

Microsoft SQL Server - Transact-SQL language

Advanced level

Training objectives

The training is designed for anyone who wants to learn the technique of using relational databases. The skills acquired during the training can be useful in performing daily tasks in work of a programmer, database administrator as well as an analyst creating various reports and statements.

During the training course, participants will gain knowledge on the use of advanced functionalities of the T-SQL language, in particular windowing, analytical functions, scripting principles, the use of variables, conditional statements and temporary tables. Additionally, the acquired skills will allow you to enrich your own solutions by processing spatial and hierarchical data types. Knowledge of the application of the discussed T-SQL constructs will allow participants to solve analytical problems with a high degree of complication, requiring the execution of entire sequences of operations for processing data in a variety of formats.

Skills

After completing the course, the participant will be able to:

- Use windowing, analytic, and ranking functions in advanced data analysis scenarios.
- Create scripts that perform data processing.
- Use temporary tables to temporarily store staged data processing results.
- Use full-text indexes for advanced database searching.
- Use spatial and hierarchical data.

Audience profile

The training is designed for those who want to learn the technique of using relational databases. The skills acquired during the training can be useful in the daily work of a programmer, database administrator as well as an analyst creating various reports and statements.

Requirements

Participants of the training are required to have knowledge of T-SQL to the extent that they are able to create selection, filtering, grouping and data aggregation queries (T-SQL language training scope - basic level).

Duration

3 days, 24 training hours

Training delivery method

The training is conducted in the form of alternating mini lectures and practical exercises. The training combines expert subject matter knowledge with practical examples of its use in the work environment.

Theoretical and practical knowledge

Window functions - use of the OVER clause.

Ranking functions.

Analytical functions.

Examples of the use of window functions

- Calculations of data with accumulation (cumulative),
- moving averages.

Full-text Search.

Use of spatial and geographic data

- data storage,
- reference systems,
- creation of geometric shape records,
- spatial queries and indexes.

Use of hierarchical type (HierarchyID).

Principles of scripting in T-SQL - batches.

The use of variables

- scalar variables,
- tabular variables.

Constructions that control the flow of the program (WHILE, IF).

Use of temporary tables.

- Global temporary tables,
- Local temporary tables.

Differences and similarities in the use of tabular variables and temporary tables.

Processing data using cursors.

Development path

After completing the training, it is recommended to take the following training courses:

- T-SQL language - programming. The training allows you to master creating stored procedures, functions and triggers. It discusses best practices for creating custom code.
- T-SQL Language - Using XML - training on processing data in XML format.
- T-SQL Language - Query Optimization and Performance Tuning - training discussing tools to improve query execution and the principles of troubleshooting performance problems.
- SQL Server - administration. Knowledge of the principles of the various components of SQL Server allows you to create more efficient scripts and programs in T-SQL.

COMARCH Training

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