

# SQL School

Quality Training Assured

## SQL Server TSQL Queries & Programming

Hi !

Thank you for contacting our **SQL School**. I am **Mr. Sai Phanindra**, trainer for this **SQL Server TSQL Programming** 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/>



The advertisement features the SQL School logo at the top left, a '19 Years Excellence of Trainings' badge, and an 'ISO 9001 CERTIFIED' badge. The main title is 'MS SQL & TSQL' in large yellow letters, followed by '100% Real-Time, Job Oriented Trainings'. A list of topics includes Database, SQL Concepts, SQL Server TSQL Queries, RDBMS, Constraints, Keys, Joins & Group By Queries, Window Functions, Excel, Stored Procedures (SPs), Views, Triggers, Functions, Cursors & CTEs, Queries, Server, DB Architectue, Merge, Query Tuning, and Excel & Data Analytics. A list of features includes Step by Step, LIVE Project, Resume, FAQs, and LIVE Class Videos. A red banner says 'New batch every week !'. The trainer's name, Mr. Sai Phanindra, is shown with a photo and his LinkedIn profile. Contact information includes the phone number +91 96664 40801 and the website www.sqlschool.com. The address is #202, Sai Anu Avenue, Patrika Nagar, Hitech City, Hyderabad, India.

### 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.

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## What is TSQL?

**TSQL stands for Transact SQL.** It is a Microsoft variant of basic 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 Programming Course Plans :

	Modules	Chapters	Duration
Plan A	1. MSSQL, TSQL Queries	Ch 1 to Ch 15	3 Weeks
Plan B	1. MSSQL, TSQL Queries 2. TSQL Programming 3. Query Tuning	Ch 1 to Ch 30	5 Weeks
Plan C	1. MSSQL, TSQL Queries 2. TSQL Programming 3. Query Tuning Query Tuning 4. Azure SQL Development	Ch 1 to Ch 42	7.5 to 8 Weeks

## Module 1: SQL Server TSQL (MS SQL) Queries

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

<b>Ch 1: Introduction</b> <ul style="list-style-type: none"><li>✓ Database Introduction</li><li>✓ Types of Databases</li><li>✓ Need for &amp; ETL, DWH</li><li>✓ BI Implementations</li><li>✓ SQL Server Advantages</li><li>✓ Version, Editions of MSSQL</li><li>✓ Data Engineering Job Roles</li></ul>	<b>Ch 2: Installations</b> <ul style="list-style-type: none"><li>✓ SQL Server 2019, 2017</li><li>✓ SSMS Tools Installation</li><li>✓ Database Engine (OLTP)</li><li>✓ SCM, Configuration Tools</li><li>✓ Instance Types, Uses</li><li>✓ Authentication Modes</li><li>✓ Collation, File Stream</li></ul>	<b>Ch 3: SQL Basics - 1</b> <ul style="list-style-type: none"><li>✓ Need for Databases, Tables</li><li>✓ Need for SQL Commands</li><li>✓ DDL, DML &amp; DQL Statements</li><li>✓ Database Creation @ GUI</li><li>✓ Data Operations @ GUI</li><li>✓ Session ID, SQL Context</li><li>✓ DB, Tables, Data @ SQL</li></ul>
<b>Ch 4: SQL Basics - 2</b> <ul style="list-style-type: none"><li>✓ DDL Variants in MSSQL</li><li>✓ DML Variants in MSSQL</li><li>✓ INSERT &amp; INSERT INTO</li><li>✓ SELECT &amp; SELECT INTO</li><li>✓ Basic Operators in SQL</li><li>✓ Special Operators in MSSQL</li><li>✓ ALTER, ADD, TRUNCATE, DROP</li></ul>	<b>Ch 5: Data Imports, Schemas</b> <ul style="list-style-type: none"><li>✓ Data Imports with Excel</li><li>✓ ORDER BY &amp; UNION</li><li>✓ UNION ALL For Sorting Data</li><li>✓ Creating, Using Schemas</li><li>✓ Real-world Banking Database</li><li>✓ Table Migrations @ Schemas</li><li>✓ 2 Part, 3 Part &amp; 4 Part Naming</li></ul>	<b>Ch 6: Constraints, Index Basics</b> <ul style="list-style-type: none"><li>✓ Need for Constraints, Keys</li><li>✓ NULL, NOT NULL, UNIQUE</li><li>✓ Primary Key &amp; Foreign Key</li><li>✓ RDBMS and ER Models</li><li>✓ Identity Property, Default</li><li>✓ Clustered Index, Primary Key</li><li>✓ Non Clustered Index, Unique</li></ul>

