

Microsoft SQL Fundamentals

Duration: 3 Days · **Training format:** Virtual Classroom / Online

Description

In the Microsoft SQL Fundamentals training, where basic database concepts are explained, data query techniques are covered in detail. At the same time, basic database objects such as Stored Procedure, Table, View and Function are discussed. At the end of this training, participants will have learned all kinds of data query techniques and will be able to create and manage database objects.

Outline

Introduction to SQL Server

- Concepts of Data, Database and Database Management Systems.
- Relational Database Systems and Table Structure.
- What is SQL? Where is it used? What is SQL Server?
- Getting to Know SQL Server Management Studio (SSMS)
- Query Execution Methods.

Introduction to T-SQL Language

- What Can We Do With SQL?
- Quick Impression. (Select, Where, Like, Sum, Min...)
- Basic T-SQL Elements.
- Classification of T-SQL Commands.
- Select Statement (Building Blocks and Working Logic of the Select Statement)
- List All Tables and Columns.

Querying Data with a SELECT Statement

- Writing a Basic Select Statement.
- Fetching Singular Data with DISTINCT.
- SELECT COUNT (DISTINCT) Expression.
- Nickname Columns and Tables.

Operators and Filtering

- Arithmetic Operators.
- Where Structure and Base Comparison Operators.
- Where Structure and Logical Operators.

- Use of AND&OR together.
- Where Structure and Other Operators. (In, Like, Between, Is Null...)
- Like Operator and Wildcards.

Sequencing

- Sorting with Order By.
- Offset-Fetch Structures.
- Doing pagination.
- BALL Emoticon.

Grouping and Working on Group Data

- Working with Aggregate Functions.
- Predefined functions (Sum, Max, Avg, etc.).
- Use of DISTINCT in Aggregate Functions.
- Group By Statement and Working Structure.
- Use of Group By and Having Statements.
- Having and Where Comparison.
- Grouping Set.
- Cube, Rollup.
- Query Writing Order and SQL Query Processing Order.

Querying from More Than One Table

- Understanding the database structure.
- The concept of normalization.
- Database Diagram.
- PK and FK Concepts.
- Types of relationships.
- Join Concept and join variants (Inner, Left, Right, Full, Cross...)

SET Operators and the Concept of APPLY

- UNION and UNION ALL.
- Use of EXCEPT and INTERSECT.
- APPLY Statements (Cross and Outer).
- Use of PIVOT, UNPIVOT.

Working with Sub Queries

- Working with subqueries.
- Scaler subqueries.
- Multivalued subqueries.

- The concept of a derived table.
- Working with correlated subqueries.
- Use of EXIST, ANY-SOME, and ALL in Subqueries.

Predefined Functions (Writing Queries Using Functions)

- Scaler Functions (Mathematical, Text, Date and Time Functions)
- Aggregate Functions.
- Working with NULL Values and NULL Value Functions.

Prerequisites

There are no prerequisites for this course.