



# Oracle

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**LIT**

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## Oracle Training

- Medias to maintain data base
- Types of DBMS
- Introducing to SQL Language.
- Functions.
- Data Selection.
- Joins and Nested Queries.
- working with constraints
- Views.
- Indexes.
- Types
- PL/SQL
- Control structure in PL/SQL
- Cursor
- Procedure
- functions
- Package
- Triggers
- Working with Exception Handling
- Working with flashback
- Storage of Multimedia information.
- Overview of DBA

## **2. Introduction**

- Oracle 11g
- Oracle 11g Application Server
- Oracle database
- Relational and Object Relational Database
- Management system
- Oracle internet platform
- System Development Life cycle

## **3. Writing basic SQL SELECT statements**

- Capabilities of SQL select statements
- Basic select statement
- Selecting all column
- Selecting specific columns
- Writing SQL statements
- Column heading Defaults
- Arithmetic expressions
- Using Arithmetic Operator
- Operator precedence
- Overview of ISQL\*PLUS
- The ISQL\*PLUS environment
- Displaying the table structure
- Interacting with script files

## **4. Restricting and sorting Data**

- Limiting Row using a selection
- Using where clause
- Character strings and dates
- Using the LIKE condition
- Using NULL condition
- Logical conditions
- Using AND operator
- Using OR operator
- Using NOT operator
- Rules of precedence
- ORDER BY Clause
- Sorting in Descending order

## **5. Single-row function**

- Single-Row functions
- Character functions
- Using case Manipulation functions
- Character-Manipulation functions
- Number function
- Working with dates
- Conversion functions
- Implicit Data Type Conversion
- Explicit Data Type conversion
- Using the NVL function
- Using the NVL2 function
- Using the NULLIF function
- Using the COLAESCE function
- Conditional Expression
- Using the CASE Expressions
- Using the DECODE Functions

## **6. Displaying Data from Multiple Tables**

- Obtaining data from multiple tables
- Generating a Cartesian product
- Types of joins
- Joining tables using Oracle Syntax
- What is Equijoin?
- Retrieving records with Equijoins
- Joining more than two tables
- Non-Equijoins
- Retrieving records with Non-Equijoin
- Using outer joins
- Self joins

## **7. Aggregating Data using Group functions**

- Types of Group functions
- Using the AVG and SUM functions
- Using the MIN and MAX functions
- Using the COUNT functions
- Using the DISTINCT keyword

Using NVL function with Group functions  
Creating groups of Data: The Group by Clause  
Syntax  
Grouping by more than one column

## **8. Sub-queries**

Sub-query syntax  
Guidelines for using sub-queries  
Types of sub-queries  
Single row sub-queries  
Executing single row sub-queries  
Using group functions in sub-queries  
The HAVING clause with sub-queries  
Using ANY operator in multi row sub queries

## **9. Producing Readable Output with ISQL\*PLUS**

Using the command substitution variable  
Character and data values with substitutions variables  
Defining substitutions variable  
DEFINE AND UNDEFINE command  
Using DEFINE command with substitutions variable  
Using the && substitutions variable  
Using the VERIFY command  
Customizing the ISQL\*PLUS Environment  
Set command variables  
COLUMN Format Models  
Using the BREAK command  
Using the TTITLE and BTITLE commands  
Creating a script file to run a report

## **10. Manipulating Data**

Data manipulation language  
Adding a New row to a table  
The INSERT statement syntax  
Inserting new rows  
Inserting Rows with Null values  
Inserting special values  
Inserting specific Data values  
Using the WITH CHECK OPTION keyword on DML statements  
Using Explicit Default values  
The MERGE statements syntax  
Merging rows  
Database transactions  
Advantages of COMMIT and ROLLBACK statements  
Controlling Transactions  
Rolling back to changes to a marker  
Locking  
Implicit Locking

## **11. Creating and Managing tables**

Database Objects  
Naming Rules  
The CREATE TABLE statement  
Referencing another user's tables  
The DEFAULT option  
Creating Tables  
Tables in Oracle database  
Querying the Data Dictionary  
Date Time Data Types  
The ALTER TABLE statement  
Adding a column  
Dropping a column  
The SET UNUSED option  
Dropping a Table  
Changing the name of an Objects  
Truncating a Table  
Adding comments to a table

## 12. Including Constraint

- Define Constraints
- The NOT NULL constraint
- The UNIQUE constraint
- The PRIMARY KEY constraint
- The FOREIGN KEY constraint
- The CHECK constraint
- Adding a constraint
- Dropping a constraint
- Disabling constraints
- Cascading constraints
- Viewing constraints
- Viewing the columns Associated with constraints

