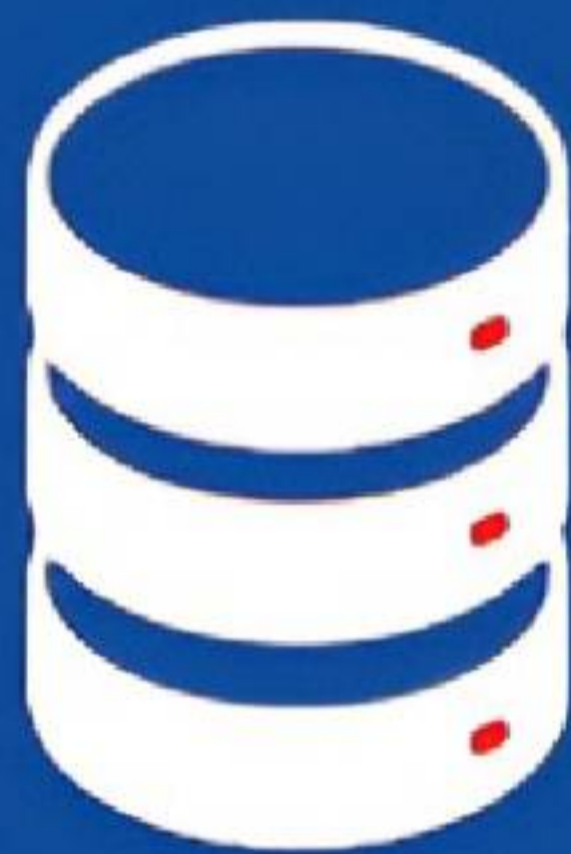


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ORACLE



SQL

PL/SQL

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RDMS Using Oracle

Duration :1Month

Introduction to DBMS

- DBMS, Data, Information, Database

Data models

- FMS / HDBMS / NDBMS
- RDBMS / ORDBMS
- E-R Diagram, Normalization
- Codd Rules
- RDBMS Packages
- Versions

SQL (Structured Query Language)

- SQL and SQL*Plus Commands
- Types of commands in SQL
- How to login into SQL
- HR user, locking & unlocking user

Retrieving data

- Select statement usage
- Alias names - columns & expressions
- Applying filters using operators
- Operators - Relational/ Logical /Special
- Distinct clause, Order by clause
- Sorting NULL values

Working with tables

- Datatypes in Oracle
- Naming conventions
- Rules - tables/columns
- Creating Tables in different methods

DML operations

- Insert data in different methods
- Update / Delete data

DDL commands

- Alter / Truncate / Rename / Drop table
- Recyclebin concept
- Flashback / Purge

Table Constraints

- Data Integrity and importance
- Not Null/Unique/Primary Key/Check
- References/Foreign Key
- Add/enable/disable/drop constraints
- Composite primary key/unique key
- About 'User_constraints' table

TCL commands (Transaction Handling)

- About login session
- Redo log files
- Commit / Rollback / Savepoint
- Working with multiple savepoints

DCL Commands

- User management
- SYSTEM user
- Create user
- Grant basic privileges
- Change password
- Lock/unlock user
- Grant/Revoke a user as DBA
- Data sharing between users
- Grant and Revoke commands
- Accessing another user data
- Dead lock situations
- 'User_tab_privs_made'
- 'User_tab_privs_rec'd'

Database functions

- Group / Row / Numeric / String
- Conversion functions
- Dates & date formats
- Date functions
- Misc. functions
- Pseudo columns

Data grouping

- Group by clause
- Having clause
- 'where' versus 'having' clause
- Using expressions in group by

Set operators

- Union/ Intersect/ Minus/ Union All

Subqueries

- Simple subquery
- Multiple row subquery
- Nested subquery
- Co-related subquery

Joins tables

- Simple join (equi and non-equi)
- Self/ inner / Outer join
(Left/Right/Full)
- Cartesian/Cross join
- ANSI Standard of joins

Oracle Database objects

- Synonyms
- Views
- Sequences
- Indexes



PLSQL

PL/SQL Architecture

- PL/SQL engine
- Structure of a PL/SQL program
- Different section of a program
- Datatypes in PL/SQL
- Operators • I/O operations
- Write expressions
- Simple program
- Extracting data from tables

