

# MS SQL SERVER COURSE



**ELEGANT  TRAINING**

## MS SQL

### Pre - requisites

Basic Understanding of ms office  
is enough to learn this course



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About

**MS SQL**

Microsoft SQL Server (MS SQL) is a relational database management system (RDBMS) developed by Microsoft. It is used to store and manage data, and it provides a powerful platform for handling large amounts of data in both transactional and analytical contexts. MS SQL is widely used by businesses, organizations, and developers for managing data-driven applications.

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## **INTRODUCTION TO MS SQL SERVER**

- Overview of SQL Server and its components
- Database concepts: Tables, Rows, Columns
- Introduction to SQL Server Management Studio (SSMS)
- Database creation and management
- Understanding the role of SQL Server in the enterprise

## **SQL BASICS**

- Introduction to SQL (Structured Query Language)
- Data Types in SQL Server (INT, VARCHAR, DATETIME, etc.)
- SQL Syntax and Structure
- SELECT Statement: Retrieving data
- WHERE Clause: Filtering data
- Sorting Data using ORDER BY
- Limiting the number of results (TOP, LIMIT)

## **ADVANCED SQL QUERIES**

- Joins: INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN
- Subqueries (Inline, Correlated Subqueries)
- Grouping Data with GROUP BY
- Aggregation Functions: COUNT(), SUM(), AVG(), MIN(), MAX()
- HAVING Clause for filtering groups
- Using UNION and UNION ALL
- Set Operations in SQL

## **DATA MANIPULATION**

- INSERT, UPDATE, DELETE Statements
- Transactions and ACID properties
- Using COMMIT and ROLLBACK
- Error handling with TRY-CATCH blocks



### **CONSTRAINTS AND INDEXING**

- Primary Key and Foreign Key Constraints
- UNIQUE and CHECK Constraints
- Default Constraints
- Indexing: Creating and managing indexes
- Clustered vs. Non-clustered Indexes
- Full-Text Indexes

### **9 SQL SERVER INTEGRATION SERVICES (SSIS)**

- Introduction to ETL (Extract, Transform, Load)
- SSIS Architecture and Components
- Creating and managing SSIS packages
- Data Flow in SSIS
- SSIS Error Handling and Logging

## **ADVANCED SQL SERVER FEATURES**

- Stored Procedures: Creation and Execution
- User-Defined Functions (UDFs)
- Triggers: AFTER, INSTEAD OF triggers
- Views and their usage
- Transactions and Isolation Levels

## **DATA TYPES AND FUNCTIONS**

- Date, Time, and String Functions
- Mathematical Functions
- Conversion Functions
- Handling NULL Values
- Error Handling in SQL Server

## **SQL SERVER REPORTING SERVICES (SSRS)**

- Introduction to SSRS
- Creating Reports using SSRS
- Report Management and Publishing
- Connecting to Data Sources in SSRS
- Parameters and Expressions in Reports





## CONTACT US

Phone : +971 4 399 7800

Mobile: +971 54 749 5664

Email: [info@elegant-training.ae](mailto:info@elegant-training.ae)

Approved by KHDA



Office Number 620, AB Center, Beside  
Ibis Hotel, Al Barsha 1 Near Insurance Market  
Metro Station, Sheikh Zayed Road,  
Dubai, UAE

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