



# **COURSE OVERVIEW**

Topics include both querying and modifying data in relational databases that are hosted in Microsoft SQL Server-based database systems, including Microsoft SQL Server, Azure SQL Database, and Azure Synapse Analytics.

# WHO WILL BENEFIT FROM THIS COURSE?

This course can be valuable for anyone who needs to write basic SQL or Transact-SQL queries. This includes anyone working with data as a data analyst, a data engineer, a data scientist, a database administrator or a database developer. It can also be useful for others peripherally involved with data, or wanting to learn more about working with data such as solution architects, students, and technology managers.

# **COURSE OBJECTIVES**

Students will learn to:

- Introduction to Transact-SQL
- Sort and filter results in T-SQL
- Combine multiple tables with JOINs in T-SQL
- Write Subqueries in T-SQL
- Use built-in functions and GROUP BY in Transact-SQL
- Modify data with T-SQL

### **COURSE OUTLINE**

- Module 1: Introduction to Transact-SQL
- Understand what SQL is for
- Identify database objects in schemas
- Identify SQL statement types
- Use the SELECT statement
- Work with data types
- Handle NULLs

Module 2: Sort and filter results in T-SQL

- Sort your results
- Limit the sorted results
- Return paged results
- Remove duplicates
- Filter data with predicates



Module 3: Combine multiple tables with JOINs in T-SQL

- Describe join concepts and syntax
- Write queries that use inner and outer joins
- Write queries that use cross joins
- Write queries that use self joins

Module 4: Write Subqueries in T-SQL

- Understand what subqueries are
- Use scalar or multi-valued subqueries
- Use self-contained or correlated subqueries

Module 5: Use built-in functions and GROUP BY in Transact-SQL

- Categorize built-in functions
- Use scalar functions
- Use ranking and rowset functions
- Use aggregate functions
- Summarize data with GROUP BY
- Filter groups with HAVING

Module 6: Modify data with T-SQL

- Insert data into a table
- Generate automatic values
- Update data in a table
- Delete data from a table
- Merge data based on multiple tables

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• The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

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- An enthusiastic student services team is available to answer any questions and ensure a quality training experience

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