

Microsoft Office

866-963-4440

2071–Querying Microsoft SQL Server 2000 with Transact-SQL

2 Day

The goal of this course is to provide students with the technical skills required to write basic Transact-SQL queries for Microsoft SQL Server 2000.

WHO SHOULD ATTEND

This course is intended for SQL Server database administrators, implementers, system engineers, and developers who are responsible for writing queries.

PREREQUISITES

Before attending this course, students must have:

- Experience using a Microsoft Windows operating system.
- An understanding of basic relational database concepts, including:
 - Logical and physical database design.
 - Data integrity concepts.
- Relationships between tables and columns (primary key and foreign key, one-to-one, one-to-many, and many-to-many).
- How data is stored in tables (rows and columns).
- Familiarity with the role of the database administrator
- The course materials, lectures, and lab exercises are in English. To benefit fully from our instruction, students need an understanding of the English language and completion of the prerequisites.

AT COURSE COMPLETION

After completing the course, students will be able to:

- Describe the uses of and ways to execute the Transact-SQL language.
- Use querying tools.
- Write SELECT queries to retrieve data.
- Group and summarize data by using Transact-SQL.
- Join data from multiple tables.



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- Write queries that retrieve and modify data by using subqueries.
- Modify data in tables.
- Query text fields with full-text search.
- Describe how to create programming objects.

LESSON TOPICS

Module 1: Introduction to Transact-SQL

The following topics are covered in this module:

- The Transact-SQL Programming Language
- Types of Transact-SQL Statements
- Transact-SQL Syntax Elements
- Using SQL Server Books Online

After completing this module, you will be able to:

- Differentiate between Transact-SQL and ANSI-SQL.
- Describe the basic types of Transact-SQL.
- Describe the syntax elements of Transact-SQL.

Module 2: Using Transact-SQL Querying Tools

The following topics are covered in this module:

- SQL Query Analyzer
- Using the Object Browser Tool in SQL Query Analyzer
- Using the osql Utility
- Executing Transact-SQL Statements
- Creating and Executing Transact-SQL Scripts

After completing this module, you will be able to:

- Describe the basic functions of SQL Query Analyzer.
- Describe how to use the Object Browser tool in SQL Query Analyzer.
- Describe how to use the templates in SQL Query Analyzer.
- Describe how to use the osql command-line utility.



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- Execute Transact-SQL statements in various ways.

Module 3: Retrieving Data

The following topics are covered in this module:

- Retrieving Data by Using the SELECT Statement
- Filtering Data
- Formatting Result Sets
- How Queries Are Processed
- Performance Considerations
- Retrieving Data and Manipulating Result Sets

After completing this module, you will be able to:

- Retrieve data from tables by using the SELECT statement.
- Filter data by using different search conditions to use with the WHERE clause.
- Format result sets.
- Describe how queries are processed.
- Describe performance considerations that affect retrieving data.

Module 4: Grouping and Summarizing Data

The following topics are covered in this module:

- Listing the TOP n Values
- Using Aggregate Functions
- GROUP BY Fundamentals
- Generating Aggregate Values Within Result Sets
- Using the COMPUTE and COMPUTE BY Clauses
- Grouping and Summarizing Data

After completing this module, you will be able to:

- Use the TOP n keyword to retrieve a list of the specified top values in a table.
- Generate a single summary value by using aggregate functions.
- Organize summary data for a column by using aggregate functions with the GROUP BY and HAVING clauses.



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- Generate summary data for a table by using aggregate functions with the GROUP BY clause and the ROLLUP or CUBE operator.
- Generate control-break reports by using the COMPUTE and COMPUTE BY clauses.

Module 5: Joining Multiple Tables

The following topics are covered in this module:

- Using Aliases for Table Names
- Combining Data from Multiple Tables
- Combining Multiple Result Sets
- Querying Multiple Tables

After completing this module, you will be able to:

- Use aliases for table names.
- Combine data from two or more tables by using joins.
- Combine multiple result sets into one result set by using the UNION operator.

Module 6: Working with Subqueries

The following topics are covered in this module:

- Introduction to Subqueries
- Using a Subquery as a Derived Table
- Using a Subquery as an Expression
- Using a Subquery to Correlate Data
- Using the EXISTS and NOT EXISTS Clauses
- Working with Subqueries

After completing this module, you will be able to:

- Describe when and how to use a subquery.
- Use subqueries to break down and perform complex queries.

Module 7: Modifying Data

The following topics are covered in this module:



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- Using Transactions
- Inserting Data
- Deleting Data
- Updating Data
- Performance Considerations
- Modifying Data

After completing this module, you will be able to:

- Describe how transactions work.
- Write INSERT, DELETE, and UPDATE statements to modify data in tables.
- Describe performance considerations related to modifying data.

Module 8: Querying Full-Text Indexes

The following topics are covered in this module:

- Introduction to Microsoft Search Service
- Microsoft Search Service Components
- Getting Information About Full-Text Indexes
- Writing Full-Text Queries
- Querying Full-Text Indexes

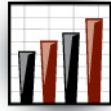
After completing this module, you will be able to:

- Describe Microsoft Search service function and components.
- Write full-text queries.
- Get information about full-text indexes.

Module 9: Introduction to Programming Objects

The following topics are covered in this module:

- Displaying the Text of a Programming Object
- Introduction to Views
- Advantages of Views
- Creating Views
- Introduction to Stored Procedures



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- Introduction to Triggers
- Introduction to User-defined Functions
- Working with Views

After completing this module, you will be able to:

- Display the text of a programming object.
- Describe the concepts of views.
- List the advantages of views.
- Describe stored procedures.
- Describe triggers.
- Describe user defined functions.