

O014 – Oracle 11g PLSQL

Course Objectives

This course introduces the fundamentals of Oracle's procedural language, PL/SQL, the engine behind the full range of Oracle technology.

The course introduces the syntactic transactional languages controls evolving to cover the full range of PL/SQL programming functionality found within the Oracle 11g RDBMS.

This practical course is an essential foundation study course needed for all Oracle 11g RDBMS professionals to maximise their utilisation of Oracle 11g and the productive benefits that can be achieved through the essential deployment of PL/SQL functionality across the business.

Who Should Attend	Prerequisites	Duration
Oracle Analyst/Programmers Oracle Technicians Oracle DBA's Oracle Developers	PC Fundamentals Oracle SQL	5 Days

Course Contents

PL/SQL Basics

Introduction
 PL/SQL Block Structure

Declaring

Variable Types
 Datatypes
 Creating Variables and Constants
 %Type Identifiers

Basic Data Processing

Select ... Into Command

Procedural Processing

Simple or Infinite Loops
 While Loops
 For Loops
 IF Statements
 GOTO

Data Processing

Creating Explicit Cursors
 Working with Cursors
 Using Cursors with Loops
 Parameterised Cursors
 Cursor Attributes
 Implicit Cursors
 Cursor for Loops

Error Handling

Introduction to Exceptions
 Creating Programmer Defined Exceptions
 Exceptions
 Redefining Oracle Exceptions
 Raising Application Errors
 Using Error Variables

Modularization

PL/SQL block structure
 Procedures
 Functions
 Parameters

Stored PL/SQL code

User Schemas
 Hints
 Dependencies
 Invoker Rights
 Overloaded Modules
 Local Modules
 Shared Global Area
 Code Wrapping

Packages

Creating Packages
 Dropping Packages
 Parameter passing by reference
 Serially reusable packages

Transactional Control

Commit
 Rollback
 Savepoint
 Autonomous Transactions

Extending the Type System

PL/SQL Collections
 Associated Arrays
 Nested Tables
 Bulk Binds
 Bulk Exceptions
 Caching Data

Database Triggers

Writing Database Triggers
 Database Trigger Syntax
 Accessing Column Values in Triggers
 Trigger Restrictions

Database Trigger Firing

Sequence
 Disabling Triggers
 Enabling Triggers
 Dropping Triggers
 Database Triggers (from 9i)

Data Dictionary Views

Naming Conventions
 Package security

Oracle Supplied Packages

DBMS_OUTPUT
DBMS_JOB
DBMS_PROFILER
DBMS_RANDOM

File IO with UTL_FILE package

Dynamic SQL Methods

Performing Dynamic SQL with
DBMS_SQL Package
Native Dynamic SQL

Large Object Support

Large Object Principles
Using DBMS_LOB

Web PL/SQL Development

Output with http.p
Specific http procedures

PL/SQL Toolkit Packages

owa_cookie
owa_image
owa_pattern
owa_util
utl_http

10g PLSQL Language Improvements

Improvements discussion
Regular Expressions
Additional floating point types
Nested table enhancements
Utility packages for
compression/mail/warnings

11g PL/SQL Features and Enhancements

SIMPLE_INTEGER Datatype
CONTINUE Statement
Cross-Session PL/SQL
Function Result Cache
Enhancements to Regular
Expression Built-in SQL
Functions
Sequences in PL/SQL
Expressions
Dynamic SQL Enhancements
Names and Mixed Notation in
PL/SQL subprogram
Invocations
New PL/SQL Compiler
Warning
PLS-00436 Restriction in
FORALL Statements Removed
PL/Scope
PL/SQL Native Compiler
Generates Native Code
Directly
Automatic Subprogram Inlining
11g Trigger Enhancements
PL/SQL Hierarchical Profiler