Course Outline

Oracle PL/SQL I Introduction

Course Summary

Description

PL/SQL allows developers to extend the basic data query and manipulation of SQL into complete applications and shared program units. This class provides the technical expertise necessary to utilize this powerful component of Oracle.

The content of this course applies to developing PL/SQL blocks for standalone use, stored procedures, functions, packages and triggers or in the Oracle Forms or Reports development tools.

One of the most powerful features of PL/SQL is the ability to create 'program units' that are stored within the database. This allows for robust solutions to be developed that can be shared and re-used. Students will learn to write, debug and manage all types of program units: procedures, functions, packages and triggers.

Topics

- PL/SQL language fundamentals
- Creating anonymous blocks using SQL Developer
- The Petsaver database
- PL/SQL scalar variables
- SELECT statements in PL/SQL
- DML statements in PL/SQL
- Transaction control in PL/SQL
- The SQL Developer interface
- PL/SQL control structures
- PL/SQL composite variables
- PL/SQL cursors
- PL/SQL exception handling
- PL/SQL block hierarchies
- Advanced exception handling
- Basic Oracle supplied packages
- Optimizing PL/SQL performance

Audience

This course is designed for:

- Intermediate Oracle SQL developers and DBAs
- Intermediate Oracle PL/SQL developers and DBAs wishing to 'back fill' gaps in their expertise
- Oracle Forms and Reports developers
- Technical managers needing Oracle expertise for project administration

Prerequisite

- Skill with GUI interfaces
- Data processing background
- A basic understanding of SQL is required to succeed in this class. Persons attending without this will experience difficulty

Duration

Two Days

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Oracle PL/SQL Introduction

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I. PL/SQL language fundamentals
A. What is PL/SQL?
B. Reasons to use PL/SQL
C. PL/SQL block structure
D. Types of PL/SQL blocks
E. Using DBMS_OUTPUT

II. Creating anonymous blocks using SQL Developer
A. The SQL Developer SQL worksheet
B. Coding an anonymous block
C. Running blocks of PL/SQL in SQL Developer
D. Controlling the DBMS_OUTPUT pane

III. The Petsaver database

IV. PL/SQL scalar variables
A. Defining scalar variables
B. Anchoring to database definitions
C. Assigning defaults
D. Creating constants
E. PL/SQL value assignment

V. SELECT statements in PL/SQL
A. Single row queries
B. Avoiding SELECT errors

VI. DML statements in PL/SQL
A. INSERT
B. UPDATE
C. DELETE

VII. Transaction control in PL/SQL
A. COMMIT
B. ROLLBACK
C. SAVEPOINT

VIII. The SQL Developer interface
A. The Connection Navigator
B. Moving, pinning, closing and restoring SQL Developer panes

IX. PL/SQL control structures
A. IF THEN ELSE
B. LOOP
C. CASE

X. PL/SQL composite variables
A. Records
B. Associative arrays (PL/SQL tables)
C. Nested tables
D. VARRAYs

XI. PL/SQL cursors
A. Defining cursors
B. Cursor attributes
C. Cursor FOR loops
D. Using DML with cursors

XII. PL/SQL exception handling
A. Defining exceptions
B. Predefined exceptions
C. Other Oracle exceptions
D. User-defined exceptions

XIII. PL/SQL block hierarchies
A. Variable scope
B. Creating sub-blocks
C. Referencing block labels

XIV. Advanced exception handling
A. Capturing unexpected exceptions
B. Error trapping functions
C. Controlling cursor error handling

XV. Basic Oracle supplied packages
A. UTL_FILE
B. DBMS_JOB
C. DBMS_PIPE
D. DBMS_LOCK
E. DBMS_FLASHBACK

XVI. Optimizing PL/SQL performance
A. The RETURN clause
B. Using BULK operators
C. Using DBMS_TRACE
D. Using the DBMS_PROFILER
E. NOCOPY hint
F. Using DBMS_SHARED_POOL