

# Developing in PL / SQL

Hands-on course of 3 days - 21h

Ref.: ORD - Price 2024: CHF1 970 (excl. taxes)

## THE PROGRAMME

last updated: 01/2018

### 1) Introduction and refresher

- Transactional processing in Oracle.
- Objects and dictionary of an Oracle database.
- SQL and PL/SQL. Overview of PL/SQL.
- Tools used. Oracle documentation.

### 2) Language elements

- Host environments. Introduction to syntax Declaring PL/SQL variables and constants.
- Types of data and conversion. Predefined functions.
- Control instructions: IF- ELSE, WHILE loops, FOR loops.
- Composite types: records, indexed tables.
- Object types. Defining subprograms.
- Configuring subprograms.

*Exercise : Declaring variables. Changing the date. Typing attributes Using collections and their methods.*

### 3) Access to the database

- The database and the notion of a cursor.
- Access via implicit cursor: update, delete, insert, select. Using RETURNING and BULK COLLECT clauses.
- Collections and FORALL.
- Cursor FOR loops. Update cursors.
- Explicit cursors. Cursor variables.

*Exercise : Using explicit cursors and BULK COLLECT.*

### 4) Stored procedures

- Managing stored subprograms, stored libraries and packages
- Managing stored procedures: Access rights, dictionary views, and dependency.
- Using packages.

*Exercise : Creating procedures, stored functions, and packages.*

### 5) Error management

- Handling an exception.
- Using RAISE\_APPLICATION\_ERROR.
- Triggering an exception via RAISE.
- Propagation and transaction management.

*Exercise : Using Raise and RAISE\_APPLICATION\_ERROR.*

### 6) Triggers

- Definition and types of Event/Action triggers. Order triggers.
- Lines (using: NEW and: OLD), E/C/A (Event/Condition/Action).
- "INSTEAD OF" on views, on system events.

#### TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

#### ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more. Participants also complete a placement test before and after the course to measure the skills they've developed.

#### TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

#### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

#### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@ORSYS.fr to review your request and its feasibility.

- Using autonomous transactions.

*Exercise : Creating order triggers and line triggers.*

## 7) Complements

- Dynamic SQL. Using dbms\_application\_info and WRAP to hide the source code.

# DATES

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## REMOTE CLASS

2025 : 03 Feb, 12 May, 22 Sep,  
24 Nov