ROLLUP & CUBE Function

JOINS

- Cross Join
- Inner Join
- Natural Join
- Outer Join
 - a) Left Outer Join
 - b) Right Outer Join
 - c) Full Outer Join
- Other Types :-
 - 1) Equi Join
 - 2) Non-Equi JOIN
 - 3) Self Join

Functions

- NUMBER functions
(SQRT,POWER,TRUNC,ROUND,MOD,CEIL,FLOOR,GREATEST,LEAST)
- STRING functions
(UPPER,LOWER,INITCAP,LENGTH,SUBSTR,INSTR,LPAD,RPAD, LTRIM,RTRIM,TRIM,REPLACE,TRANSLATE,CONCAT,REVERSE)
- DATE functions
(SYSDATE,LAST_DAY,NEXT_DAY,ADD_MONTHS,MONTHS_BETWEEN,TRUNC,ROUND)
- Conversion functions (TO_CHAR,TO_DATE,TO_NUMBER)
- Special Function (CASE,DECODE ,TIMESTAMP_TO_SCN,SCN_TO_TIMESTAMP)
- Functions for NULL values (NVL,NVL2,NULLIF,COALESCE)

Analytical Function

- Ranking Function (ROW_NUMBER,RANK,DENSE_RANK)
- Aggregate Function (MAX,MIN,AVG,COUNT)
- Row Comparison Function (LAG,LEAD)
- Order by Clause
- Partition by Clause
- Windowing Clause

Alternative Name (ALIAS name)

- Column Alias
- Table Alias

PSEUDO Columns

- ROWNUM
- ROWID
- CURRVAL
- NEXTVAL
- LEVEL

Constraints

- Introduction of constraints
- Type of constraints
 - a) Primary Key
 - b) Unique Key
 - c) Not Null
 - d) Check Constraint
 - e) Foreign Key
- Difference between Primary Key & Unique Key
- Difference between Primary Key & Foreign Key
- Column level & Table level Constraints
- Composite Constraints
- Implementation of Constraint
 - a) by CREATE TABLE command
 - b) by ALTER TABLE command
- Enable/Disable Constraints

VIEWS

- Purpose of View
- Modify an existing view
- CREATE a View
- Types of View (Read Only, Updateable, Complex, Force)
- DML operation through View

SEQUENCE (Number series Generator)

- CREATE a Sequence
- ALTER a Sequence
- DROP a Sequence
- SELECT value from Sequence (currval & nextval PSEUDO Columns)

SYNONYMS (Alternative Name of Database Object)

- TYPE of SYNONYMS
- CREATE a SYNONYMS (PUBLIC & PRIVATE)
- DROP a SYNONYMS

SUB Query

- Introduction of SUB Query
- Sub queries on multiple columns
 - a) Pairwise Comparison
 - b) Non-Pairwise Comparison
- Sub query in FROM clause (Inline View)
- Sub query in WITH clause
- Scalar Sub queries
- Correlated SUB Query

Index

- Introduction of Index
- Type of Index (B-TREE & BITMAP)
- CREATE INDEX
- DROP INDEX
- RENAME INDEX
- Unique Index
- Function Based Index
- Local Partitioned Index
- Global Partitioned Index

SQL*LOADER

Query building Process

- Gather the Business Requirement
- Select all the columns needed
- add the necessary Filters
- perform the Grouping
- perform Filtering at Group level
- Sort the data

Oracle Database 11g: Administration

ORACLE Architecture

➤ System Global Area (Memory Architecture)

✓ Shared Pool

- Data Dictionary Cache
- Library Cache
- Result Cache
- User Global Area

✓ Large Pool

✓ Java Pool

✓ DB Buffer Cache

✓ Log Buffer Cache

✓ Stream Pool

✓ Background processes

(SMON, PMON, MMON, DBWR, LGWR, CKPT, ARCH)

➤ File Architecture

✓ Parameter File (Pfile & Spfile)

✓ Control File

✓ Redo Log File

✓ Data File

✓ Archive File

✓ Password File

Installation on Linux

- Through GUI
- Software through GUI and DBCA for DB Creation
- Software through GUI and Create Database for DB Creation

- Silent Installation (Through Response File)

Startup & Shutdown Database

- Startup nomount
- Startup mount
- Startup open/startup
- Shutdown immediate
- Shutdown abort
- Shutdown transactional

Database Stages & their uses and change one stage to another

- Nomount
- Mount
- Open

Listener Command

lsnrctl start/stop/status

Enable & Disable Archivelog Mode

Enable & Disable Flashback Mode

Tablespace Management (Create,Alter,drop)

- Temporary Tablespace
- Undo Tablespace
- Permanent Tablespace

User/Role/Profile Management(Create,Alter,drop)

Backup & Recovery

- a) Imp/Exp
- b) Datapump (Impdp/Expdp)
- c) RMAN
 - 1) RMAN catalog creation and database registration on catalog
 - 2) RMAN commands
 - 3) RMAN Scripts and their execution & scheduling (cronjob)

Cloning/Refresh of Database

- a) With RMAN
- b) Without RMAN

Flashback

- a) Flashback Query
- b) Flashback Version Query
- c) Flashback Transaction Query
- d) Flashback table
- e) Flashback Database
- f) Flashback Query Functions

Patching

- Types of Patch
- Opatch Utility

Auditing

Performance Tunning

- a) AWR report
- b) ASH report
- c) Explain Plan with SQL Trace
- d) Tkprof Utility
- e) Hints

- f) Analyze table/index/schema
- g) SQL Tuning Advisor

Index Management

Partition Management

Types of Partitions
Create Partition Table
Partition Table Operation
(ADD, DROP, MERGE, TRUNCATE, SPLIT, EXCHANGE, MOVE)

ASM (Automatic Storage Management) setup with grid

Datagaurd Setup

Database Upgrade

- a) By DBUA
- b) Without DBUA

Data Dictionaries

- **Dynamic Performance Views**
V\$SQL, V\$SESSION, V\$LOCK, V\$SYSSTAT, V\$DATABASE, V\$DATAFILE

Linux Basics

- Grep
- Find
- Awk
- Sed
- Regular expression



ORACLE

Trainer Profile (Mr. Ratnesh Gupta)

(Oracle Database Administration, Working in MNC)

- **10+ Years total Experience** as an Oracle DBA.
- Having Good Experience in **Oracle DBA, Oracle SQL, PL/SQL, OCA and OCP.**
- Involved in Corporate Training from last 6 Years

Duration: - 4 Months