SQL SCHOOL

— Premium Quality Training —

ETL Developer

Thank you for contacting our **SQL School**. I am **Mr. Sai Phanindra**, trainer for this **ETL Developer** Course.

With 19+ Years of technical expertise exclusively on Database and Azure, BI Technologies, I assure you 100% Practical, Step by Step Classes for this in-depth ETL Developer course. My Profile @ linkedin.com/in/saiphanindra/

ETL Developer Training Plan		
Module 1	**SQL Server TSQL Queries (MSSQL)**	**4 weeks**
Module 2	**Azure Data Engineering**	**7 weeks**
Module 3	**Python ETL**	**4 weeks**
Total Duration		**15 Weeks**

Detailed Curriculum

Module 1: SQL Server TSQL Queries (MSSQL)

Ch 1: Introduction ✓ Database Introduction ✓ Types of Databases ✓ Need for & ETL, DWH ✓ BI Implementations ✓ SQL Server Advantages ✓ Version, Editions of MSSQL ✓ Engineering, Analytics Roles	**Ch 2: Installations** ✓ SQL Server 2019, 2017 ✓ SSMS Tools Installation ✓ Database Engine (OLTP) ✓ SCM, Configuration Tools ✓ Instance Types, Uses ✓ Authentication Modes ✓ Collation, File Stream	**Ch 3: SQL Basics - 1** ✓ Need for Databases, Tables ✓ Need for SQL Commands ✓ DDL, DML & DQL Statements ✓ Database Creation @ GUI ✓ Data Operations @ GUI ✓ Session ID, SQL Context ✓ DB, Tables, Data @ SQL
Ch 4: SQL Basics - 2 ✓ DDL Variants in MSSQL ✓ DML Variants in MSSQL	**Ch 5: Data Imports, Schemas** ✓ Data Imports with Excel ✓ ORDER BY & UNION	**Ch 6: Constraints, Index Basics** ✓ Need for Constraints, Keys ✓ NULL, NOT NULL, UNIQUE

✓ INSERT & INSERT INTO ✓ SELECT & SELECT INTO ✓ Basic Operators in SQL ✓ Special Operators in MSSQL ✓ ALTER, ADD, TRUNCATE, DROP	✓ UNION ALL For Sorting Data ✓ Creating, Using Schemas ✓ Real-world Banking Database ✓ Table Migrations @ Schemas ✓ 2 Part, 3 Part & 4 Part Naming	✓ Primary Key & Foreign Key ✓ RDBMS and ER Models ✓ Identity Property, Default ✓ Clustered Index, Primary Key ✓ 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
Realtime Case Study : Health-Care Domain		

Module 2: Azure Data Engineer

Ch 1: ETL, DWH Introduction ✓ Database Introduction ✓ Data Warehouse (DWH) ✓ Data Engineering Work Flow ✓ Cloud Concepts: IaaS, PaaS ✓ SaaS & Azure Cloud Concepts ✓ Azure Resources & Groups ✓ Storage, ETL, IoT Resources	**Ch 2: Azure Intro, Azure SQL** ✓ Azure SQL Server, SQL DB ✓ Azure SQL Database (OLTP) ✓ Azure SQL Pool (DWH) ✓ Connections from SSMS Tool ✓ Connections from ADS Tool ✓ Pause / Resume SQL Pool ✓ Source Data Configurations	**Ch 3: Azure Synapse (DWH)** ✓ Synapse Pool Architecture ✓ Control Node, Compute Node ✓ DMS & Partitioned Tables ✓ Creating Tables with TSQL ✓ Distributions: RR, Hash, Repl ✓ Big Data Loads with TQL ✓ Important DMFs & DMVs

