

VERSION

2

SR. CODE

EAPL/CRASH/CRTC20

COURSE CODE

EACEO

SUB CATEGORY

DATABASE MANAGEMENT



TOTAL DURATION

45
HOURS



THEORY TAKEN

10.5
HOURS



PRACTICAL TAKEN

34.5
HOURS

ELYSIUM
ACADEMY

EXPERT
IN ORACLE
PL/SQL

**ELYSIUM
ACADEMY**

**EXPERT
IN ORACLE
PL/SQL**

ELYSIUM
ACADEMY

EXPERT
IN ORACLE

PL/SQL

COURSE DESCRIPTION



An Oracle PL/SQL course will teach you how to use the PL/SQL programming language to extend and automate SQL. PL/SQL is a procedural language that can be used to write stored procedures, functions, triggers, and packages. It can also be used to write standalone applications.

Oracle PL/SQL is a powerful programming language that can be used to develop a wide variety of applications. If you are interested in developing database applications, then an

COURSE GOALS



- Learn the latest PL/SQL features and functionality
- Gain hands-on experience with PL/SQL development
- Develop your problem-solving and debugging skills
- Improve your object-oriented design skills

FUTURE SCOPE



- The future of an Expert in Oracle PLSQL professionals is endless. There are many career options such as developer, designer, designer, product and support. Each job has its own job, which may be somewhat familiar to others because its foundation is database programming with Oracle.

01

CHAPTER

1. INTRODUCTION PL/SQL

1. Getting started with PL/SQL

- a. What is Oracle PLSQL?
- b. Why Oracle PLSQL?
- c. What can PLSQL do?
- d. How PLSQL works
- e. Advantages of using PLSQL
- f. Websites that uses PLSQL

2. PL/SQL Software Requirements

- a. Downloading Oracle Database
- b. Install the Oracle Database
- c. Unlock The HR Schema
- d. Download and Configure Oracle SQL Developer Software
- e. HR Schema Create Code

3. PLSQL Architecture

a. PLSQL Blocks

- Declare Section
- Begin Section
- Exception Section
- End Section
- Anonymous Blocks
- Named Blocks

b. PLSQL Engine

c. Database Server



01
HRS



02
HRS

02

CHAPTER

2. BASICS OF PL/SQL

1. Data Types

a. Scalar data types

- Number Types
- Character Types
- Boolean
- Date/Time

b. Collection Data Types

- VARRAY
- Table
- Nested Tables

c. LOB Data Types

- BLOB
- CLOB
- NCLOB
- BFILE

d. Reference Data Types

- Cursor
- Record
- Ref Cursor
- Pointer

e. User-Defined Data Types



01
HRS



04
HRS

2. Variables

- a. Introduction
- b. Declare Variable
- c. Naming Rules
- d. Initializing Variables
- e. Variable Scope
 - Local Variable
 - Global Variable
- f. Variable Attributes
- g. Delimiters and Commenting
- h. Bind Variables

3. Constants

- a. Introduction
- b. Declare Constant
- c. Literals

03

CHAPTER

3. CONTROL STATEMENTS

1. IF Statements

- a. Summary
- b. IF THEN
- c. IF THEN ELSE
- d. IF THEN ELSIF
- e. Nested IF Statement



01
HRS



2.5
HRS

2. CASE Statements

- a. Simple CASE Statement
- b. Simple CASE Expression
- c. Searched CASE Statement
- d. Searched CASE Expression

3. Loops

- a. Overview
- b. Loop Types
- c. Simple LOOP
- d. FOR LOOP
- e. FOR LOOP Counter
- f. Continue, Continue When
- g. Nested LOOP
- h. While LOOP
- i. GOTO Statement

04

CHAPTER

4. CURSORS

1. Introduction

- a. What is Cursor
- b. Types of Cursors in PLSQL
- c. Using Cursors with Records
- d. Looping with Cursors
- e. PLSQL Cursors with Parameter
- f. Cursor Attributes
- g. For Update Clause



01
HRS



03
HRS

h. Where Current of Clause

i. Reference Cursors

2. Implicit Cursor

a. %FOUND

b. %NOTFOUND

c. %ROWCOUNT

d. ISOPEN

3. Explicit Cursor

a. Declaring the Cursors

b. Opening the Cursors

c. Fetching The Cursors

d. Closing the Cursors

05

CHAPTER

5. COLLECTIONS

1. Array

a. Associative Array
(index-by table)

- Indexed by String
- Indexed by PLS_INTEGER
- Declaring Associative Array Constant

b. VARRAY(Variable-size Array)



01
HRS



04
HRS

c. Nested Table

- Local Type
- Standalone Type

2. Collection Constructors

- a. Introduction
- b. Initializing Collection Variable To Empty
- c. executing Collection

3. Assigning Values to Collection Variables

- a. Data Type Compatibility
- b. Assigning Null values to VARRAY or Nested Table
- c. Assigning Set Operations to Nested Table

4. Multidimensional Collections

- a. Introduction
- b. Two Dimensional Varray
- c. Nested Tables and Varrays of Integer
- d. Nested Tables and Varrays of String

5. Collection Comparisons

- a. Varray and Nested Table Variables to NULL
- b. Nested Tables for Equality and Inequality
- c. Nested Tables with SQL Multiset Conditions

