

Querying Microsoft SQL Server 2000 with Transact-SQL

Introduction

This course provides students with the technical skills required to write basic Transact-SQL queries for Microsoft® SQL Server™ 2000.

Pre-Requisites

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).
- For students who do not meet these prerequisites, the following course provides students with the necessary knowledge and skills: Course 1609, Designing Data Services and Data Models
- Familiarity with the role of the database administrator



Learning Solutions

Outcomes

After completing this 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.
- 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.

Course Details

Course code: MS 2071

Duration: 2 days

Starting time: 9.00 am

Finishing time: 4.30 pm

Lunch and refreshments are provided.

Booking guidelines

Contact our Learning Consultants on 1300 86 87246 and we will assist you with your booking.

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Course Outline

Ø 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.

Ø 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.
- Execute Transact-SQL statements in various ways.

Ø 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.

Ø 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.
- 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.

Ø 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.

Ø 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.

Course Outline

∅ Module 7: Modifying Data

The following topics are covered in this module:

- 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.

- 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.

∅ 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