



# Oracle Database: Develop PL/SQL Program Units

## CODICE

D80172GC10

## DURATA

3 Giorni

## PREZZO

1.800,00€ (iva escl.)

## LINGUA

italiano

## MODALITÀ

Virtual Classroom  
Corso in aula

## SCHEDULAZIONE

- A Richiesta

## PREREQUISITI

### Il corso è rivolto a:

- Sviluppatori di applicazioni
- Sviluppatore PL/SQL
- Amministratore di database
- Analisti di sistema

### Conoscenze richieste:

- Basic Knowledge of PL/SQL
- Familiarity with programming languages
- Oracle Database: Introduction to SQL NEW
- Oracle Database: PL/SQL Fundamentals NEW

### Prerequisiti suggeriti :

- Oracle SQL Tuning for Developers Workshop NEW

### Recommended Related Training Courses:

### Using Java - for PL/SQL and Database Developers

This Java for PL/SQL and Developers training teaches you to access Oracle Database using JDBC , UCP, Java stored procedures and SQLJ technologies. Learn to create, load, resolve and publish Java classes in the Database and more.

### Oracle Database: SQL Tuning for Developers NEW

In the Oracle Database: SQL Tuning for Developers course, you learn about Oracle SQL tuning and how to apply tuning techniques to your SQL code. Learn the different ways in which data can be accessed efficiently.

#### **OBIETTIVI**

- Manage dependencies between PL/SQL subprograms
- Create, use, and debug stored procedures and functions
- Design and use PL/SQL packages to group and contain related constructs
- Create overloaded package subprograms for more flexibility
- Use the Oracle supplied PL/SQL packages to generate screen output, file output, and mail output
- Write dynamic SQL for more coding flexibility
- Design PL/SQL code for predefined data types, local subprograms, additional programs and standardized constants and exceptions
- Use the compiler warnings infrastructure
- Use conditional PL/SQL compilation and obfuscate (hide) code
- Create triggers to solve business challenges

This Oracle Database: Develop PL/SQL Program Units course is designed for developers with basic PL/SQL and SQL language skills. You will learn to develop, execute and manage PL/SQL stored program units, which include: procedures, functions, packages and database triggers.

#### **Learn To:**

- Create, and execute stored procedures and functions
- Design and use PL/SQL packages
- Create overloaded package subprograms for more flexibility
- Utilize Oracle-Supplied Packages in Application Development
- Create triggers to solve business challenges
- Build and execute SQL statements dynamically
- Manage PL/SQL subprograms and triggers



- Understand and influence the PL/SQL compiler
- Manage dependencies

### **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.

## **CONTENUTI**

### **Introduction**

Course Objectives, Course Agenda and Appendixes Used in this Course

Describe the full Human Resources (HR) Schema

Review the online Oracle Database 12c SQL and PL/SQL documentation and the additional available resources

List the PL/SQL development environments Available in this course

Use the SQL Worksheet

Execute SQL Statements

Work With Script Files

Create and Execute Anonymous Blocks

### **Creating Stored Procedures**

Describe PL/SQL blocks and subprograms

Describe the uses and benefits of procedures

Create, call, and remove procedures

Use formal and actual parameters

Identify the available parameter-passing modes

Pass parameters using the positional, named, or combination techniques

Handle exceptions in procedures

View the procedure information

### **Creating Functions and Debugging Subprograms**

Creating Stored Functions

The Difference Between Procedures and Functions

Developing Functions

Creating and Executing and Removing Functions

Identifying the Advantages of Using Stored Functions in SQL Statements

Using User-Defined Functions in SQL Statements

Using a PL/SQL Function in the SQL WITH Clause

Restrictions When Calling Functions from SQL statements

### **Creating Packages**

Using PL/SQL Packages

The Components of a PL/SQL Package

The Visibility of a Package's Components

Developing a PL/SQL Package

Creating the Package Specification and Package Body

Invoking the Package Constructs

Creating and Using Bodiless Packages

Removing a Package

### **Working With Packages**

Overloading Subprograms



- Using Forward Declarations to Solve Illegal Procedure Reference
- Initializing Packages
- Using Package Functions in SQL and Restrictions
- Controlling Side Effects of PL/SQL Subprograms
- Persistent State of Packages
- Persistent State of Package Variables and Cursors
- Using PL/SQL Tables of Records in Packages

### **Using Oracle-Supplied Packages in Application Development**

- Using Oracle-Supplied Packages
- Examples of Some of the Oracle-Supplied Packages
- How Does the DBMS\_OUTPUT Package Work?
- Using the UTL\_FILE Package to Interact With Operating System Files
- Using the UTL\_MAIL Package

### **Using Dynamic SQL**

- The Execution Flow of SQL
- Working With Dynamic SQL
- When Do You Need Dynamic SQL?
- Using Native Dynamic SQL (NDS)
- Declaring Cursor Variables
- Executing a PL/SQL Block Dynamically
- Using Native Dynamic SQL to Compile PL/SQL Code

### **Design Considerations for PL/SQL Code**

- Standardize constants with a constant package
- Standardize exceptions with an exception package
- Write PL/SQL code that uses local subprograms
- Grant Roles to PL/SQL Packages and Standalone Stored Subprograms
- Use the NOCOPY compiler hint to pass parameters by reference
- Use the PARALLEL ENABLE hint for optimization
- Use the AUTONOMOUS TRANSACTION pragma to run independent transactions within a single transaction
- Describe the differences between invoker rights and definer rights

### **Creating Triggers**

- Describe different types of triggers
- Describe database triggers and their use
- Create database triggers
- Describe database trigger firing rules
- Remove database triggers

### **Creating Compound, DDL, and Event Database Triggers**

- Describe compound triggers
- Describe mutating tables
- Create triggers on DDL statements
- Create triggers on system events
- Display information about triggers

### **Using PL/SQL compiler**

- Using the PL/SQL Compiler Using the Initialization Parameters for PL/SQL Compilation
- Using the PL/SQL Compile Time Warnings
- Viewing the Current Setting of PLSQL\_WARNINGS
- Viewing the Compiler Warnings: Using SQL Developer, SQL\*Plus, or the Data Dictionary Views
- Guidelines for Using PLSQL\_WARNINGS



### **Managing Dependencies**

Describe dependent and referenced objects

Track procedural dependencies with dictionary views

Predict the effect of changing a database object upon stored procedures and functions

Manage local and remote procedural dependencies

*Prezzi e corsi potrebbero subire variazioni; si consiglia di verificare sul sito [www.novanext.it/training](http://www.novanext.it/training).*