Ch 4: Azure Data Factory (ADF) ✓ Need for ADF & Pipelines ✓ Linked Services & IRs ✓ Datasets, Pipelines, Triggers ✓ Copy Data Activity & CDT ✓ Data Loads Pipelines, DTUs ✓ Pipeline Monitoring, Edits	**Ch 5: ADF Incremental Loads - 1** ✓ File Incremental Loads ✓ Storage Account, Data Lake ✓ Binary Copy, Schema Drift ✓ Staging Concept in ADF ✓ DOCP, Logging & Consistency ✓ Polybase Concept & Tuning	**Ch 6: ADF Incremental Loads - 2** ✓ Implement SCD with ADF ✓ Self Hosted IR: Realtime Use ✓ On-premise Data: Incr Loads ✓ Copy Method : Upsert, Keys ✓ Staging & ADF Optimizations ✓ Pipeline Runs, Activity IDs
Ch 7: ADF Data Flow - 1 ✓ Data Flow Transformations ✓ Spark Clusters for Debugging ✓ Optimized Clusters, Preview ✓ Conditional Split, SELECT ✓ Sort, Union Transformations ✓ Pipelines with Data Flow	**Ch 8: ADF Data Flow - 2** ✓ Working with Multiple Tables ✓ Join Transform, Broadcast ✓ Row Filters, Column Filters ✓ Surrogate Keys, Derived Cols ✓ ETL Loads Dates, Sink Options ✓ Aggregated Data Loads	**Ch 9: ADF Data Flow - 3** ✓ Pivot Transformation ✓ Group By & Pivot Keys ✓ Column Pattern, Deduplicate ✓ Lookup, Cached Lookup ✓ Tuning Transformations ✓ Tuning Data Flow, Spark
Ch 10: Synapse Analytics - 1 ✓ Azure Synapse Analytics ✓ Dedicated SQL Pools ✓ TSQL: Stored Procedures ✓ Synapse Pipelines, Tuning ✓ SP Activity in Pipelines, Jobs ✓ Comparing ADF & Synapse	**Ch 11: Synapse Analytics - 2** ✓ Serverless Pools in Synapse ✓ TSQL Scripts with Serverless ✓ ADLS Data Imports & ELT ✓ Synapse Aggregation, Analytics ✓ Synapse Optimizations ✓ Synapse Security & Logins	**Ch 12: Synapse Analytics - 3** ✓ Apache Spark Pool & Usage ✓ Synapse Analytics with Pools ✓ PySpark Staging,Aggregations ✓ Spark Queries & Python ETL ✓ Python Notebooks, Pipelines ✓ Integrating Python with DWH
Ch 13: Parameters, SCD & ETL ✓ ADF Templates in Realtime ✓ Table Incremental Loads ✓ Control Tables, Watermarks ✓ Pipeline Parameters, SPs ✓ Dynamic Data Sets, SCD	**Ch 14: CDC @ ETL, ELT & Tuning** ✓ Using CDC in ADF ✓ Control Tables (CT): Upserts ✓ Handling Inserts, Updates ✓ SCD Type 1 & Type 2 ✓ ADF, Synapse : Limitations	**A Realtime Case Study**
Ch 15: Azure Intro & Storage ✓ Storage, ETL, IoT Resources ✓ Azure Storage Components ✓ Azure Storage Account, HNS ✓ Azure Data Lake Storage ✓ Azure Storage Explorer Tool ✓ Storage Explorer Config ✓ Storage Account Properties	**Ch 16: Azure Storage Operations** ✓ BLOB Storage: Containers ✓ Storage Browser, Explorer ✓ File & Folder Uploads, Edits ✓ Azure Tables: Row Key ✓ Partition Key, Timestamp ✓ Use Cases of BLOB Storage ✓ Use Cases of Azure Tables	**Ch 17: Azure Storage Security** ✓ Realtime use of Keys ✓ Access Keys & Admin Access ✓ SAS Keys Generation, Ips ✓ Creating, Using Entra Users ✓ Azure AD Users, Groups ✓ IAM & RBAC with Entra Users ✓ ACLs and ADLS Security

