Oracle Database: PL/SQL Fundamentals Training

Duration: **2 Day**

BİLGİNÇ IT Academy
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Official Oracle Curriculum

This Oracle Database: PL/SQL Fundamentals training introduces you to PL/SQL. It helps you understand the benefits of this powerful programming language, while teaching you real-world scenarios where these lessons can be applied.

Learn To:

- Describe the features and syntax of PL/SQL.
- Design a PL/SQL anonymous block that executes efficiently.
- Write PL/SQL code to interface with the database.
- Use PL/SQL programming constructs and conditionally control code flow (loops, control structures, and explicit cursors
- Handle runtime errors.
- Describe stored procedures and functions.
- Apply declaring identifiers and trapping exceptions.
- Create PL/SQL blocks of application code that can be shared by multiple forms, reports and data management 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.

Gain Experience through Hands-On Practice

In this course, you'll learn from expert Oracle instructors, then engage in demonstrations and hands-on practice to reinforce the fundamental concepts. You'll use Oracle SQL Developer to develop these program units. SQL*Plus is introduced as optional tools.

Audience

- PL/SQL Developer
- System Analysts
- Technical Consultant
- Forms Developer
- Portal Developer

Prerequisites

- Familiarity with data processing concepts and technique
- Familiarity with programming languages
- Oracle Database 12c: Introduction to SQL Ed 1.1

Please note: In order to provision you with your courseware and lab access for this course QA must share several items of basic personal information with our partner (usually your full name and email address). For more information on this please visit our QA Partner data sharing page. If you have any questions or concerns please contact your QA account manager.

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What You Will Learn

- Describe the features and syntax of PL/SQL
- Design PL/SQL anonymous block that execute efficiently
- Write PL/SQL code to interface with the database
- Use PL/SQL programming constructs and conditionally control code flow (loops, control structures, and explicit cursors)
- Handle runtime errors
- Create and execute simple stored procedures and functions

Training Outline

Introduction

- Course Objectives, Course Agenda and Class Account Information
- Describe the Human Resources (HR) Schema
- Identify the Appendices Used in this Course
- Introduction to PL/SQL Development Environments
- Oracle Database 19c SQL Documentation and Additional Resources

Introduction to PL/SQL

- Understanding the benefits and structure of PL/SQL
- Examining PL/SQL Blocks
- Generating output messages in PL/SQL

Declaring PL/SQL Variables

- Identify valid and invalid identifiers
- Declare and initialize variables
- List and describe various data types
- Identify the benefits of using the %TYPE attribute
- Declare, use, and print bind variables

Writing Executable Statements

- List Lexical Units in a PL/SQL Block
- Use SQL Functions in PL/SQL
- Use Data Type Conversion
- Use Nested Blocks as Statements
- Reference an Identifier Value in a Nested Block
- Qualify an Identifier with a Label
- Use Operators in PL/SQL
- Using Sequences in PL/SQL Expressions

Using SQL Statements within a PL/SQL Block

- Identify and use the SQL 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

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

Using Explicit Cursors

- Define Cursors
- Explain Explicit Cursor Operations
- Controlling Explicit Cursors
- Use Explicit Cursors to Process Rows
- Cursors and Records
- Cursor FOR Loops Using Subqueries
- Explicit Cursor Attributes
- The %NOTFOUND and %ROWCOUNT Attributes

Handling Exceptions

- Define Exception
- Handling Exceptions with PL/SQL
- Predefined Exceptions
- Trapping Predefined and Non-predefined Oracle Server Errors
- Functions that Return Information on Encountered Exceptions
- Trapping User-Defined Exceptions
- Propagate Exceptions
- Basic RAISE Statement

Creating Stored Procedures and Functions

- Overview of Stored Procedures and Functions
- Differentiate between anonymous blocks and subprograms
- Show the CREATE OR REPLACE PROCEDURE | FUNCTION
- Understand the Header Area of a Stored Procedure and Function
- Create Simple Procedures and Functions
- Create a Simple Procedure with an IN Parameter
- Execute a Procedure and a Function