

MS SQL Server

Description

This SQL Server training teaches developers all the Transact-SQL skills they need to create database objects like Tables, Views, Stored procedures & Functions and triggers in SQL Server. Gives idea about writing Queries & Sub-queries, working with Joins, etc. As well as database management skills like backup, restore, etc.

Expectations and Goals

- Learn Database models, Overview of SQL Server Management Studio and Transact-SQL language
- Master writing simple and complex queries that retrieve data from the database
- Calculate information across result sets using aggregate queries (sum, min, max, avg, etc.)
- Insert, update, and delete data, Retrieve data from tables
- Joins, Sub-queries, Working with Data Types, Procedure and Functions
- Understand the different Views, Working with Triggers
- Design a database, Maintain databases, tables, and sequences with SQL statements
- Create and manage views, Ensure the integrity of multiple, related database updates by using transactions
- Retrieve data using cursors, Manage binary data using BLOBs

Prerequisites

No prior experience is presumed.

Course Schedule

Module	Topic
Module 1	Introduction to DBMS File Management System And Its Drawbacks Database Management System (DBMS) and Data Models Physical Data Models Logical Data Models Hierarchical Data Model (HDBMS) Network Data Model (NDBMS) Relational Data Model (RDBMS) Object Data Model (ODBMS) Object Relational Data Model (ORDBMS) Conceptual Data Models Entity – Relationship (E-R) Model
Module 2	Introduction to SQL Server Advantages and Drawbacks Of SQL Server Connecting To Server Server Type Server Name Authentication Modes Sql Server Authentication Mode Windows Authentication Mode Login and Password Sql Server Management Studio and Tools In Management Studio Object Explorer Object Explorer Details Query Editor
Module 3	TSQL (Transact-Structured Query Language) Introduction to TSQL History and Features of TSQL

	<p>Types Of TSQL Commands</p> <ul style="list-style-type: none"> Data Definition Language (DDL) Data Manipulation Language (DML) Data Query Language (DQL) Data Control Language (DCL) Transaction Control Language (TCL) <p>Database</p> <ul style="list-style-type: none"> Creating Database Altering Database Deleting Database <p>Constrains</p> <ul style="list-style-type: none"> Procedural Integrity Constraints Declarative Integrity Constraints Not Null, Unique, Default and Check constraints Primary Key and Referential Integrity or foreign key constraints <p>Data Types In TSQL</p> <p>Table</p> <ul style="list-style-type: none"> Creating Table Altering Table Deleting Table
Module 4	<p>Data Manipulation Language</p> <ul style="list-style-type: none"> Insert Identity Creating a Table from another Table Inserting Rows from One Table to Another Update Computed Columns Delete Truncate Differences Between Delete and Truncate
Module 5	<p>Data Query Language (DQL)</p> <ul style="list-style-type: none"> Select Where clause Order By Clause Distinct Keyword IsNull() function Column aliases Predicates Between ... And In Like Is Null
Module 6	<p>Built In Functions</p> <ul style="list-style-type: none"> Scalar Functions Numeric Functions Character Functions Conversion Functions Date Functions Aggregate Functions Convenient Aggregate Functions Statistical Aggregate Functions Group By and Having Clauses

	<p>Super Aggregates Over (partition by ...) Clause Ranking Functions Common Table Expressions (CTE)</p>
Module 7	<p>Top n Clause Set Operators Union Intersect Except Joins Inner Join Equi Join Natural Join Non-Equi Join Self Join Outer Join Left Outer Join Right Outer Join Full Outer Join Cross Join</p>
Module 8	<p>Sub Queries Single Row Sub Queries Multi Row Sub Queries Any or Some ALL Nested Sub Queries Co-Related Sub Queries Exists and Not Exists Indexes Clustered Index NonClustered Index Create , Alter and Drop Indexes Using Indexes</p>
Module 9	<p>Security Login Creation SQL Server Authenticated Login Windows Authenticated Login User Creation Granting Permissions Revoking Permissions Roles</p>
Module 10	<p>Views Purpose Of Views Creating , Altering and Dropping Indexes Simple and Complex Views Encryption and Schema Binding Options in creating views Transaction Management Introduction Begin Transaction Commit Transaction Rollback Transaction Save Transaction</p>

	<p>Role Of Log File In Transaction Management Implicit Transactions TSQL Programming Drawbacks Of TSQL that leads to TSQL Programming Introduction To TSQL Programming Control statements In TSQL Programming Conditional Control Statements If Case Looping Control Statements While Cursors Working With Cursors Types Of Cursors Forward Only and Scroll Cursors Static, Dynamic and Keyset Cursors Local and Global Cursors</p>
Module 11	<p>Stored Sub Programs Advantages Of Stored Sub Programs compared to Independent SQL Statements Stored Procedures Creating , Altering and Dropping Optional Parameters Input and Output Parameters Permissions on Stored Procedures User Defined Functions Creating, Altering and Dropping Types Of User Defined Functions Scalar Functions Table Valued Functions Inline Table Valued Functions Multi Statement Table Valued Functions Permissions On User Defined Functions Triggers Purpose of Triggers Differences Between Stored Procedures and User Defined Functions and Triggers Creating, Altering and Dropping Triggers Magic Tables Instead Of Triggers Exception Handling Implementing Exception Handling Adding and removing User Defined Error Messages To And From SQL Server Error Messages List Raising Exceptions Manual</p>
Module 12	<p>Project work and documentation</p>