

Module 1 – Working with SQL and SQL Queries

1. Introduction to SQL

- a. Data Definition Language (DDL)
- b. Data Manipulation Language (DML)

2. Introduction to SQL Server

- a. SQL Server Management Studio
 - i. Create a new Database
 - ii. Queries

3. CREATE TABLE

- a. Database Modelling
- b. Create Tables using the Designer Tools
- c. SQL Constraints
 - i. PRIMARY KEY
 - ii. FOREIGN KEY
 - iii. NOT NULL / Required Columns
 - iv. UNIQUE
 - v. CHECK
 - vi. DEFAULT
 - vii. AUTO INCREMENT or IDENTITY
- d. ALTER TABLE

4. INSERT INTO

5. UPDATE

6. DELETE

7. SELECT

- a. The ORDER BY Keyword
- b. SELECT DISTINCT
- c. The WHERE Clause
 - i. Operators
 - ii. LIKE Operator
 - iii. IN Operator
 - iv. BETWEEN Operator
- d. Wildcards
- e. AND & OR Operators
- f. SELECT TOP Clause

g. Alias

h. Joins

- i. Different SQL JOINS

8. SQL Scripts

- a. Using Comments
 - i. Single-line comment
 - ii. Multiple-line comment
- b. Variables
- c. Built-in Global Variables
 - i. @@IDENTITY
- d. Flow Control
 - i. IF – ELSE
 - ii. WHILE
 - iii. CASE
 - iv. CURSOR

9. Views

- a. Using the Graphical Designer

10. Stored Procedures

- a. NOCOUNT ON/NOCOUNT OFF

11. Functions

- a. Built-in Functions
 - i. String Functions
 - ii. Date and Time Functions
 - iii. Mathematics and Statistics Functions
 - iv. AVG()
 - v. COUNT()
 - vi. The GROUP BY Statement
 - vii. The HAVING Clause
- b. User-defined Functions

12. Triggers

- a. Communication from other Applications
 - i. ODBC
 - ii. Microsoft Excel