

Oracle Database 10g: PL/SQL Fundamentals

Duration: 2 Days

What you will learn

This course introduces students to PL/SQL and helps them understand the benefits of this powerful programming language. In the class, students learn to create PL/SQL blocks of application code that can be shared by multiple forms, reports, and data management applications. Students learn to create anonymous PL/SQL blocks and are introduced to stored procedures and functions. They learn about declaring variables, trapping exceptions and they also learn to declare and control cursors. Learn To: Declaring PL/SQL Variables Working with Composite Data Types Creating the Executable Section Using Explicit Cursors Writing Control Structures Including Exception Handling

Audience

Application Developers
Database Administrators
Database Designers
Forms Developer
PL/SQL Developer
Technical Consultant

Prerequisites

Required Prerequisites

Oracle Database 10g: Introduction to SQL

Course Objectives

Write PL/SQL code to interface with the database
Design PL/SQL program units that execute efficiently
Use PL/SQL programming constructs and conditional control statements
Handle run-time errors
Describe stored procedures and functions

Course Topics

Introduction to PL/SQL

What is PL/SQL
PL/SQL Environment
Benefits of PL/SQL
Overview of the Types of PL/SQL blocks
Create and Execute a Simple Anonymous Block
Generate Output from a PL/SQL Block
iSQL*Plus as PL/SQL Programming Environment

Declaring PL/SQL Identifiers

Identify the Different Types of Identifiers in a PL/SQL subprogram
Use the Declarative Section to Define Identifiers
List the Uses for Variables

Store Data in Variables
Declare PL/SQL Variables

Writing Executable Statements

Describe Basic Block Syntax Guidelines
Use Literals in PL/SQL
Customize Identifier Assignments with SQL Functions
Use Nested Blocks as Statements
Reference an Identifier Value in a Nested Block
Qualify an Identifier with a Label
Use Operators in PL/SQL
Use Proper PL/SQL Block Syntax and Guidelines

Interacting with the Oracle Server

Identify the SQL Statements You Can Use in PL/SQL
Include SELECT Statements in PL/SQL
Retrieve Data in PL/SQL with the SELECT Statement
Avoid Errors by Using Naming Conventions When Using Retrieval and DML Statements
Manipulate Data in the Server Using PL/SQL
The SQL Cursor concept
Use SQL Cursor Attributes to Obtain Feedback on DML
Save and Discard Transactions

Writing Control Structures

Control PL/SQL Flow of Execution
Conditional processing Using IF Statements
Conditional Processing CASE Statements
Handle Nulls to Avoid Common Mistakes
Build Boolean Conditions with Logical Operators
Use Iterative Control with Looping Statements

Working with Composite Data Types

Learn the Composite Data Types of PL/SQL Records and Tables
Use PL/SQL Records to Hold Multiple Values of Different Types
Inserting and Updating with PL/SQL Records
Use INDEX BY Tables to Hold Multiple Values of the Same Data Type

Using Explicit Cursors

Cursor FOR Loops Using Sub-queries
Increase the Flexibility of Cursors By Using Parameters
Use the FOR UPDATE Clause to Lock Rows
Use the WHERE CURRENT Clause to Reference the Current Row
Use Explicit Cursors to Process Rows
Explicit Cursor Attributes
Cursors and Records

Handling Exceptions

Handling Exceptions with PL/SQL
Predefined Exceptions
Trapping Non-predefined Oracle Server Errors
Functions that Return Information on Encountered Exceptions
Trapping User-Defined Exceptions

Propagate Exceptions

Use The RAISE_APPLICATION_ERROR Procedure To Report Errors To Applications

Creating Stored Procedures and Functions

Differences Between Anonymous Blocks and Subprograms

Creating and invoking Procedure

Creating and invoking Functions

Passing Parameter to the Function