

SQL Server TSQL Training

Thank you for contacting our **SQL School**. I am **Mr. Sai Phanindra**, trainer for this **MSSQL** / **SQL Server TSQL Training** Course. With 19+ Years of technical expertise exclusively on SQL & Database Technologies, I assure you 100% Practical, Step by Step Classes for this MSSQL course. My Profile @ https://www.linkedin.com/in/saiphanindra/



What is Database?

Database is a platform to store, extract and manage any type of data. Any amount of data.

What is SQL?

SQL (Structured Query Language) is a platform to connect, operate with database. We can store data, secure, report data and analyze data using SQL.

What is TSQL?

TSQL stands for Transact SQL. It is a Microsoft variant of SQL. TSQL is used to design, program and develop databases. It is very easier, faster and easier to work with.

Who can join this course?

Anyone. There are NO Pre-requisites for this course. We start the classes from scratch, right from Basics. Placement Assistance is part of the course, purely based on merit & opportunities.

What about the Lab? What are the System Requirements?

Window OS; 6 GB RAM; Any Processor. We shall guide you for Software Installation, Practice.

SQL Server TSQL Course Plans:

	Course	Chapters	Applicable for	Duration
Plan A	1. MSSQL, TSQL Queries	Ch 1 to Ch 15	Data Analysts, Data Engineers, Data Scientists	3 Weeks
Plan B	 MSSQL, TSQL Queries TSQL Programming Query Tuning 	Ch 1 to Ch 30	Database Developers SQL Programmers	5 Weeks
Plan C	 MSSQL, TSQL Queries TSQL Programming Query Tuning Azure SQL Development 	Ch 1 to Ch 40	Database Developers, Azure SQL Developers	7 Weeks

Module 1: SQL Server TSQL (MS SQL) Queries

Helpful for Data Analysts, Data Engineers, Data Scientists, BI Developers

Helpful for Data Alialysis, Data Eligineers, Data Scientists, bi Developers					
Ch 1: Introduction	Ch 2: Installations	Ch 3: SQL Basics - 1			
✓ Database Introduction	✓ SQL Server 2019, 2017	✓ Need for Databases, Tables			
✓ Types of Databases	✓ SSMS Tools Installation	✓ Need for SQL Commands			
✓ Need for & ETL, DWH	✓ Database Engine (OLTP)	✓ DDL, DML & DQL Statements			
✓ BI Implementations	✓ SCM, Configuration Tools	✓ Database Creation @ GUI			
✓ SQL Server Advantages	✓ Instance Types, Uses	✓ Data Operations @ GUI			
✓ Version, Editions of MSSQL	✓ Authentication Modes	✓ Session ID, SQL Context			
✓ Realtime Database Job Roles	✓ Collation, File Stream	✓ DB, Tables, Data @ SQL			
Ch 4: SQL Basics - 2	Ch 5: Data Imports, Schemas	Ch 6: Constraints, Index Basics			
✓ DDL Variants in MSSQL	✓ Data Imports with Excel	✓ Need for Constraints, Keys			
✓ DML Variants in MSSQL	✓ ORDER BY & UNION	✓ NULL, NOT NULL, UNIQUE			
✓ INSERT & INSERT INTO	✓ UNION ALL For Sorting Data	✓ Primary Key & Foreign Key			
✓ SELECT & SELECT INTO	✓ Creating, Using Schemas	✓ RDBMS and ER Models			
✓ Basic Operators in SQL	✓ Real-world Banking Database	✓ Identity Property, Default			
✓ Special Operators in MSSQL	√ Table Migrations @ Schemas	✓ Clustered Index, Primary Key			
✓ ALTER, ADD, TRUNCATE, DROP	✓ 2 Part, 3 Part & 4 Part Naming	✓ Non Clustered Index, Unique			

