Course : SQL Server, advanced SQL programming

versions 2022 to 2012
Practical course - 2d - 14h00 - Ref. PAV
Price : 1600 CHF E.T.

★★★★½ 4,2 / 5

(BEST)

In this course, you'll learn about advanced SQL expressions and operators, and how to use them effectively to solve complex data extraction problems. You'll learn how to group, analyze, sample and retrieve hierarchical data.

Teaching objectives

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

- ✓ Writing subqueries and combined queries
- ✓ Use decision grouping functions
- ✓ Implement analytical and windowing functions
- ✓ Writing recursive queries
- ✓ Use complex update commands with the MERGE instruction

Intended audience

Developers, administrators and advanced users who need to implement complex SQL Server queries.

Prerequisites

Good knowledge of the basics of the SQL language, or knowledge equivalent to that provided by the course " SQL Server, SQL programming " (ref. PSQ).

Practical details

Hands-on work

This course alternates the presentation of concepts and syntax with numerous application exercises.

Teaching methods

Participants will be able to retrieve the examples and practical exercises, as well as the common thread. Web and bibliographical references are provided for further information on each topic.

Course schedule

1 Reminder of multi-table queries

- Set operators UNION, INTERSECT and EXCEPT.
- Reminder of internal and external joints.
- Master subqueries in different parts of SQL statements.
- Nested query correlations.
- Intra-join operations with APPLY (CROSS, OUTER) for XML functions and fragments.

Hands-on work
Case studies of queries involving several tables.

2 Individual operators

- Usefulness of the Cartesian product (CROSS JOIN).
- Relational division.
- Decision-making grouping with CUBE, ROLLUP and GROUPING SET.
- Analytical and windowing functions: scheduling and aggregation with OVER and WINDOW clauses.
- Crosstabs with PIVOT and UNPIVOT.
- Sample data with TABLESAMPLE.

Hands-on work
Solving relational split cases. Use of decision grouping functions. Use analytical functions.

3 Table expressions

- Common Table Expression (CTE) or non-persistent view.
- Use of the WITH keyword to specify a CTE.
- The different tree querying techniques.
- Solving graph problems with recursive queries.
- Use tally tables to solve complex queries.

Hands-on work
Express queries in the form of recursive CTE.

4 Writing data

- Update and delete data with subqueries.
- Use of extended update and delete syntax with joins.
- Insert, update or delete operations based on the results of a join, the MERGE operator.
- Retrieve added, modified or deleted data, using the OUTPUT clause.

Hands-on work
Write complex update commands using the MERGE statement and subqueries.

Dates and locations

REMOTE CLASS
2026 : 23 Feb., 23 Apr., 25 June, 27 Aug., 29 Oct., 17 Dec.