

# Course : Oracle SQL, advanced

**Practical course - 2d - 14h00 - Ref. OSP**

**Price : 1600 CHF E.T.**

★★★★★ 4 / 5

Ce cours pratique étudie les techniques avancées du SQL d'Oracle qui ne cesse d'évoluer. La description de fonctions récentes est détaillée (jusqu'à la version 23ai). La manipulation des données semi-structurées et des données non structurées est aussi abordée (XML, JSON, LOB et BFILE).

## Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Use SQL functions and techniques for versions 11g to 23ai
- ✓ Managing XML and JSON documents
- ✓ Writing queries with advanced functions
- ✓ Handling LOBs (CLOB and BFILE)

## Intended audience

Anyone indirectly involved in executing advanced SQL queries (developers, DBAs, project managers).

## Prerequisites

Good knowledge of the basics of SQL or knowledge equivalent to that provided by the course "Oracle SQL" (ref. OSL). Experience required.

## Course schedule

### 1 Introduction

- The different versions of Oracle.
- SQL standards.
- Integrity (uniqueness, referentiality, consistency), principles of use and best practices.
- What's new in SQL.
- Documentation and webography.

### Hands-on work

Create tables with referential integrity. Add and remove constraints.

### PARTICIPANTS

Anyone indirectly involved in executing advanced SQL queries (developers, DBAs, project managers).

### PREREQUISITES

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### 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.

## 2 SQL reminders

- Parametric queries.
- SQL scalar functions.
- Joins and subqueries.
- Set operators.
- Grouping functions (ROLLUP, CUBE, GROUPING).
- Analytic and rank functions (OVER).
- CTE (WITH).

### Hands-on work

Reprise en main du SQL interactif, manipulations de fonctions.

## 3 Complex functions

- Aggregations with LISTAGG.
- Regular expressions (REGEXP\_LIKE, REGEXP\_REPLACE...).
- New ANSI joints (LATERAL and CROSS APPLY).
- Transpositions (PIVOT and UNPIVOT).
- Temporal validity (PERIOD FOR).

### Hands-on work

Write queries using the features presented.

## 4 Semi-structured and unstructured data

- Object functionality (types, NESTED TABLE and VARRAY collections).
- XML extraction and content generation functions.
- JSON extraction and content generation functions.
- LOB management (CLOB and BFILE).

### Hands-on work

Handle XML and JSON documents. Add a photo to a table, add a CV to a table.

## 5 Supplements

- Invisible, identity and virtual columns
- Hierarchical and recursive queries
- Temporary tables.
- Remote tables.

### Hands-on work

Manipulate some of the concepts presented.

### 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.

## Dates and locations

### REMOTE CLASS

2026 : 22 June, 5 Oct., 14 Dec.