<b>Ch 7: Joins &amp; Views Basics</b> <ul style="list-style-type: none"> <li>✓ JOINS: Purpose. Inner Joins</li> <li>✓ Left / Right / Full Outer Joins</li> <li>✓ Cross Joins, Query Tuning</li> <li>✓ Creating &amp; Using Views</li> <li>✓ DML, SELECT with Views</li> <li>✓ RLS : WITH CHECK OPTION</li> <li>✓ System Views &amp; Metadata</li> </ul>	<b>Ch 8: Functions(UDF), Data Types</b> <ul style="list-style-type: none"> <li>✓ Using Functions in MSSQL</li> <li>✓ Scalar Value Functions</li> <li>✓ Inline &amp; Multiline Functions</li> <li>✓ Date &amp; Time Functions</li> <li>✓ String, Aggregate Functions</li> <li>✓ Data Types : Integer, Char, Bit</li> <li>✓ SQL Variant, Timestamp, Date</li> </ul>	<b>Ch 9: Stored Procedures,Models</b> <ul style="list-style-type: none"> <li>✓ Stored Procedures &amp; Usage</li> <li>✓ Creating, Testing Procedures</li> <li>✓ Encryption, Deferred Names</li> <li>✓ SPs for Validations, Analysis</li> <li>✓ System SPs, Recompilation</li> <li>✓ Normal Forms &amp; Types</li> <li>✓ Data Models, Self-References</li> </ul>
<b>Ch 10: Triggers, Temp Tables</b> <ul style="list-style-type: none"> <li>✓ Need for Triggers</li> <li>✓ DDL &amp; DML Triggers</li> <li>✓ Using Memory Tables</li> <li>✓ Data Replication, Automation</li> <li>✓ Local &amp; Global Temp Tables</li> <li>✓ Testing &amp; Using Temp Tables</li> <li>✓ SELECT .. INTO &amp; Bulk Loads</li> </ul>	<b>Ch 11: DB Architecture, Locks</b> <ul style="list-style-type: none"> <li>✓ Planning VLDBs : Files, Sizing</li> <li>✓ Filegroups, Extents &amp; Types</li> <li>✓ Log Files : VLF, Mini LSN</li> <li>✓ Table Location, Performance</li> <li>✓ Schemas, Transfer, Synonyms</li> <li>✓ Transactions Types, Lock Hint</li> <li>✓ Query Blocking Scenarios</li> </ul>	<b>Ch 12: Cursors &amp; CTEs, Links</b> <ul style="list-style-type: none"> <li>✓ Cursors : Realtime Use</li> <li>✓ Fetch &amp; Access Cursor Rows</li> <li>✓ CTEs for SELECT, DML</li> <li>✓ CTEs: Scenarios &amp; Tuning</li> <li>✓ Linked Servers, Remote Joins</li> <li>✓ Linked Servers: MSDTC, RPC</li> <li>✓ Tuning Remote Queries</li> </ul>
<b>Ch 13: Merge, Upsert &amp; Rank</b> <ul style="list-style-type: none"> <li>✓ Need for Merge in ETL</li> <li>✓ Incremental Loads with SQL</li> <li>✓ MERGE and RANK Functions</li> <li>✓ Window Functions, Partition</li> <li>✓ Identify, Remove Duplicates</li> </ul>	<b>Ch 14: Grouping &amp; Cube</b> <ul style="list-style-type: none"> <li>✓ Group By &amp; HAVING</li> <li>✓ Cube, Rollup &amp; Grouping</li> <li>✓ Joins with Group By</li> <li>✓ 3 Table, 4 Table Joins</li> <li>✓ Query Execution Order</li> </ul>	<b>Ch 15: Self Joins, Excel Analysis</b> <ul style="list-style-type: none"> <li>✓ Self Joins &amp; Self References</li> <li>✓ UNION, UNION ALL</li> <li>✓ Sub Queries with Joins</li> <li>✓ IIF, CASE, EXISTS Statements</li> <li>✓ Excel Analytics, Pivot Reports</li> </ul>
<b>Real-time Case Study</b>		
<b>Mini Project</b>		

