



Oracle Database 12c: Program with PL/SQL

This Oracle Database: Program with PL/SQL training starts with an introduction to PL/SQL and then explores the benefits of this powerful programming language. Through hands-on instruction from expert Oracle instructors, you'll learn to develop stored procedures, functions, packages and more.

Learn To:

- Conditionally control code flow (loops, control structures).
- Create stored procedures and functions.
- Use PL/SQL packages to group and contain related constructs.
- Create triggers to solve business challenges.
- Use some of the Oracle supplied PL/SQL packages to generate screen output and file output.
- Create custom packages for applications.
- Write Dynamic SQL code for applications.

Benefits to You

Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling consolidation onto database clouds.

Use Oracle SQL Developer

You will use Oracle SQL Developer to develop these program units. SQL*Plus is introduced in this course as optional tools.

Course Bundle

Note: This course is a combination of Oracle Database: PL/SQL Fundamentals and Oracle Database: Develop PL/SQL Program Units courses.

Prerequisites

Suggested Prerequisite

- Previous programming experience

Required Prerequisite

- or Oracle Database: Introduction to SQL

Audience

- Database Administrator
- Developer
- Implementer
- Systems Administrator

Objectives

- Use conditional compilation to customize the functionality in a PL/SQL application without removing any source code
- Design PL/SQL packages to group related constructs
- Create overloaded package subprograms for more flexibility
- Design PL/SQL anonymous blocks that execute efficiently
- Use the Oracle supplied PL/SQL packages to generate screen output, file output and mail output
- Write dynamic SQL for more coding flexibility
- Describe the features and syntax of PL/SQL
- Create and debug stored procedures and functions
- Use PL/SQL programming constructs and conditionally control code flow (loops, control structures, and explicit cursors)
- Manage dependencies between PL/SQL subprograms
- Handle runtime errors
- Create triggers to solve business challenges

Topics

- Introduction
 - Course Objectives
 - Course Agenda
 - Describe the Human Resources (HR) Schema
 - PL/SQL development environments available in this course
 - Introduction to SQL Developer
- Introduction to PL/SQL
 - Overview of PL/SQL
 - Identify the benefits of PL/SQL Subprograms
 - Overview of the types of PL/SQL blocks
 - Create a Simple Anonymous Block
 - How to generate output from a PL/SQL Block?
- Declare PL/SQL Identifiers
 - List the different Types of Identifiers in a PL/SQL subprogram
 - Usage of the Declarative Section to Define Identifiers
 - Use variables to store data
 - Identify Scalar Data Types
 - The %TYPE Attribute
 - What are Bind Variables?
 - Sequences in PL/SQL Expressions
- Write Executable Statements

- Describe Basic PL/SQL Block Syntax Guidelines
- Learn to Comment the Code
- Deployment of SQL Functions in PL/SQL
- How to convert Data Types?
- Describe Nested Blocks
- Identify the Operators in PL/SQL
- Interaction with the Oracle Server
 - Invoke SELECT Statements in PL/SQL
 - Retrieve Data in PL/SQL
 - SQL Cursor concept
 - Avoid Errors by using Naming Conventions when using Retrieval and DML Statements
 - Data Manipulation in the Server using PL/SQL
 - Understand the SQL Cursor concept
 - Use SQL Cursor Attributes to Obtain Feedback on DML
 - Save and Discard Transactions
- Control Structures
 - Conditional processing using IF Statements
 - Conditional processing using CASE Statements
 - Describe simple Loop Statement
 - Describe While Loop Statement
 - Describe For Loop Statement
 - Use the Continue Statement
- Composite Data Types
 - Use PL/SQL Records
 - The %ROWTYPE Attribute
 - Insert and Update with PL/SQL Records
 - INDEX BY Tables
 - Examine INDEX BY Table Methods
 - Use INDEX BY Table of Records
- Explicit Cursors
 - What are Explicit Cursors?
 - Declare the Cursor
 - Open the Cursor
 - Fetch data from the Cursor
 - Close the Cursor
 - Cursor FOR loop
 - The %NOTFOUND and %ROWCOUNT Attributes
 - Describe the FOR UPDATE Clause and WHERE CURRENT Clause
- Exception Handling
 - Understand Exceptions
 - Handle Exceptions with PL/SQL
 - Trap Predefined Oracle Server Errors
 - Trap Non-Predefined Oracle Server Errors
 - Trap User-Defined Exceptions
 - Propagate Exceptions
 - RAISE_APPLICATION_ERROR Procedure
- Stored Procedures
 - Create a Modularized and Layered Subprogram Design
 - Modularize Development With PL/SQL Blocks
 - Understand the PL/SQL Execution Environment
 - List the benefits of using PL/SQL Subprograms
 - List the differences between Anonymous Blocks and Subprograms
 - Create, Call, and Remove Stored Procedures
 - Implement Procedures Parameters and Parameters Modes

- View Procedure Information
- Stored Functions and Debugging Subprograms
- Packages
- Deploying Packages
- Implement Oracle-Supplied Packages in Application Development
- Dynamic SQL
- Design Considerations for PL/SQL Code
- Triggers
- Creating Compound, DDL, and Event Database Triggers
- PL/SQL Compiler
- Manage Dependencies