Ch 18: Azure SQL DB Migrations ✓ On-Premise SQL DB bacpac ✓ Azure SQL Deployment ✓ Azure Storage from SSMS ✓ Azure SQL DB Migration ✓ Migration Verifications ✓ Testing Migrations in SQL	**Ch 19: Azure Stream Analytics** ✓ Azure IoT Hubs & Devices ✓ APIs with Connection Strings ✓ Azure Steam Analytic Jobs ✓ Inputs, Outputs, SAQL Query ✓ LIVE Feed: JSON, AVRO Files ✓ Watermark & LIVE Stats	**Ch 20: Azure Stream Analytics** ✓ Azure IoT Hubs & Devices ✓ APIs with Connection Strings ✓ Azure Steam Analytic Jobs ✓ Inputs, Outputs, SAQL Query ✓ LIVE Feed: JSON, AVRO Files ✓ Watermark & LIVE Stats
Ch 21: Azure Key Vaults, Alerts ✓ Azure Encryptions @ REST ✓ Azure Key Vaults & Keys ✓ SMK & CMK Encryptions ✓ Azure Metrics: Ingress ✓ Egress, E2E Latency Issues ✓ Performance Tuning Options	**Ch 22: Azure Storage Optimization** ✓ BLOB Types & Content Types ✓ Hot, Cool, Cold, Archive Types ✓ Creating, Using Access Policies ✓ Immutable Storage, Rotation ✓ Containerization, Indexing ✓ Replication: LRS, ZRS, RA-GRS	**Ch23: Azure Pricing, Functions** ✓ Azure Logic Apps : Usage ✓ Log Apps Usage in ETL ✓ Snapshots, Azure Functions ✓ Azure Functions Realtime Use ✓ ETL & DWH with Functions ✓ Azure Resource Pricing
Ch 24: Azure Big Data & Spark ✓ Azure Big Data & Spark ✓ Azure ETL & DWH Databases ✓ Azure Spark, HIVE Metastore ✓ Azure Databricks Service ✓ Spark Cluster (Personal) ✓ Unity Catalog & Azure VM	**Ch 25: Spark Cluster Operations** ✓ DBFS : Flat File Imports ✓ Table Conversions using GUI ✓ Spark Clusters: Table Creations ✓ Basic Transformations in Spark ✓ SQL Notebooks: Creation ✓ Default DB Queries, Cloning	**Ch 26: Python & PySpark, ETL** ✓ Python Fundamentals ✓ Python Dataframes : ETL ✓ Python For Big Data, Pandas ✓ Python Notebooks, Views ✓ Aggregated Loads to Spark ✓ Spark DB Creations, Tables
Ch 27: PySpark & ADLS, Widgets ✓ Creating Spark Databases ✓ Spark Tables, Catalog Info ✓ PySpark with ADLS Storage ✓ Using Widgets for ADLS Keys ✓ PySpark Variables & Widgets ✓ Using Variables in Functions ✓ Spark SQL with Control Text ✓ Using Variables in Spark SQL	**Ch 28: ADB Jobs, Delta Tables** ✓ Azure Databrick Jobs ✓ Azure Workflows & Tasks ✓ Notebook Schedule Options ✓ Continuous Jobs, Notifications ✓ Delta Tables & Data Cleansing ✓ SCD (Merge Into), Contact, etc ✓ Creating, Using Dataframes ✓ Multi Dataframe Joins	**Ch 29: Scala Notebooks & ETL** ✓ Scala Notebooks : Purpose ✓ Aggregated Data Loads ✓ Incremental Data Loads ✓ Widgets & Jobs with Scala ✓ Python Versus Scala ✓ Converting Python to Scala ✓ JVM Benefits, SQL DB Conn” ✓ SQL DB Loads with Scala

