

Course 263:

Oracle PL/SQL Programming

(5 days)

Course Description...

Create database level applications. This class is applicable to Oracle9i, Oracle Database 10g, and Oracle Database 11g users. Participants will code procedural constructs including control statements, loops and cursors, create PL/SQL object constructs such as stored database procedures, functions, packages, and database triggers. Participants will develop techniques to enforce business rules within the database and perform value based auditing. Exercises and lab sessions reinforce the learning objectives and provide participants the opportunity to gain practical hands-on experience.

You Learn to...

- Develop Procedural Applications
- Define Variables and Pass Values Between Applications
- Debug PL/SQL Code
- Develop Server Level Applications
- Create and Execute Database Procedures
- Create and Execute Database Functions
- Create and Execute Database Packages
- Pass Values Between Applications
- Compile Applications
- Debug Applications
- Manage Application Dependencies
- Create and Implicitly Execute Database Triggers
- Create Reusable Object Types
- Manipulate Large Object Types

Who should attend...

- Data Analysts
- Data Administrators
- System Administrators
- Developers
- Support Staff

Prerequisites...

You must have knowledge of SQL.

See next page for a detailed course outline...



Course Outline...

Introduction and Overview

Course Objectives

1. PL/SQL Overview

- What is PL/SQL?
- PL/SQL Block Structure
- Benefits of PL/SQL
- Declaration Section
- Executable Section
- Exception Section

2. Declare and Manage Variables

- Declare Variables
- Variable Data Types
- %TYPE
- %ROWTYPE
- Declare a PL/SQL Table
- Declare a PL/SQL Record
- Variable Assignments
- PL/SQL Coding Rules

3. Create PL/SQL Transactions

- SELECT INTO Command
- SELECT INTO Errors
- INSERT Command
- UPDATE Command
- DELETE Command
- Display Messages
- DBMS_OUTPUT.PUT_LINE
- SQL CURSOR Attributes

4. If Statements and Loops

- IF Command
- IF-THEN-ELSE Command
- Combine Conditions
- NULL Conditions
- LOOP Command
- Basic Loop
- WHILE Loop
- FOR Loop
- LABEL Command

5. Process Errors

- Exception Types
- Pre-defined Exceptions
- Non Pre-defined Exceptions



- User Defined Exceptions
- RAISE_APPLICATION_ERROR

6. PL/SQL Cursors

- Cursor Processing Statements
- DECLARE the Cursor
- OPEN the Cursor
- FETCH from the Cursor
- CLOSE the Cursor
- PL/SQL Explicit Cursor Attributes
- Cursor FOR Loop
- Open Cursors using Parameters
- Applying the WHERE CURRENT OF Clause

7. PL/SQL Review

- PL/SQL Objects
- Anonymous Blocks
- Subprogram Development Tools

8. Creating Procedures

- Procedure Development Steps
- Procedure Creation
- Procedure Execution
- Displaying Compile Errors
- Procedure Argument Notation
- Describing a Procedure
- Dropping a Procedure

9. Creating Functions

- When to Use a Function
- Function Development Steps
- Function Creation
- Function Execution
- Displaying Compile Errors
- Function Argument Notation
- Describing a Function
- Dropping a Function

10. Creating Packages

- Package Advantages
- Package Development Steps
- Package Specification Creation
- Package Body Creation
- Package Execution
- Package Objects
- Package State



- Displaying Compile Errors
- Describing a Package

11. Advanced PL/SQL Constructs

- Over Loading
- One-Time Only Procedure
- Cursor Variables
- Subprogram Wrapping
- Package Function Restrictions
- Purity Level
- Oracle Supplied PL/SQL Packages

12. Creating Database Triggers

- Purpose and Usage of Database Triggers
- Trigger Development Steps
- Statement Trigger Creation
- Trigger Execution
- Trigger Design
- Row Trigger Execution
- Mutating and Constraining Tables
- Compiling Triggers
- Dropping a Trigger

13. Managing Database Subprograms

- Granting Direct and Indirect Access
- Managing Stored Objects
- Understanding Dependencies
- Viewing Dependencies
- Remote Dependency Handling
- Recompile and Dependency Issues

Please contact your ROI representative to discuss course customization!!!