

Oracle 10g PL/SQL Training

- **Course Number:** ORCL – PS01
- **Length:** 3 Day(s)

Certification Exam

This course will help you prepare for the following exams:

- **1Z0-042**
- **1Z0-043**

Course Overview

PL/SQL is Oracle's Procedural Language extension to SQL. This course will provide students with techniques to design PL/SQL applications, and to solve real-world business problems. The student will be working with stored functions, stored procedures, and packages along with some standard Oracle supplied packages and exception handling techniques in PL/SQL. The Oracle PL/SQL language provides for programming features not available within SQL.

Prerequisites

Before taking this course, familiarity with data processing concepts and techniques is required.

Audience

This course is intended for database developers and administrators.

Course Outline

- **Course Introduction**
- Course Introduction
- **Introduction to Oracle & SQL*PLUS**
- Introduction to Oracle & SQL*PLUS
- Section Objectives
- Basic Components of the SGA
- Logging Into SQL*PLUS
- A Simple Select
- Demo - Correcting an Incorrect SQL
- Oracle File Extensions
- Saving A SQL Statement To A File
- Demo - Running Scripts
- CRT Files and Spool Files
- Oracle SQL*PLUS Editing Commands
- Demo - Using the Oracle Editor

- SQL Scripts
- Dictionary Tables For Users
- Demo - Oracle Data Dictionary Views
- Future Directions
- Programmer Responsibilities
- Benefits of Database Development
- Introduction to Lab 1
- Lab - Running Oracle & Building Tables
- SQL*PLUS Commands
- Programming Commands
- Demo - Creating Variables in SQL*PLUS
- Programming Commands Cont.
- Reporting Commands
- Demo - Report Commands in SQL*PLUS
- More Programming Commands
- Demo - Compute Statements with Break
- Other Commands
- SQL*Plus Enhancements in Oracle 10g
- Append, Create and Replace Extensions
- Show Recyclebin
- Introduction to Lab 2
- Lab - Commands Using SQL*Plus
- SQL*Plus Commands
- Chapter 1 Review
- **Structured Query Language**
- Structured Query Language
- SQL Components
- SQL Data Manipulation Language (DML)
- SQL Basic Retrieval
- Demo - Basic SQL Commands
- Retrieval of Computed Values
- Demo - SQL Retrieval
- Order By Clause
- Ordering By Descending
- The Distinct Operand
- Selecting On Conditions
- Multiple Conditions
- The Between Clause
- The Like Clause
- Demo - Showing Like Clause
- Negative Conditions
- Built In Functions
- Group By Clause
- The Having Clause
- Demo - Review of Having Clause
- The Analytical Commands

- Cube
- Retrieval Involving Null
- Treatment of Nulls
- Null Values Are Considered In:
- Case Expression
- Introduction to Lab 3
- Lab - More About Selects
- Demo - Review of Exercises
- Chapter 2 Review
- **Advanced Structured Query Language**
- Advanced Structured Query Language
- Advanced DML Functions
- Qualified Names
- Correlation Variables
- Advanced DML Functions Cont.
- Demo - Oracle's Natural and Outer Joins
- ANSI/ISO Join Statements
- Oracle Join Statements
- Multiple Table Join
- More about Aliases
- Demo - Joins
- Subqueries
- Demo - Single & Multi-Value Subqueries
- Multivalued Subqueries
- The Any Parameter
- In-Line Views
- The Exists Parameter
- Demo - How Exists Help Performance
- Set Operators (Conjunctions)
- Union
- Demo - Unions
- Set Operator Intersect
- The Minus Conjunction
- The Model Clause
- Modify Functions
- Update a Single Row
- Complex Update
- Merging Data In Oracle Tables
- SQL Delete
- Introduction to Lab 4
- Lab - Select Rows from Multiple Tables
- Chapter 3 Review
- **Non ANSI SQL Statements**
- Non ANSI SQL Statements
- Oracle SQL Plus Commands
- Number Formats