## Module 2: TSQL Programming

<b>Ch 16: Adv. Stored Procedures 1</b> <ul style="list-style-type: none"> <li>✓ Declaring, Using Variables</li> <li>✓ Using Triggers with Views</li> <li>✓ Updatable Views, DML</li> <li>✓ Views &amp; Stored Procedures</li> <li>✓ Data Distributions in Tables</li> <li>✓ Transactions with Procedures</li> <li>✓ Conditional Commits in SPs</li> <li>✓ Rollback Options in Realtime</li> </ul>	<b>Ch 17: Adv. Stored Procedures 2</b> <ul style="list-style-type: none"> <li>✓ Table Valued Parameters</li> <li>✓ Using TVP with Procedures</li> <li>✓ Creating User Defined Types</li> <li>✓ Big Data Copy &amp; Transactions</li> <li>✓ Using SPs &amp; Table Variables</li> <li>✓ Transactional Integrity</li> <li>✓ Output Parameters in SP</li> <li>✓ IN and OUT Options Usage</li> </ul>	<b>Ch 18: Adv. Stored Procedures 3</b> <ul style="list-style-type: none"> <li>✓ Dynamic SQL Programs</li> <li>✓ sp_executesql Extended SP</li> <li>✓ Formatting Queries, Nvarchar</li> <li>✓ Cursors Types: Local, Global</li> <li>✓ Cursor Types: Static, Dynamic</li> <li>✓ Forward_Only, Scroll Types</li> <li>✓ WHILE Loop: @@Fetch Status</li> <li>✓ Variables with Dynamic SQL</li> </ul>
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<b>Ch 19: Complex Functions (UDF)</b> <ul style="list-style-type: none"> <li>✓ Inline, Table Line Functions</li> <li>✓ Multi Line Table Functions</li> <li>✓ Using LOOPS in Functions</li> <li>✓ Variables &amp; Return Values</li> <li>✓ Table Generation Logic</li> <li>✓ Date &amp; Time Data Types</li> <li>✓ Calendar Data Generations</li> </ul>	<b>Ch 20: Complex Functions - 2</b> <ul style="list-style-type: none"> <li>✓ Reading JSON Data</li> <li>✓ Using OPENROWSET()</li> <li>✓ Using nvarchar(max) values</li> <li>✓ Using PIVOT() Function</li> <li>✓ Data De-duplication in SQL</li> <li>✓ Recursive CTEs, Anchors</li> <li>✓ Recursive CTEs, Anchors</li> </ul>	<b>Ch 21 – 25: Banking Project</b> <ul style="list-style-type: none"> <li>✓ Design &amp; Planning Phase</li> <li>✓ Querying Phase</li> <li>✓ Programming Phase</li> <li>✓ Debugging Phase</li> <li>✓ Testing Phase</li> <li>✓ Complete Project Solution</li> <li>✓ Project FAQs, Resume Points</li> </ul>
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**Realtime Project (Banking Domain)**  
**Includes 2000+ Lines of Code [Complete Solution, Project FAQs]**

