

INTRODUCTION TO SQL

*This course concentrates on the **SELECT** statement of the Data Manipulation Language (DML); other statements in this category are also discussed. The Data Definition Language (DDL) statements are also introduced.*

Audience

The course is intended for those delegates who have no knowledge of SQL and need to know the basics, or for those with some experience who want to learn more.

Prerequisites

There are no prerequisites. General computer experience is assumed.

Duration

One day. The course is designed to give delegates hands-on practical experience in using ANSI standard SQL.

Course objectives

On completion of this course the delegate will be able to:

- Understand what a database is and its structure
- Use the **SELECT** statement to run general queries against a database
- Understand Primary and Foreign Keys
- Understand table Joins, Views and Unions
- Understand how to create, amend and delete a table
- Fix any SQL syntax and runtime errors when running queries

Course contents

Relational Database Concepts

What is a Database?; Types of Databases; Relationship types; Tables, Rows and Columns; Primary Keys, Foreign Keys and Indexes; Data integrity; Indexes; Data types; Data Dictionary; Getting started.

SQL Language Essentials

The **SELECT** statement; Conditional Selection; Logical Operators; More Complex Conditions: Compound Conditions; **IN** and **BETWEEN**; Using **LIKE**; Testing for **NULL**; Select Rows in a given order; Select Rows eliminating duplicates; Arithmetic Operations; Column Aliases.

Summaries, Groups and Joins

Aggregate Functions; The **GROUP BY** clause; The **HAVING** clause; Joining Tables; Creating a Join; Inner and Outer Joins; Column Qualification and Table Aliases; Comparing two rows in the same table.

Advanced Features

Views; Subqueries, **EXISTS** and **ALL**; Union; Union and Outer Join; Union **ALL**.
DDL (Data Definition Language):
Creating New Tables (**CREATE**)
Altering Tables (**ALTER**)
Removing Tables (**DROP**)
Advanced DML (Data Manipulation Language):
Adding Data (**INSERT**)
Deleting Data (**DELETE**)
Updating Data (**UPDATE**)