Ch 7: Joins & Views Basics ✓ JOINS: Purpose. Inner Joins ✓ Left / Right / Full Outer Joins ✓ Cross Joins, Query Tuning ✓ Creating & Using Views ✓ DML, SELECT with Views ✓ RLS: WITH CHECK OPTION ✓ System Views & Metadata	Ch 8: Functions(UDF), Data Types ✓ Using Functions in MSSQL ✓ Scalar Value Functions ✓ Inline & Multiline Functions ✓ Date & Time Functions ✓ String, Aggregate Functions ✓ Data Types : Integer, Char, Bit ✓ SQL Variant, Timestamp, Date	Ch 9: Stored Procedures, Models ✓ Stored Procedures & Usage ✓ Creating, Testing Procedures ✓ Encryption, Deferred Names ✓ SPs for Validations, Analysis ✓ System SPs, Recompilation ✓ Normal Forms & Types ✓ Data Models, Self-References
Ch 10: Triggers, Temp Tables ✓ Need for Triggers ✓ DDL & DML Triggers ✓ Using Memory Tables ✓ Data Replication, Automation ✓ Local & Global Temp Tables ✓ Testing & Using Temp Tables ✓ SELECT INTO & Bulk Loads	Ch 11: DB Architecture, Locks ✓ Planning VLDBs : Files, Sizing ✓ Filegroups, Extents & Types ✓ Log Files : VLF, Mini LSN ✓ Table Location, Performance ✓ Schemas, Transfer, Synonyms ✓ Transactions Types, Lock Hint ✓ Query Blocking Scenarios	Ch 12: Cursors & CTEs, Links ✓ Cursors : Realtime Use ✓ Fetch & Access Cursor Rows ✓ CTEs for SELECT, DML ✓ CTEs: Scenarios & Tuning ✓ Linked Servers, Remote Joins ✓ Linked Servers: MSDTC, RPC ✓ Tuning Remote Queries
Ch 13: Merge, Upsert & Rank ✓ Need for Merge in ETL ✓ Incremental Loads with SQL ✓ MERGE and RANK Functions ✓ Window Functions, Partition ✓ Identify, Remove Duplicates	Ch 14: Grouping & Cube ✓ Group By & HAVING ✓ Cube, Rollup & Grouping ✓ Joins with Group By ✓ 3 Table, 4 Table Joins ✓ Query Execution Order	Ch 15: Self Joins, Excel Analysis ✓ Self Joins & Self References ✓ UNION, UNION ALL ✓ Sub Queries with Joins ✓ IIF, CASE, EXISTS Statements ✓ Excel Analytics, Pivot Reports

Real-time Case Study

Mini Project [Design, Queries, Stored Procedures, Functions, Joins, more..]

Module 2: TSQL Programming & Tuning

Ch 16: Adv. Stored Procedures 1	Ch 17: Adv. Stored Procedures 2	Ch 18: Adv. Stored Procedures 3
✓ Declaring, Using Variables	√ Table Valued Parameters	✓ Dynamic SQL Programs
✓ Using Triggers with Views	✓ Using TVP with Procedures	√ sp_executesql Extended SP
✓ Updatable Views, DML	✓ Creating User Defined Types	✓ Formatting Queries, Nvarchar
✓ Views & Stored Procedures	✓ Big Data Copy & Transactions	✓ Cursors Types: Local, Global
✓ Data Distributions in Tables	✓ Using SPs & Table Variables	✓ Cursor Types: Static, Dynamic
✓ Transactions with Procedures	√ Transactional Integrity	✓ Forward_Only, Scroll Types
✓ Conditional Commits in SPs	✓ Output Parameters in SP	✓ WHILE Loop: @@Fetch Status
✓ Rollback Ontions in Realtime	✓ IN and OUT Options Usage	✓ Variables with Dynamic SOL

Ch 19: Complex Functions (UDF)

- ✓ Inline, Table Line Functions
- ✓ Multi Line Table Functions
- ✓ Using LOOPs in Functions
- ✓ Variables & Return Values
- ✓ Table Generation Logic
- ✓ Date & Time Data Types
- ✓ Calendar Data Generations

Ch 20: Complex Functions - 2

- ✓ Reading JSON Data
- ✓ Using OPENROWSET()
- ✓ Using nvarchar(max) values
- ✓ Using PIVOT() Function
- ✓ Data De-duplication in SQL
- ✓ Recursive CTEs, Anchors
- ✓ Recursive CTEs, Anchors

Ch 21 – 24: Banking Project

- ✓ Design & Planning Phase
- ✓ Querying Phase
- √ Programming Phase
- ✓ Debugging Phase
- ✓ Testing Phase
- ✓ Complete Project Solution
- ✓ Project FAQs, Resume Points

Module 3: Query Tuning

Ch 25: Query Audits, Perfmon

- ✓ Query Performance Issues
- ✓ Reasons for Slow Queries
- ✓ Performance Tuning Options
- ✓ Performance Tuning Tools
- ✓ Query Store & History
- ✓ Activity Monitor, Perfmon
- **DMVs & DMFs for Audits**

Ch 26: Indexes & Tuning

- ✓ Indexes : Sort Locations
- ✓ Clustered & Online Indexes
- ✓ Non Clustered, Columnstore
- ✓ Included Indexes in Realtime
- √ Filtered Indexes & Usage
- ✓ Covering Index & Selectivity
- **Indexed Views (Materialized)**