### Module 3: Query Tuning

<b>Ch 26: Query Audits, Perfmon</b> <ul style="list-style-type: none"> <li>✓ Query Performance Issues</li> <li>✓ Reasons for Slow Queries</li> <li>✓ Performance Tuning Options</li> <li>✓ Performance Tuning Tools</li> <li>✓ Query Store &amp; History</li> <li>✓ Activity Monitor, Perfmon</li> <li>✓ DMVs &amp; DMFs for Audits</li> </ul>	<b>Ch 27: Indexes &amp; Tuning</b> <ul style="list-style-type: none"> <li>✓ Indexes : Sort Locations</li> <li>✓ Clustered &amp; Online Indexes</li> <li>✓ Non Clustered, Columnstore</li> <li>✓ Included Indexes in Realtime</li> <li>✓ Filtered Indexes &amp; Usage</li> <li>✓ Covering Index &amp; Selectivity</li> <li>✓ Indexed Views (Materialized)</li> </ul>	<b>Ch 28: Partitions, Statistics</b> <ul style="list-style-type: none"> <li>✓ Partition Implementations</li> <li>✓ Partition Functions &amp; Schemes</li> <li>✓ Primary &amp; Secondary Types</li> <li>✓ Data Archival with Partitions</li> <li>✓ Compression with Partitions</li> <li>✓ Statistics : Realtime Use</li> <li>✓ Index, Column Stats, Updates</li> </ul>
<b>Ch 29: Tuning Tools, Exec Plans</b> <ul style="list-style-type: none"> <li>✓ Tuning Tools and Workloads</li> <li>✓ Profiler Tool : Trace Files</li> <li>✓ Trace Filters and Rollover</li> <li>✓ DTA Tool Recommendations</li> <li>✓ PDS, &amp; Index Size, Index Scan</li> <li>✓ Execution Plans, Index Seeks</li> <li>✓ Query Cost Issues, Solutions</li> </ul>	<b>Ch 30: MOT &amp; Temporal Tables</b> <ul style="list-style-type: none"> <li>✓ Memory Optimized Tables</li> <li>✓ Non Clustered Primary Keys</li> <li>✓ Stats Updates, Performance</li> <li>✓ Temporal Tables in Realtime</li> <li>✓ History Tracking &amp; Testing</li> <li>✓ Timestamp Columns Usage</li> <li>✓ Tuning Stored Procedures</li> </ul>	<b>Ch 31: Locks &amp; Isolation Levels</b> <ul style="list-style-type: none"> <li>✓ Transactions &amp; Locks</li> <li>✓ Lock Types &amp; Performance</li> <li>✓ Lock Management Options</li> <li>✓ Isolation Levels &amp; TempDB</li> <li>✓ Snapshots and Performance</li> <li>✓ Deadlocks Simulations, Graphs</li> <li>✓ Profiler Tool &amp; LIVE Locks</li> </ul>