Control statements

- Using simple If-Then-Else
- Using Nested If-Then-Else
- Compound conditions (and/or/not)
- Case - End Case
- Loops - While/ Simple
- Loops - For/ ForALL

Exception Handling

- Introduction
- Types of Exceptions
- Runtime errors vs Exceptions
- System defined exceptions
- User defined exceptions
- Using multiple exceptions
- Raise_Application_Error()

Cursor management

- Cursor types
- Implicit cursor
- Explicit cursor
- Cursor attributes
- Declaring, opening, closing
- Fetching cursor
- Checking End of cursor
- Parameterized cursor
- For loops in cursor processing
- DML operations using cursors
- Cursor using joins

SUB PROGRAMS

- Need of sub programs
- How are they database objects
- Types of sub programs

Stored Procedures

- Creating a simple procedure
- Compiling, verifying errors
- SQL prompt
- Executing SQL prompt
- Calling procedure in another PL/SQL program
- Procedure including DML operations
- Procedures with parameters
- Types of parameters
 - IN, OUT & IN OUT
- Cursors in a procedure
- Dropping a procedure

User defined Functions

- Writing a user's function
- About 'Return' statement
- Compiling, verifying errors
- Executing from SQL prompt
- Functions with parameters
 - IN, OUT & IN OUT
- Dropping a function

Packages

- Create package specification
- Create package body
- Calling the elements of a package
- Adv of package over procedure
- Adv of package over function
- Implementing Polymorphism
- Function overloading
- Procedure overloading

Database Triggers

- Types of triggers
- Creating before/after triggers
- :OLD, :NEW reference for data references
- DML operations using triggers
- 'Instead of' triggers
- Triggers Vs constraints
- Transaction auditing using triggers

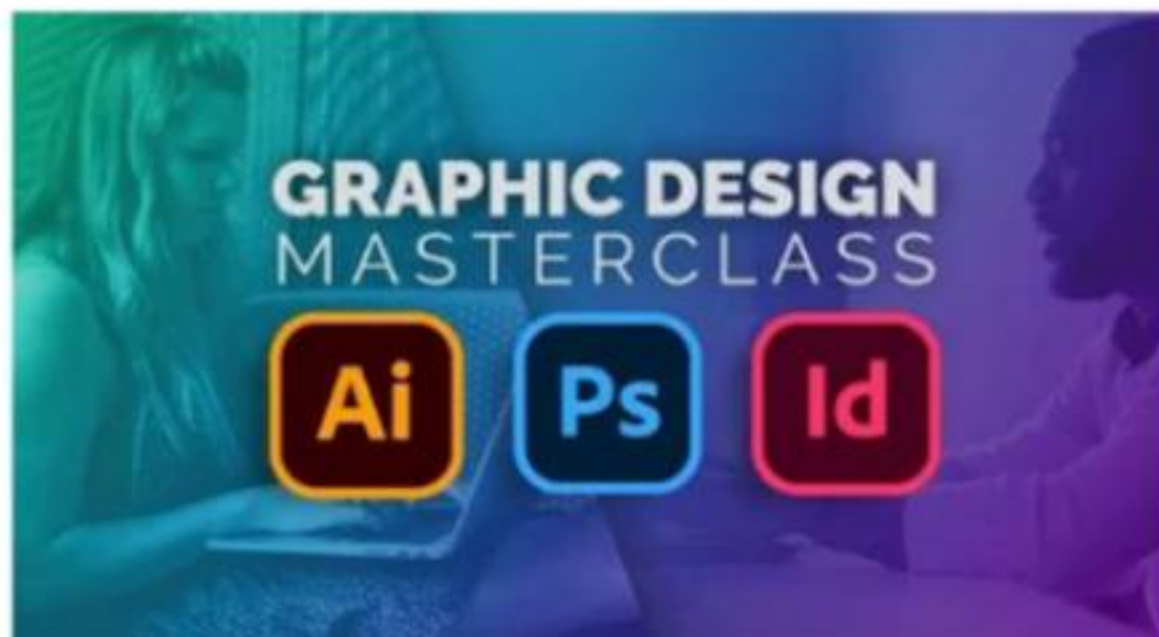




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DATA SCIENCE



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