



## Procedural Language/ Structured Query Language PL/SQL

### Introduction to PL/SQL

- Understanding the benefits and structure of PL/SQL
- Understanding PL/SQL Blocks
- Generating output messages in PL/SQL

### PL/SQL Basics

- Writing Anonymous PLSQL block
- Identifying the benefits of using the %TYPE, %ROWTYPE attribute
- Variables
- Various Data types
- Bind variables
- PLSQL operators
- Nested blocks
- Implicit data conversion
- SELECT INTO statement
- DBMS\_OUTPUT.PUT\_LINE
- Nested blocks and Variable Scopes

### Using SQL Statements within a PL/SQL Block

- Using SQL Statements in PL/SQL
- Retrieving Data in PL/SQL with the SELECT statement
- Using Naming Conventions in DML Statements and data retrieval
- Manipulating Data on the Server Using PL/SQL
- SQL Cursors
- Using SQL Cursor Attributes to Obtain Feedback on DML
- Saving and Discarding Transactions



## Working with Composite Data Types

- SQL Cursors
- Composite Data Types of PL/SQL Records and Tables
- Using PL/SQL Records
- Inserting and Updating PL/SQL Records
- Using INDEX BY Tables
- Using Associative arrays
- Declaring and Using VArrays
- Using %ROWTYPE
- PLSQL Records
- PLSQL Table of Records
- INDEX BY Table
- INDEX BY Table of Records

## Explicit Cursors and Implicit Cursors

- What is a cursor?
- Implicit and explicit cursors
- Creating cursors
- Using cursors in procedures
- OPEN..FETCH CLOSE construct
- The %NOTFOUND operator
- FOR UPDATE cursors

## Exceptions and Exception Handling

- What are Exceptions
- Need for handling exceptions
- Predefined exceptions



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- User defined exceptions
- Non predefined exceptions
- Raising Exceptions
- Trapping Exceptions
- Exception propagation in nested calls
- The SQLCODE and SQLERRM in-built PL/SQL functions
- DBMS\_UTILITY Package for debugging PL/SQL code

## Creating Functions

- Overview of Functions
- Differentiating between anonymous blocks and subprograms
- Syntax of CREATE FUNCTION
- Benefits of user defined functions
- Executing user defined functions
- Restrictions on function calls
- Creating Functions
- Nested Functions
- Overloading Functions
- Nesting Functions and Procedures
- Functions in Select and DML Queries
- Dropping functions
- Exceptions and Exception handling

## Creating Procedures

- What are Procedures?
- Need for Procedures
- Syntax of CREATE PROCEDURE



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- Parameter dispositions
- Formal Vs Actual Parameters
- Parameter passing methods
- Executing procedures
- Overloading Procedures
- Exceptions in procedures

## Creating Triggers

- Syntax of Create Trigger
- Need for Trigger
- Trigger Basics
- Trigger Types
- Database Triggers
- DML Triggers Overview
- Statement Triggers
- Row Level Triggers
- INSTEAD OF Trigger
- SECURITY Triggers
- Trigger Management
- Oracle Internal Tables for Trigger Management

## Creating Packages

- What are packages?
- Need for packages
- Package Specification
- Package Body
- Private and Public components
- Calling package functions, procedures



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- Referencing package constants and variables
- Overloading package subprograms
- Forward declaration of subprograms

## Oracle Supplied Packages

- DBMS\_SQL
- DBMS\_OUTPUT
- DBMS\_SCHEDULER
- UTL\_FILE
- Creating and Managing Server Jobs
- Exporting data in files
- DBMS\_METADATA
- EXECUTE IMMEDIATE statement

**For Any Clarification please feel free to contact @ +91 9867328291.**

Cheers,

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