

## A Practical Introduction to Writing SQL Queries



### Course Objectives

To give delegates an introduction to the features and capabilities of Structured Query Language (SQL). The course covers elements of ANSI SQL using Microsoft SQL Server Management Studio SSMS

This course is suitable for anyone who wants to learn the basics of SQL whether using Microsoft SQL Server, Microsoft Access, Oracle, MySQL or other database systems.

### Prerequisites

It is recommended that students have good experience of windows and some experience of relational databases.

### Exercises

This course is instructor-led. Each section begins with an explanation and demonstration of a key concept. You then work through several practical exercises to apply your knowledge and test your understanding.

### TOPICS

#### Getting Started

- Relational Database Concepts
- The role of SQL
- Overview of the databases used in the workshop

#### Building your own Tables

- Understanding data types
- Data type management

### Writing Basic SQL Statements

- The syntax of the SELECT statement
- Using the DISTINCT, TOP keywords
- ORDER BY
- Examples of WHERE criteria including, AND, OR, LIKE wildcards comparison operators and BETWEEN, IN
- ISNULL() function v IS NULL criterion
- Optimising your SELECT statements

### Single Row Functions

- The types of functions available in SQL
- Performing mathematical calculations
- Performing String manipulations
- Conversion functions and their uses
- Column aliases

### Grouping Data with Aggregation

- How to write aggregate queries
- COUNT, SUM(), MAX(), MIN()
- GROUP BY
- HAVING

### Useful date functions

- GetDate( )
- DatePart( )
- DateName()

### If time permits - SQL Joins

- The principle of including data from multiple tables in queries