

ORACLE 10g PL/SQL Foundations

Duration: 5 days

Description

This course covers the Oracle 10g PL/SQL programming language. You will control data sharing and locking, develop an understanding of multi-user and concurrent transactions and develop triggers, procedures, functions and packages. The following is covered:

- The PL/SQL Environment
- PL/SQL Program Structure
- Native Compilation
- Update, Insert and Delete Statements
- Variable Scope Rules
- Error Functions / Debugging
- Logical Comparisons
- Defining, Executing and Testing Procedures and Functions
- Creating Package Specifications And Bodies, and Triggers Of All Types
- Using Oracle Supplied Packages
- Understanding Advanced PL/SQL Features

Audience

This course is aimed toward Application Developers and Database Administrators who need a comprehensive understanding of Oracle 10g PL/SQL language.

Prerequisites

Students should have Oracle 10g Foundation: SQL Basics & SQL*PLUS or Equivalent experience

TOPICS

INTRODUCTION TO PL/SQL

- History of PL/SQL
- Features and benefits of PL/SQL
- Relationship of PL/SQL to SQL
- PL/SQL development tools
- Native Compilation

PL/SQL BASICS

- PL/SQL anonymous block structure, Lexical units, Variable declarations, types, and Records
- SQL*Plus development environment
- Displaying messages with DBMS_OUTPUT

- Object naming rules, and PL/SQL style guide and coding conventions

WORKING WITH DATABASE DATA

- SELECTing single rows
- Declaring variable datatypes dynamically
- Modifying database data (DML)
- Transaction control statements

SELECTING MULTIPLE ROWS USING CURSORS

- Declaring explicit cursors
- Implicit cursor attributes
- Using the cursor FOR LOOP

EXCEPTION HANDLING

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- Writing an exception handler section
- Handling predefined exceptions, Controlling exception processing – exception propagation
- Using RAISE_APPLICATION_ERROR
- Preventing unhandled exceptions
- Exception propagation
- Using PRAGMA EXCEPTION_INIT

ADVANCED CURSORS

- Cursor parameters
- Taking advantage of a weak cursor variable
- OPEN FOR, FETCH and CLOSE
- Using the FOR UPDATE clause
- Using PL/SQL collections and nested collections

INTRODUCTION TO PROCEDURES AND FUNCTIONS

- Creating stored PL/SQL objects, procedures, functions

CREATING PACKAGES

- Creating package specifications and bodies

CREATING DML TRIGGERS

- Triggering events, Trigger behavior
- Correlation identifiers, Multi-statement triggers
- Trigger firing behavior, Enabling/Disabling triggers

ADVANCED PACKAGES

- Initializing variables, Module Overloading, Recursion, Purity levels, Using the “Persistent State” to advantage, and One Time Only Procedures

ADVANCED TRIGGERS

- Trigger limitations, Mutating and

Constraining Tables

- Using CALL, and client triggers
- DDL Triggers
- Using SERVERERROR event
- Schema vs. Database triggers
- Using alternative events and levels
- INSTEAD OF triggers on views

PL/SQL COMPOSITE DATATYPES AND COLLECTIONS

- PL/SQL records, PL/SQL associative arrays, and arrays of records
- Using PL/SQL record variables
- PL/SQL collections

BULK-BIND DATA LOADING USING PL/SQL

- Defining bulk binds
- Error handling with bulk binds

USING ORACLE SUPPLIED PACKAGES

- DBMS_OUTPUT package
- UTL_FILE package (file i/o)
- DBMS_ALERT Package
- DBMS_PIPE Package DBMS_JOB Package
- DBMS_STATS Package
- DBMS_UTILITY Package
- UTL_SMTP Package
- DBMS_SQL Package

WRITING NATIVE DYNAMIC SQL

PL/SQL WRAPPER

- PL/SQL wrapper (source code encryption)
- Let's wrap

UNDERSTANDING DEPENDENCIES

- Viewing dependencies
- Effect of breaking dependency chain

LARGE OBJECT MANAGEMENT IN PL/SQL

- Differences between LONG/LONG

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RAW and LOBs

- Creating and using BFILES, and tables with LOBs
- LOBs and PL/SQL
- DBMS_LOB capabilities
- Temporary LOBs

OBJECTS

- Basic Objects, Object Inheritance

COURSE LABS:

- Using PL/SQL to create an Anonymous Block
- PL/SQL Program Control
- Selecting and Updating Database Data
- Using Explicit Cursors
- Handling Exceptions
- Creating Procedures
- Creating Functions
- Creating Packages
- Creating Triggers
- Embedded Functions and Procedures
- Creating Autonomous Transactions
- Encrypting Source Code
- Using the UTL_FILE Package
- Using the DBMS_ALERT Package
- Creating Object Types
- Creating Manipulating Object Tables
- Working With Collections
- Collections And Bulk Binding
- DBMS_SQL / Native Dynamic SQL
- Working With Large Objects
- Load, Publish And Run Java