SQL SERVER COURSE CONTENT

Duration- 24 Hours

Prerequisite - There are no Basic prerequisite of learning sql . It's a declarative query language used for databases

Course Objective - Understand basic concepts of how a database stores information via tables. Understanding of SQL syntax used with MySQL. Learn how to retrieve and manipulate data from one or more tables. Know how to filter data based upon multiple conditions.

Lab Setup Details :
Hardware requirement:

CPU :   I4/I5 , Hard Disk : 50GB , RAM :8 GB

Software Requirement:

- XAMPP https://www.apachefriends.org/download.html (DOWNLOAD VERSION 5.6.31)
- MSOFFICE 2010
- NOTEPAD++ https://notepad-plus-plus.org/download/v7.5.1.html (DOWNLOAD VER 7.5.1)
- SUBLIME TEXT3 https://www.sublimetext.com/3
- Visual Studio Code https://code.visualstudio.com/download
- PDF READER https://adobe-reader.en.softonic.com/download
- Browser Google Chrome OS Window 10

Course Outline-

Introduction to Microsoft SQL Server 2016
• The Basic Architecture of SQL Server
• SQL Server Editions and Versions
• Getting Started with SQL Server Management Studio

Introduction to T-SQL Querying
• Introducing T-SQL
• Understanding Sets
• Understanding Predicate Logic
• Understanding the Logical Order of Operations in SELECT statements

Writing SELECT Queries
• Writing Simple SELECT Statements
• Eliminating Duplicates with DISTINCT
• Using Column and Table Aliases
• Writing Simple CASE Expressions

Querying Multiple Tables
• Understanding Joins
• Querying with Inner Joins
• Querying with Outer Joins
• Querying with Cross Joins and Self Joins

Sorting and Filtering Data
- Sorting Data
- Filtering Data with a WHERE Clause
- Filtering with the TOP and OFFSET-FETCH Options
- Working with Unknown and Missing Values

Working with SQL Server 2016 Data Types
- Introducing SQL Server 2016 Data Types
- Working with Character Data
- Working with Date and Time Data

Using DML to Modify Data
- Inserting Data
- Modifying and Deleting Data

Using Built-In Functions
- Writing Queries with Built-In Functions
- Using Conversion Functions
- Using Logical Functions
- Using Functions to Work with NULL

Grouping and Aggregating Data
- Using Aggregate Functions
- Using the GROUP BY Clause
- Filtering Groups with HAVING

Using Subqueries
- Writing Self-Contained Subqueries
- Writing Correlated Subqueries
- Using the EXISTS Predicate with Subqueries

Using Set Operators
- Writing Queries with the UNION Operator
- Using EXCEPT and INTERSECT
- Using APPLY

Executing Stored Procedures
- Querying Data with Stored Procedures
- Passing Parameters to Stored Procedures
- Creating Simple Stored Procedures
- Working with Dynamic SQL

Implementing Error Handling
- Using TRY / CATCH Blocks
- Working with Error Information
- Controlling transactions with BEGIN, COMMIT, and ROLLBACK
- Adding error handling to a CATCH block