

Introduction to SQL



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Structured Query Language, or SQL, is a programming language specifically created for databases.

Course Objectives

To provide delegates with the knowledge and skills required to retrieve and manipulate data held in relational databases using the SQL querying language.

Who will the Course Benefit?

Anyone who needs to manipulate data held in a standard relational database using basic SQL.

Pre-requisites

There are no pre-requisites, however, delegates would be assumed to have good general IT skills.

This course is run on a bespoke basis, giving you the opportunity to tailor the course to your exact requirements. To provide a starting point, we'd recommend you use the suggested course outline as a guide only.

The course runs from 9.30 am to approximately 4.30 pm.

Duration: 1 day.

Introducing relational databases

Basic table structure
Why a relational database?
Primary keys and foreign keys

SQL background

What is SQL
Brief history
SQL variations

Data Retrieval

Basic SQL structure
The SELECT statement
Fetching all data from a table
The DISTINCT statement
Fetching specific fields from a table

Sorting Data

The ORDER BY statement
Ascending and descending sorts
Sorting on multiple fields

Simple Filtering

Using WHERE to select specific data
Filter operators

Combining Filters

Using AND / OR
Bracketing filters

Creating Calculated Fields

Combining information from multiple columns
Using alias column names
Applying calculations to produce new columns

Displaying only partial data results

Using TOP number / percent

Summarising Data with Grouping

Aggregating field data with functions
Using the GROUP BY statement
Using the HAVING statement

Table Joins

Retrieving data from multiple tables
Joining data based on columns with common data using a JOIN statement

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Advanced SQL



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Pre-requisites

Delegates should have completed the SQL introduction training or gained the same knowledge as covered by that course

This course is run on a bespoke basis, giving you the opportunity to tailor the course to your exact requirements. To provide a starting point, we'd recommend you use the suggested course outline as a guide only.

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Using Functions and GROUP BY

Aggregating data with SQL functions

Using the HAVING statement

Advanced Joins

Inner joins

Left outer joins

Right outer joins

Full outer joins

Using Aliases

Multi- table queries using aliases

Using field aliases

Using Sub-Queries

Creating filters using sub-queries

Calculated fields using subqueries

Correlated subqueries

Union Queries

Union

Union all

Intersect

Except/minus

Data Manipulation Queries

Insert Queries

Update Queries

Programatic structures

Select case structures

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