SQL databases and language for non-IT people

Hands-on course of 3 days - 21h
Ref.: SIF - Price 2025: 1 800 (excl. taxes)

EDUCATIONAL OBJECTIVES

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

Understand the principles of the relational model and the mechanisms of an SQL-compatible database

Create queries to extract data based on various criteria

Perform joins to retrieve information from multiple tables

Use functions and perform data aggregation calculations

Combine the results of multiple queries using set operators

TEACHING METHODS

Many sequential exercises for extracting data from an example database. Education common to all relational databases (Oracle, SQL Server, DB2, PostGreSQL, MySQL, Access, SQL Lite, etc.)

HANDS-ON WORK

Alternating presentations of example queries, demonstrations and hands-on exercises.

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.

THE PROGRAMME

last updated: 07/2025

1) Introduction to databases

- What are a database and a database server?
- Reading a relational model.
- Creating a table. Notions of columns and types
- Primary key and uniqueness.
- Notion of referential integrity.
- Tool for querying a database.

Exercise : Investigating the database by searching for tables, columns, and keys.

2) Extracting data from a table

- What is an extraction query?
- List the values to be returned.
- The WHERE clause for filtering data.
- The absence of a value (NULL marker).
- Returning unduplicated rows (DISTINCT).
- Restriction operators (BETWEEN, IN, LIKE, etc.).

Exercise : Querying multiple tables on different criteria.

3) Querying data from multiple tables

- Concept of joins: Returning information from multiple tables.
- Inner join and outer join.
- The "natural" join... and its difficulties.
- Assembly operators (UNION, INTERSECT...).
- Introduction to views: principle and benefits

Exercise : Creating queries with joins and assembly operators.

4) Ranking and statistics

- Finding aggregate values (MIN, MAX, AVG, SUM, etc.).
- Calculating relative aggregates with GROUP BY.

- Filtering aggregate values with HAVING.
- Mixing aggregates and details with OVER.
- Ranking results with RANK, ROW_NUMBER.

Exercise : Creating queries using simple and aggregate calculations. Subtotals and numbering.

5) Presenting and sorting data

- Presenting data from columns with aliases
- Converting from one type to another.
- Making choices using the CASE operator.
- Sorting data with ORDER BY.
- Operations on character strings and dates.

Exercise : Using functions to improve the presentation of the query result.

6) Using subqueries

- What is a subquery?
- Different types of results.
- Subqueries of lists and IN, ANY/SOME and ALL operators.
- Correlated subqueries.

Exercise : Writing queries that include subqueries of different forms.

DATES

REMOTE CLASS
2025 : 08 oct.