6. Collection Methods

- a. DELETE
- b. TRIM
- c. EXTEND
- d. EXISTS
- e. FIRST and LAST
- f. COUNT
- g. LIMIT
- h. PRIOR and NEXT

7. Record Variables

- a. Initial Values of Record Variables
- b. Declaring Record Constants
- c. RECORD Types
- d. Declaring Items using
%ROWTYPE Attribute

06

CHAPTER

6. DYNAMIC SQL

1. Introduction

- a. What is Dynamic SQL
- b. When you need Dynamic SQL

2. Native Dynamic SQL

- a. EXECUTE IMMEDIATE Statement
- b. OPEN FOR, FETCH, and CLOSE Statements
- c. Repeated Placeholder Names



30
MINS



02
HRS

3.DBMS_SQL Package

- a.DBMS_SQL.RETURN_
RESULT Procedure
- b.DBMS_SQL.GET_NEXT_
RESULT Procedure
- c.DBMS_SQL.TO_REFCURSOR Function
- d.DBMS_SQL.TO_CURSOR_
NUMBER Function

07

CHAPTER

7. PLSQL SUBPROGRAMS

1. Introduction
2. Nested, Package and Standalone Subprograms
3. Invocations
4. Properties
5. Subprogram Parts
6. Forward Declaration
7. Subprogram Parameters
8. Subprogram Invocations Resolution
9. Overloaded Subprograms
10. Recursive Subprograms
11. Function Result Cache
12. SQL Statement can Invoke



01
HRS



2.5
HRS

08

CHAPTER

8. FUNCTIONS & PROCEDURES

1. What are Functions & Procedures
2. Why we Use?
3. Creating and using Stored Procedure
4. USING IN & OUT Parameter
5. Named & Mixed Notations
6. Creating and Using Functions
7. Local Sub Programs
8. Overloading the subprograms
9. Handling Exceptions in Sub programs
10. Finding & Removing the Sub programs
11. Regular & Pipelined Table Functions



01
HRS



3.5
HRS

09

CHAPTER

9. PACKAGES

1. What is Package?
2. Why we use Packages



30
MINS



2.5
HRS

3. Package Specification

- a. Appropriate Public Items
- b. Creating Package Specifications

4. Package Body

5. Package Instantiation and Initialization

6. Package State

7. SERIALLY_REUSEABLE Packages

10

CHAPTER

10. ERROR HANDLING

1. Compile-Time Warnings

- a. DBMS_WARNING Package

2. Over of Exception Handling

- a. Exception Categories
- b. Advantages of Exception Handlers
- c. Guidelines for Avoiding and handling Exceptions

3. Internally Defined Exceptions



30
MINS



03
HRS

- 4. Predefined Exceptions**
- 5. User-Defined Exceptions**
- 6. Redeclared Predefined Exceptions**
- 7. Raising Exceptions Explicity**
 - a. RAISE Statement**
 - User Defined Exception with RAISE Statement
 - Initially Defined Exception with RAISE Statement
 - Current Exception with RAISE Statement
 - b. RAISE_APPLICATION_ERROR Procedure**
- 8. Exception Propogation**
 - a. Propagation of Exceptions Raised in Declarations**
 - b. Exception Handlers**
- 9. Unhandled Exceptions**
- 10. Retrieving Error Code and Error Message**
- 11. Continuing Exception after Handling Exceptions**

12. Retrying Transactions After Handling Exceptions

13. Handling errors in Distributed Queries

11

CHAPTER

11. TRANSACTIONS

1. Overview

2. Transactions and Isolation Levels

- a. READ UNCOMMITTED
- b. READ COMMITTED
- c. REPEATABLE READ
- d. SERIALIZABLE

3. Committing and Rolling back Transactions

- a. COMMIT
- b. ROLLBACK

4. Savepoints

- a. SAVEPOINT
- b. ROLLBACK TO

5. Explicit Locking

- a. LOCK TABLE



01
HRS



2.5
HRS

12

CHAPTER

12. TRIGGERS

1. Overview of Triggers
2. Reasons to User Triggers
3. DML Triggers
 - a. Detecting Triggering DML Statement
 - b. INSTEAD of DML Triggers
 - c. Compound DML Triggers
 - d. Triggers for Ensuring Referential Integrity
4. System Triggers
 - a. SCHEMA Triggers
 - b. Database Triggers
 - c. INSTEAD OF CREATE Triggers
5. Subprograms Invoked by Triggers
6. Trigger Compilation,
Invalidation and Recompile
7. Exception Handling in Triggers
8. Trigger Restrictions
 - a. Trigger size Restriction
 - b. Trigger LONG and LONG RAW
Data Type Restrictions
 - c. Mutating- Table Restriction
9. Trigger Enabling and Disabling



01
HRS



03
HRS

**10. Trigger Changing and
Debugging**

11. Data Transfer Utilities

12. Triggers for Publishing Events

Placement Assistance

100%

135+ Professional Courses

Practical Sessions

90%

67+ Global Pacts

Corporate Placements

65%

170+ IT Companies Tie-Up

ELYSIUM
GROUP OF
COMPANIES

**ELYSIUM
ACADEMY**

**PRIVATE
LIMITED**

AUTHORIZED INTERNATIONAL

Partners