## 13. Creating Views

- What is view?
- Simple views and complex views
- Creating a view
- Retrieving Data from a view
- Querying a view
- Modifying a view
- Creating a complex view
- Rules for performing DML operation on a view
- Using the WITH CHECK OPTION clause
- Denying DML operations
- Removing a view
- Inline Views
- Top-N Analysis
- Performing Top-N Analysis

## 14. Other Database Objects

- What is a sequence?
- Creating sequence
- Confirmation sequences
- Guidelines for modifying a sequence
- Removing a sequence
- What is and index

- Create an Index
- When to create Index
- When not to create Index
- Confirming indexes
- Synonyms
- Creating and removing synonyms

## 15. Controlling User Access

- Controlling user access
- System privileges
- Creating users
- User system privileges
- Granting system privileges
- What is role?
- Creating and granting privileges to Role
- Changing your password
- Object privileges
- Granting object privileges
- Using the WITH GRANT OPTION and PUBLIC
- Keywords

## 16. Using SET operator

- The SET operator
- Table used in this Lesson
- The UNION operator
- The UNION ALL operator
- The INTERSECT operator
- The MINUS operator
- The Oracle server and SET operators
- Matching the SELECT statements
- E Controlling the order of rows

## 17. Oracle 11g Date time functions

## 18. Enhancements to the GROUP BY clause

- Review of Group functions
- Review of GROUP BY clause
- Review the HAVING clause
- GROUP BY with ROLLUP
- AND CUBE Operators
- CUBE Operators
- Grouping functions
- Grouping SETS
- Composite columns: example
- Concatenated Grouping Example

## 19. Oracle 11g Extensions to DML and DDL Statements

### 20. Joins and Nested Queries.

- Natural Join/Equijoin
- Non-Equijoin
- Left Outer Join.
- Right Outer Join.
- Full Outer Join.
- Inner Join/Self Joins.

# COURSE CONTENTS OF PL/SQL

## Operators in PL/SQL

### 1. Declaring variables

- PL/SQL Block structure
- Handling variables in PL/SQL
- Using iSQL\*PLUS variables within PL/SQL Blocks
- Declaring PL/SQL variables
- Guidelines for declaring PL/SQL variables
- Naming Rules
- Variable initialization and keywords
- Scalar data types
- Base scalar data types
- Declaring Boolean variables
- Composite data types
- LOB data type variables
- Referencing Non-PL/SQL variables
- DBMS\_OUTPUT.PUT\_LINE

### 2. Writing Executable statements

- PL/SQL Block syntax and guidelines
- Identifiers
- Commenting Code
- SQL Function in PL/SQL
- Nested Blocks and variable scope

### 3. Interacting with the Oracle Server

- SELECT statements in PL/SQL
- Retrieving data in PL/SQL
- Naming conventions
- Manipulating data using PL/SQL
- Inserting Data
- Updating Data
- Deleting Data
- Merging Rows
- SQL cursor attributes
- Transaction control statements

### 4. Writing control structure

- Controlling PL/SQL flow of execution
- Simple IF statements
- Compound IF statements
- IF-THEN-ELSE statement
- IF-THEN-ELSEIF statement
- CASE Expressions
- Handling Nulls
- Logic Tables
- Boolean Conditions

WHILE Loops  
FOR loops  
Nested Loops and Labels

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RAISE\_APPLICATION\_ERROR  
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## **5. Working with composite Data Types**

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Creating a PL/SQL record  
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## **6. Writing Explicit Cursors**

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Fetching the cursor  
Closing the cursor  
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Controlling multiple fetches  
The %NOTFOUND and  
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## **7. Advanced Explicit cursor concepts**

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The FOR UPDATE clause  
The WHERE CURRENT of clause  
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## **8. Handling Exceptions**

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Trapping Exception guidelines  
Trapping predefined Oracle server  
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## **9. Creating Procedure**

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Benefits of sub programs  
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Invoking stored procedures and  
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## **10. Creating Functions**

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## **11. Managing sub programs**

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## **14. Manipulating large objects**

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## **15. Procedure of creation a New Database in ORACLE Environment.**

## **16. Working with flashback**

## **17. Creating Database Triggers**

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## **18. Database Backups and Recovery.**

Transactions and the Transaction Log.  
Backup Strategies.  
Full Backup.  
Differential Backup.  
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## **19. Storage of Multimedia information.**

## **20. Overview of DBA**