SQL Server: SQL Programming
versions 2016 à 2008

Hands-on course of 3 days - 21h
Ref.: PSQ - Price 2025: 2 030 (excl. taxes)
The price for the 2026 session dates may be revised

EDUCATIONAL OBJECTIVES

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

Understand the relational model and identify the objects of a database.

Query and classify a table's data using simple operators.

Return data from multiple tables using joins and subqueries.

Group together data and perform calculations for analysis purposes.

Work with data in database tables.

TEACHING METHODS

Active learning based on examples, demonstrations, experience-sharing, real cases, and an evaluation of what was learned from the training.

HANDS-ON WORK

The examples and hands-on work are carried out in MS SQL Server, one of the closest RDBMSs to the SQL standard.

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: 08/2024

1) Relational algebra and the SQL standard.

- The concepts of the relational model.
- History of RDBMSs and the SQL language.
- Entities, associations, and ER diagrams.
- Types of data and value expressions.

Role-playing : Learn about and register for the AVIT® certification option. Getting started with the software SQL Server Management Studio. Discovering the studied database.

2) Database theory

- Elements of the DBMS.
- Tables, keys, and normal forms.
- Entities, associations, and ER diagrams.
- Column and table restrictions.

Hands-on work : Identifying the objects of a database. Determining the normal form type of a relationship and a transformer, creating an ER diagram.

3) Single-table data querying

- Structure of a SELECT query.
- WHERE filters, predicates, and ternary logic (NULL).
- SQL operators and expressions.
- Predefined functions.

Hands-on work : Extraction using the WHERE clause. Using IN, LIKE, CASE, etc. operators of numerical operators, data, string functions Data sorting

4) Multi-table querying

- Combining results with set clauses (UNION, INTERSECT, EXCEPT).
- Overview of joins.
- Embedding queries.
- Using CTEs and discovering recursive queries.

- Correlated subqueries and the EXISTS operator.
Hands-on work : Using set clauses, creating queries with joins.

5) Data analysis
- Aggregation functions (AVG, SUM, COUNT, etc.).
- Creating subsets (GROUP BY clause).
- Filtering aggregates with the HAVING clause.
- Discovering data analysis functions (LEAD, LAG...) and ranks (RANK, ROW_NUMBER, NTILE...).
Hands-on work : Analyzing data by writing queries that use calculations with grouping.

6) Updating data
- INSERT, UPDATE, DELETE, TRUNCATE orders.
- Simple updates.
- Updating with subqueries.
- Updating data through views.
Hands-on work : Database table insertion and update operations.

7) Introduction to procedural SQL
- SQL dialects of major publishers.
- Basic notions of triggers.
- Introduction to stored procedures.
- UDFs or “user” functions.
Hands-on work : Hands-on work

DATES

REMOTE CLASS
2025 : 08 déc.

2026 : 02 mars, 04 mai, 08 juil.,
02 nov.