



## SQL

SQL or Structured Query Language is a standard language used to communicate with almost any database including MySQL, Microsoft SQL Server, Microsoft Access, PostgreSQL and Oracle.

### Objectives

This course will teach you all you need to know about SQL from basics to advanced joins.

Delegates may choose to write the Microsoft Technology Associate Exam 98-364 Database Fundamentals

NB! Assessment requires an extra day and is charged separately.

### Duration

3 days

### Audience

- Report Writers (anyone required to produce reports from a relational database)
- Web developers wanting to add database interaction to their web sites.

- Programmers who quickly wants to add SQL to their skills set.
- The hobbyist who wants to begin creating SQL scripts for upload to their own ISP.
- Students, and to those seeking a career in computing, who need a fundamental understanding of database administration with SQL.

## Pre-Requisites

- Above average computer literacy
- If you are bringing along your own laptop and you are using Microsoft SQL Server, it will be helpful to pre-install the database server and client software. Please call for assistance or arrive at least one hour before on the first day of the course so we can help you with the

## Outline

- Introduction
  - What is SQL
  - Relational Databases
  - SQL and Standards
  - SQL Implementations
  - Client - Server
  - SQL Syntax
- Select Statements
  - Overview of SELECT
  - Selecting One Field
  - Selecting Multiple Fields
  - Using a Wild Card
  - Calculations
  - Column Aliases
  - Oracle's Dual table
- Sorting and Filtering
  - Sorting Results
  - Limiting Rows
  - Using WHERE
  - Using AND/OR and NOT
  - Using LIKE
- Functions
  - String Functions

- Conversion Functions
- Numeric Functions
- Date Functions
- Aggregate (Group) Functions
- DISTINCT
- Grouping
  - Grouping Results
  - Filtering Using Having
- Joins
  - Inner Joins
  - Implicit inner join syntax
  - Using table aliases in joins
  - The Using statement
  - Joining Multiple Tables
  - Self Joins
  - Outer Joins
- Set Operators
  - UNION
  - UNION ALL
  - INTERSECT
  - EXCEPT or MINUS
- SELECT Summary
- Sub Queries
- Creating Structures
  - CREATE DATABASE
  - CREATE SCHEMA
- CREATE TABLE
  - Data Types
  - Field Modifiers
  - Table Level Constraints
  - CREATE TABLE AS
  - SELECT INTO
- CREATE VIEW
- Drop Queries
- Altering Tables

- Insert Queries
  - Simple Insert
  - Bulk Insert
  - INSERT SELECT
- Update Queries
  - Update Joins
- DELETE and TRUNCATE
- Indexes
  - Creating Indexes
  - Dropping Indexes
- Transactions
- Database Design