- Numeric Functions
- Character
- Date Formats
- Demo - Date Formats and Usage
- Date Formats
- The Date Functions
- Demo - Date Functions
- Syntax Operators & Parameter Subs.
- Demo - Identify How Users Input Data
- The Conversion Functions
- The Sample Clause
- Introduction to Lab 5
- Lab - SQL*Plus Commands for Reporting
- Chapter 4 Review
- **Data Definition Language Commands**
- Data Definition Language Commands
- Base Tables
- DDL Commands
- Logical Definition - Tables
- Create Table Mystaff
- Demo - Create a Table
- Logical Definition – System Datatypes
- Column Data Types
- Creating Table and
- Creating Check Constraints
- Demo - Creating Constraints
- Creating Unique Constraints
- Creating Referential Integrity Constraints
- Demo - Create Primary and Foreign Keys
- Non-Unique Indexes
- Composite Indexes
- Rebuilding Indexes
- Bitmap Indexes
- Creating Reverse Key Indexes
- Demo - Creating Reverse Key Indexes
- Index-Organized Tables
- IOT Row-Overflow Strategy
- Index Before or After Loading Data
- Demo - Altering Tables after Creation
- Synonyms
- Deleting Catalog Items
- Views
- Column Names
- Join Views
- Views of Views
- View Retrieval Queries

- Introduction to Lab 6
- Lab - Creating Tables and Indexes
- Chapter 5 Review
- **PL/SQL Programming**
- PL/SQL Programming
- Overview of PL/SQL
- The PL/SQL Block Structure
- PL/SQL In The Oracle RDBMS
- PL/SQL Variables
- Referencing Variables
- Using Composite Variables
- Demo - Creating Composite Variables
- Using Composite Variables Cont.
- PL/SQL Records Processing
- Assigning Values To Variables
- Demo - Local and Global Variables
- Assigning Values To Variables Cont.
- Defining Composite Variables - Tables
- Datatype Conversions
- Input and Output Values For Variables
- Demo - Creating Global Variables
- Using The Select Clause
- PL/SQL Insert Statements
- PL/SQL Update Processing
- PL/SQL Delete Processing
- Decision Statements!
- Use CASE Statements in PL/SQL
- CASE Statement and Expression
- CASE_NOT_FOUND Exception
- PL/SQL Iterative Processing
- Developing A Continue Statement
- PL/SQL Iterative Processing Cont.
- PL/SQL Exceptions
- Error Processing
- PL/SQL Exceptions Cont.
- Demo - Exception Handling
- PL/SQL Error Processing
- Demo - Exception Block Processing
- Raising User-Defined Exceptions
- Demo - User-Defined Exceptions
- PL/SQL Error Processing Cont.
- Propagating Exceptions
- PL/SQL Cursor Processing
- Declaring The Cursor
- Cursor Attributes With Explicit Cursors
- Demo - How CURSORS are Handled

- Cursor Attributes With Explicit Cursors
- Demo - Cursor Looping
- Update The Current Row
- Demo - Update Processing via Cursors
- Storing Rows In a PL/SQL Table
- Passing in the Declare Cursor Command
- PL/SQL Subprograms
- PL/SQL Subprograms Viewing Code
- Demo - Creating Procedures
- PL/SQL Subprograms Rebuilding
- Procedures
- PL/SQL Stored Procedures
- Returning Values
- Demo - Parameters
- Returning Values
- The In/Out Argument in a Procedure
- Demo - OUTPUT Parameters
- Displaying Parameters
- Executing a Stored Procedure in SQL
- Creating Functions
- Create Functions in a Declarative Section
- Database Packages
- A Sample Package
- Reading/Writing Operating System Files
- Reading Operating System
- Introduction to Lab 7
- Lab - Creating Procedures & Functions
- Introduction to Lab 8
- Lab - Creating Packages
- Chapter 6 Review
- **Course Closure**
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