BOOST
THE LEADING TRAINING PROVIDER

Information Technology

Advanced SQL

Course Introduction

This training course is designed to provide participants with the advanced, new, and complex SQL techniques, allowing the delegates to understand the core innovative SQL concepts. This course creates capable SQL users, confident in executing more complicated commands when viewing and managing tables and running complex queries.

Training Course Methodology

The training course is designed to be interactive and participatory, and includes various learning tools to enable the participants to operate effectively and efficiently in a multifunctional environment. The course will use lectures and presentations, exercises, experiential and exposure to real world problems and policy choices confronting delegates.

Target Audience

- Cloud Computing Engineer
- Computer Network Specialist
- Computer Support Specialist
- Database Administrator
- Information Technology Analyst
- Information Technology Leadership
- Information Security Specialist
- Software/Application Developer
- Web Developer
- Technology sales consultant

Learning Objectives

- Apply advanced techniques in managing SQL such as advanced queries, how to add, update, and delete data, tables, views, and indexes.
- Enable the production of Databases and Apps.
- Scale emerging and dynamic technological networks
- Confidently execute more complicated commands when viewing and managing tables and running complex queries.

Course Outline

- **Day 01**

  Stored Procedure Basics

  - Pros and cons of stored procedures
  - Creating stored procedures
  - Three ways to execute
  - System stored procedures

  Variables

  - Declaring variables
  - SET versus SELECT
  - Tricks with variables and rowsets
  - So-called global variables

  Parameters and Return Values

  - Passing parameters
  - Default values and WHERE clauses
  - Output parameters
  - Using RETURN
- **Day 02**

Avoiding Scalar Functions

- What are scalar functions?
- Some examples
- Disadvantages of scalar functions
- Three advantages

Testing Conditions

- IF/ELSE statement
- Using CASE where possible

Looping

- Syntax of WHILE
- Breaking out of a loop
- Basic transactions
- Beginning a transaction
- Committing/rolling back
- Deleting and updating
- Using DELETE and UPDATE
- Sys.Objects
- Dropping objects

- **Day 03**

Creating Tables

- Creating Tables in SQL
- Inserting data
- Inserting single rows
- Inserting multiple rows

Temporary Tables and Table Variables

- Using temporary tables
- Creating table variables
- Pros and cons of each approach

Table Valued Functions

- In-line table-valued functions
- Multi- Statement table-valued functions
- Limitations of user-defined functions

- **Day 04**

  Derived Tables and CTEs

    - Using derived tables
    - Common Table Expressions (CTEs)
    - Recursive CTEs

  Subqueries

    - The concept of a subquery
    - Using ALL, ANY, and IN
    - Correlated subqueries
    - Using EXISTS
- **Day 05**

  Cursors

    - Syntax of fetching rows
    - When to use (and when not to)

  Error-Handling

    - Using TRY/CATCH
    - System error functions
    - Custom error messages
    - The obsolete @@ error function

  Debugging

    - Version differences
    - The Visual Studio debugger
    - The SQL Server debugger
    - Debugging (breakpoints, etc.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 23, 2025	June 27, 2025	5 days	4250.00 $	UAE - Dubai
Sept. 8, 2025	Sept. 12, 2025	5 days	4250.00 $	UAE - Dubai
Dec. 29, 2025	Jan. 2, 2026	5 days	5950.00 $	USA - Los Angeles