## Module 4: Azure SQL Dev

<p><b>Ch 32: Cloud Basics, Azure Funda</b></p> <ul style="list-style-type: none"> <li>✓ Cloud Fundamentals</li> <li>✓ Cloud Concepts, Benefits</li> <li>✓ IaaS, PaaS, SaaS Cloud Types</li> <li>✓ Azure Cloud Concepts</li> <li>✓ Azure Resources &amp; Usage</li> <li>✓ Azure Services &amp; Purpose</li> <li>✓ Azure Account &amp; Subscription</li> </ul>	<p><b>Ch 33: Azure SQL Database</b></p> <ul style="list-style-type: none"> <li>✓ Azure SQL Services</li> <li>✓ Azure SQL Server Creation</li> <li>✓ Azure SQL Databases</li> <li>✓ Azure Firewall : Rules</li> <li>✓ Test Connections from SSMS</li> <li>✓ SSMS Tool : Test Connections</li> <li>✓ ADS Tool : Installation, use</li> </ul>	<p><b>Ch 34: Azure SQL DB Migrations</b></p> <ul style="list-style-type: none"> <li>✓ SQL DB Migration Options</li> <li>✓ Data Migration Assistant: DMA</li> <li>✓ DMA Tool, Migration Options</li> <li>✓ On-Premises DB Export</li> <li>✓ Azure SQL Database Import</li> <li>✓ Azure Storage Account</li> <li>✓ Linking SSMS with Azure</li> </ul>
<p><b>Ch 35: Azure SQL DB Licensing</b></p> <ul style="list-style-type: none"> <li>✓ Azure SQL DB Licensing</li> <li>✓ Per Database Licensing</li> <li>✓ DTUs: Basic, Standard Types</li> <li>✓ VPU and Plan Types</li> <li>✓ DTU Versus VPU Licensing</li> <li>✓ Elastic DTUs (eDTU) Usage</li> <li>✓ Elastic Query Processing</li> </ul>	<p><b>Ch 36: Azure SQL DB Metrics</b></p> <ul style="list-style-type: none"> <li>✓ Azure SQL DB Metrics</li> <li>✓ CPU, Memory, Log Metrics</li> <li>✓ Data File Metrics, Alerts</li> <li>✓ Action Groups &amp; Emails</li> <li>✓ Query Performance Insight</li> <li>✓ Automated Tuning Options</li> <li>✓ Query Recommendations</li> </ul>	<p><b>Ch 37: Azure SQL DB Tuning, AI</b></p> <ul style="list-style-type: none"> <li>✓ Automated Tuning Options</li> <li>✓ Manual Tuning Options</li> <li>✓ Server Level Tuning</li> <li>✓ Database Level Tuning</li> <li>✓ AI Search Service, Tuning</li> <li>✓ AI Indexes and Practical Use</li> <li>✓ Watermark Columns, Updates</li> </ul>
<p><b>Ch 39: Azure PaaS &amp; Azure IaaS</b></p> <ul style="list-style-type: none"> <li>✓ Azure PaaS : Operations</li> <li>✓ Azure PaaS : Limitations</li> <li>✓ Azure IaaS : Advantages</li> <li>✓ Azure IaaS Components</li> <li>✓ Azure Virtual Machines</li> <li>✓ Capacity &amp; Networking</li> <li>✓ Disk &amp; Memory Config.</li> </ul>	<p><b>Ch 40: Azure IaaS Concepts</b></p> <ul style="list-style-type: none"> <li>✓ Azure Virtual Machines</li> <li>✓ SQL Server with Azure VM</li> <li>✓ Access Azure VM from SSMS</li> <li>✓ Migrations from PaaS</li> <li>✓ Migrations from On-Premise</li> <li>✓ Azure Data Studio, VMs</li> <li>✓ Comparing SSMS &amp; ADS Tool</li> </ul>	<p><b>Ch 41 – 42: Banking Project</b></p> <ul style="list-style-type: none"> <li>✓ OLTP Databases in Azure</li> <li>✓ Code Based Deployments</li> <li>✓ Code Less Deployments</li> <li>✓ Debugging Phases in Azure</li> <li>✓ Testing Phases in Azure</li> <li>✓ Complete Project Solution</li> <li>✓ Project FAQs, Resume Points</li> </ul>

All sessions are practical, step by step. Kindly ensure on-time practice for best results.

### Realtime Case Study : Health Care Domain

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# SQL School

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Trending Job Roles

- Data Analyst
- Data Scientist
- Data Engineer
- Solution Architect
- Consultant, more .. !

Training Highlights

- ✓ Step by Step
- ✓ LIVE Project(s)
- ✓ Job Assistance
- ✓ Resume Guidance
- ✓ Concept wise FAQs

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