



## Delegate Pre-Requisites

Delegates should have knowledge to the level of T-SQL courses. This is not a beginners course. For those requiring a basic level of T-SQL for reporting then please review the **Writing SQL Queries** course first.

## Course Duration

This is a Two Day Course

## Course Details

Courses commence at 9:30 a.m. through to 4:30 p.m.

A laptop computer is provided for each delegate attending on this packed programme to try out the tips and techniques demonstrated

All delegates will receive comprehensive Training Courseware to refer to during the course, together with a Course Attendance Certificate

## Schedule Courses

Off-site scheduled courses are available at a location near you - this course is available on our current programme - call our team for more details

## Corporate Courses

On-site Corporate courses are available - you provide the Conference Room ... we bring everything else!

## Modular Courses

Bite-sized 'modular' courses are available where you can build your own day course covering the topics that suit you - these are half day modules that you can mix and max



**FAST TRACK**  
COMPUTER TRAINING LTD



# Advanced Querying SQL Databases using T-SQL

## Target Audience

This course is aimed at both IT professionals and non-technical 'power users' who already have a solid foundational understanding and experience of Microsoft T-SQL, but are looking to attain more advanced T-SQL skills. The course includes writing queries for use with Microsoft SQL Server to be able to further analyze and manipulate data including more advanced T-SQL knowledge for those who have attended the **Writing SQL Queries** course.

## The Content

### Using Table Expressions

This module introduces T-SQL expressions which return a valid relational table, typically for further use in the query. The module discusses views, derived tables, common table expressions and inline table-valued functions and Temporary Tables

- \* Using Derived Tables
- \* Using Common Table Expressions
- \* Using Views
- \* Using Inline Table-Valued Functions
- \* Creating Temporary Tables

### Using Set Operators

This module introduces the set operators UNION, INTERSECT, and EXCEPT to compare rows between two input sets.

- \* Writing Queries with the UNION Operator
- \* Using EXCEPT and INTERSECT
- \* Using APPLY

### Advanced use of Window Ranking, Offset, and Aggregate Functions

This module introduces window functions including ranking, aggregate and offset functions. Much of this functionality is new to SQL Server 2012. It will cover the use of T-SQL functions such as ROW\_NUMBER, RANK, DENSE\_RANK, NTILE, LAG, LEAD, FIRST\_VALUE and LAST\_VALUE to perform calculations against a set, or window, of rows.

- \* Creating Windows with OVER
- \* Partitioning Sets with Ranking Functions
- \* Exploring Window Functions
- \* Writing Queries with PIVOT and UNPIVOT
- \* Working with Grouping Sets

### Programming with T-SQL

This module provides a basic introduction to T-SQL programming concepts and objects. It discusses batches, variables, control of flow elements such as loops and conditionals, how to create and execute dynamic SQL statements, and how to use synonyms.

- \* T-SQL Programming Elements
- \* Declaring variables
- \* IF conditions
- \* While Loops
- \* Controlling Program Flow

### Implementing Error Handling

This module introduces the use of error handlers in T-SQL code. It will introduce the difference between compile errors and run-time errors, and will cover how errors affect batches. The module will also cover how to control error handling using TRY/CATCH blocks, the use of the ERROR class of functions, and the use of the new THROW statement.

- \* Building Simple stored procedures
- \* Adding input and output parameters
- \* Return Values
- \* Using TRY / CATCH Blocks
- \* Working with Error Information

### Implementing Transactions

This module introduces the concepts of transaction management in SQL Server. It will provide a high-level overview of transaction properties, cover the basics of marking transactions with BEGIN, COMMIT and ROLLBACK.

- \* Transactions and the Database Engine
- \* Controlling Transactions
- \* Isolation Levels
- \* Understanding Locks and contention issues

**Call our team 01527 836840**

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