# Course Outline | SQL Skills Booster Workshop

2 day(s)

## Overview

This practical, workshop-style, SQL training course is for existing SQL developers or users who are currently working with data stored in database servers like SQL Server, Oracle, IBM DB2, PostgreSQL and MySQL and who wish to take their existing SQL skills to the next level. The course is highly practical in nature. Attendees learn by doing at their own individual pace and the focus throughout is on coding SQL by hand. The 'SQL Basics Checkup' section at the start of the course is mandatory (attendees must demonstrate their basic skills before progressing to the workshop section of the course). All other listed topics are prioritised by the attendee on a 'Pick and Choose' basis (the tutor may suggest an ideal order of working). On completion, a comprehensive set of course notes, examples, tutor and attendee scripts are made available online for each attendee.

## Prerequisites

Introductory level SQL skills are required as a prerequisite for this course.

## Course Outline

SQL Basics Checkup

- Ways of Solving the Problem
- Finding the Error
- Dealing with Common Traps
- Operator Precedence Traps
- When is a NOT not a NOT?
- Ready for the Filtering Challenge?
- An Inner Joins Checkup
- Aggregates and Grouping up to Scratch?
- What About Dates?
- Ready for the Basic Skills Challenge?

Beyond the Inner Join

- Self Joins
- Embracing Outer Joins: Left, Right and Full
- Making use of Cross Joins

Better Subqueries

- Ensuring Subqueries Work Every Time
- Working with Correlated Subqueries
- Subqueries in SELECT
- Using Common table Expressions (CTEs)
- Testing for existence with EXISTS

Resolving SQL Data Type Issues

- Know Your SQL Data Types
- Which SQL Data Type Is It?
- Common SQL Data Type Traps
- Converting SQL Data Types: Numbers and Strings
- Converting Dates and Strings
- Common Date Issues
- Dealing with NULL Checkup

Specific SQL Techniques

- Using SQL Views to Simplify your Work
- SQL Set Operations: UNION and INTERSECT

- Ranking Results with RANK(), PERCENT_RANK() and DENSE_RANK()

Some Advanced SQL Techniques

- Creating Running Totals, Averages and Counts
- Creating Date Sequences
- Creating Numeric Sequences
- Filling in Missing Values
- Creating Calendars Tables
- Selecting Random Rows
- Selecting Every nth Row
- Handling Duplicates
- Locating Extreme Values
- Working with Hierarchies
- Pivoting Data