Querying Data with Transact-SQL

Course 55366 5 Days Instructor-led, Hands on

Course Information

How many bad business decisions could be avoided if your data was accurate, timely, and easy to query? Nearly 82% of organizations admit to basing decisions on out-of-date data, leading to costly mistakes. The Querying Data with Transact-SQL training course builds the skills you need to work confidently with Microsoft SQL Server.

Through hands-on, instructor-led training, you'll learn to query single and multiple tables, filter and sort results, join related data, use built-in functions, and work with stored procedures and transactions. You'll also master subqueries, table expressions, aggregations, and error handling, ensuring you can retrieve and manage data accurately, securely, and efficiently.

This course will give you the practical skills to retrieve, manipulate, and manage data using Transact-SQL in Microsoft SQL Server. You'll gain experience in writing efficient queries, combining data from multiple sources, and applying advanced features for accuracy and performance.

At Course Completion

Upon successful completion of this course, students will be able to:

- Write single-table and multi-table SELECT queries with filtering and sorting
- Use JOINs, subqueries, and table expressions to combine and structure data
- Apply built-in, aggregate, and window functions for analysis
- Work with stored procedures, parameters, and transactions
- Implement error handling and best practices for reliable query execution

Who Should Attend?

This course is intended for novice database developers, database administrators, Business Intelligence developers, report creators, and application developers who have an understanding of relational database concepts and have basic Windows navigation skills.

Prerequisites

- Working knowledge of relational databases.
- Basic knowledge of the Microsoft Windows operating system and its core functionality.

Contact ISInc for more information at 916.920.1700 or by visiting our website at http://www.isinc.com

Course Outline

Module 1: Introduction to Transact-SQL

- What is Transact-SQL
- The SELECT statement
- The WHERE clause
- Sorting results
- Calculations and CASE expressions

Module 2: Joining Tables

- The JOIN clause
- Inner, outer, self, and cross joins

Module 3: Filtering and Sorting Results

- ORDER BY clause
- WHERE clause filtering
- Limiting rows returned
- NULL handling

Module 4: SQL Server Data Types

- String and temporal data types
- Data type usage best practices

Module 5: Inserting, Updating, and Deleting Data

- Insert new records
- Update existing data
- Delete data safely

Module 6: Using SQL Server Functions

- Function types in SQL Server
- Data conversion functions
- Logical functions
- Handling NULLs

Module 7: Aggregating Data

- Aggregation methods
- GROUP BY and HAVING clauses
- Filtering aggregated results

Module 8: Subqueries

- Scalar, multi-valued, and correlated subqueries

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- Using EXISTS with subqueries

Module 9: Table Expressions

- Views
- Table-valued functions
- Derived tables
- Common table expressions (CTEs)

Module 10: Combining Data Sets

- UNION, INTERSECT, and EXCEPT
- APPLY operator

Module 11: Window Functions

- Understanding and implementing window functions

Module 12: PIVOT and Grouping Sets

- Data pivoting
- Grouping sets for advanced aggregations

Module 13: Stored Procedures

- Executing stored procedures
- Input/output parameters
- Creating simple procedures
- Using dynamic SQL

Module 14: Programming Features in T-SQL

- Loops and conditions

Module 15: Error Handling

- SQL Server error handling methods
- Structured exception handling

Module 16: Transactions

- Transaction concepts
- Implementing transactions in T-SQL