Ch 27: Partitions, Statistics

- ✓ Partition Implementations
- ✓ Partition Functions & Schemes
- ✓ Primary & Secondary Types
- ✓ Data Archival with Partitions
- ✓ Compression with Partitions
- ✓ Statistics : Realtime Use
- Index, Column Stats, Updates

Ch 28: Tuning Tools, Exec Plans

- ✓ Tuning Tools and Workloads
- ✓ Profiler Tool : Trace Files
- ✓ Trace Filters and Rollover
- ✓ DTA Tool Recommendations
- ✓ PDS, & Index Size, Index Scan
- ✓ Query Cost Issues, Solutions
- ✓ Execution Plans, Index Seeks

Ch 29: MOT & Temporal Tables

- ✓ Memory Optimized Tables
- ✓ Non Clustered Primary Keys
- ✓ Stats Updates, Performance
- **Temporal Tables in Realtime**
- ✓ History Tracking & Testing
- ✓ Timestamp Columns Usage
- **Tuning Stored Procedures**

Ch 30: Locks & Isolation Levels

- ✓ Transactions & Locks
- ✓ Lock Types & Performance
- ✓ Lock Management Options
- ✓ Isolation Levels & TempDB
- ✓ Snapshots and Performance
- ✓ Deadlocks Simulations, Graphs
- **Profiler Tool & LIVE Locks**

Module 4: Azure SQL Dev

Ch 31: Cloud Basics, Azure Funda

- ✓ Cloud Fundamentals
- ✓ Cloud Concepts, Benefits
- ✓ IaaS, PaaS, SaaS Cloud Types
- ✓ Azure Cloud Concepts
- ✓ Azure Resources & Usage
- ✓ Azure Services & Purpose
- ✓ Azure Account & Subscription

Ch 32: Azure SQL Database

- ✓ Azure SQL Services
- ✓ Azure SQL Server Creation
- ✓ Azure SQL Databases
- ✓ Azure Firewall : Rules
- ✓ Test Connections from SSMS
- ✓ SSMS Tool : Test Connections
- ✓ ADS Tool : Installation, use

Ch 33: Azure SQL DB Migrations

- ✓ SQL DB Migration Options
- ✓ Data Migration Assistant: DMA
- ✓ DMA Tool, Migration Options
- ✓ On-Premises DB Export
- ✓ Azure SQL Database Import
- ✓ Azure Storage Account
- ✓ Linking SSMS with Azure

Ch 34: Azure SQL DB Licensing

- ✓ Azure SQL DB Licensing
- ✓ Per Database Licensing
- ✓ DTUs: Basic, Standard Types
- ✓ VPU and Plan Types
- ✓ DTU Versus VPU Licensing
- ✓ Elastic DTUs (eDTU) Usage
- ✓ Elastic Query Processing

Ch 35: Azure SQL DB Metrics

- ✓ Azure SQL DB Metrics
- ✓ CPU, Memory, Log Metrics
- ✓ Data File Metrics, Alerts
- ✓ Action Groups & Emails
- ✓ Query Performance Insight
- ✓ Automated Tuning Options
- ✓ Query Recommendations

Ch 36: Azure SQL DB Tuning, AI

- ✓ Automated Tuning Options
- ✓ Manual Tuning Options
- ✓ Server Level Tuning
- ✓ Database Level Tuning
- ✓ Al Search Service, Tuning
- ✓ Al Indexes and Practical Use
- ✓ Watermark Columns, Updates

Ch 37: Azure PaaS & Azure laaS

- ✓ Azure PaaS : Operations
- ✓ Azure Paas : Limitations
- ✓ Azure laaS : Advantages
- ✓ Azure laaS Components
- ✓ Azure Virtual Machines
- ✓ Capacity & Networking
- ✓ Disk & Memory Config.

Ch 38: Azure laaS Concepts

- ✓ Azure Virtual Machines
- ✓ SQL Server with Azure VM
- ✓ Access Azure VM from SSMS
- ✓ Migrations from PaaS
- ✓ Migrations from On-Premise
- ✓ Azure Data Studio, VMs
- ✓ Comparing SSMS & ADS Tool

Ch 39 – 40: Banking Project

- ✓ OLTP Databases in Azure
- ✓ Code Based Deployments
- ✓ Code Less Deployments
- ✓ Debugging Phases in Azure
- ✓ Testing Phases in Azure
- ✓ Complete Project Solution
- ✓ Project FAQs, Resume Points

All sessions are practical, step by step.





Please visit us on www.sqlschool.com

----- Thank you, All the best! -----