Ch 30: Databricks Architecture	Ch 31: Medallion Architecture	Ch 32: Delta LIVE Tables (DLT)
✓ Azure Databricks Services ✓ Cluster Components & DBFS ✓ RDD, DAG, Photon, SpotLight ✓ Spark Partitioned Tables ✓ Cluster Manager: Spark Jobs ✓ Databricks Runtime (DBR) ✓ Databricks Security ✓ Workspace Security ✓ Notebook & Job Security	✓ Medallion Architecture in ETL ✓ DWH Data Loads & Incr Loads ✓ Bronze, Silver & Gold Data ✓ Processing Raw Data Files ✓ Data Cleansing, Formatting ✓ Aggregation Advantages ✓ DBES & Node Architecture ✓ Unity Catalog Concept ✓ LUNs and Unity Catalog	✓ Creating Delta LIVE Tables ✓ DLT Pipelines in ETL, DWH ✓ Automated Incr Loads ✓ Control Tables, Timestamp ✓ SCD Type 1 with DLT ✓ SCD Type 2 with DLT ✓ Automated Merge Into Stmt ✓ Delta Tables Vs DLT ✓ Merge Into Vs DLT Pipeline

Real-time Project (Azure Data Engineer) + Resume Guidance

Module 3: Python ETL

Ch 1: Python Introduction	Ch 2: Python Basics, Architecture	Ch 3: Data Types & Variables
✓ Need for Data Analytics ✓ Python in Data Analysis ✓ History of Python ✓ Python Versions ✓ Python Implementations ✓ Python Installations ✓ Python IDE & Usage ✓ Jupyter Notebooks	✓ Python Scripting Options ✓ Basic Operations in Python ✓ Python Scripts, Print() ✓ Single, Multiline Statements ✓ Adding Cells, Saving Notebook ✓ Single, Multi Line Comments ✓ Python : Internal Architecture ✓ Compiler Versus Interpreter	✓ Integer / Int Data Types ✓ Float & String Data Types ✓ Boolean, Binary Types ✓ Sequence Types: List, Tuple ✓ Range, Complex & memview ✓ Retrieving Data Type: type() ✓ Multi Assignments & Casting ✓ Unpack Collection, Outputs
Ch 4: Python Operators	**Ch 5: Python Loops, Iterations**	**Ch 6: Python Collections**
✓ Arithmetic, Assignment Ops ✓ Comparison Operators ✓ Logical, Identity Operators ✓ Member, Bitwise Operators ✓ Operator Precedence ✓ If ... Else Statement, Pass ✓ Short Hand If, OR, AND ✓ ELIF and ELSE IF Statements ✓ Expressions, Ternary OPs	✓ Python Loop & Realtime Use ✓ Python While Loop Statement ✓ Break and Continue Statement ✓ Using Print with While() ✓ Iterations & Conditions ✓ Exit Conditions & For Loops ✓ Break, Continue & Range ✓ __iter__() and __next__() ✓ iter() and Looping Options	✓ Python Collections (Arrays) ✓ list() Constructor, print() ✓ Python Tuples, Tuple Items ✓ tuple() Constructor, Usage ✓ Python Sets : Syntax Rules ✓ Duplicates, Types, Ordered ✓ Python Dictionaries: Usage ✓ Changeable, Ordered Data ✓ Dictionary Construct, type()

Ch 7: Python Functions ✓ Python Functions & Usage ✓ Function Parameters ✓ Arguments, **kwargs ✓ Default & List Parameters ✓ Python Lambda Functions ✓ Anonymous Functions ✓ Recursive Functions, Usage ✓ Return & Print @ Lamdba	**Ch 8: Python Classes & Arrays** ✓ Python Classes & Objects ✓ __init__() Function ✓ __str__() Function ✓ Self Parameters & Objects ✓ Python Inheritance & Classes ✓ Parent & Child Classes ✓ __init__() & super() Function ✓ Polymorphism in Python	**Ch 9: Python Modules** ✓ import Python Modules ✓ Variables in Modules ✓ Built In Modules & dir ✓ datetime module in Python ✓ Date Objections Creation ✓ strftime Method & Usage ✓ imports & datetime.now() ✓ Using Python Constructors
Ch 10: Python JSON & RegEx ✓ JSON Concepts, Usage ✓ Dictionary & import json ✓ Python Objects into JSON ✓ Formatting & Ordering ✓ json.dumps, print options ✓ Python Regular Expressions ✓ RegEx Module & Functions ✓ search() & span() , Strings ✓ Using RegEx with JSON	**Ch 11: Python User Inputs & TRY** ✓ Try Except, Exception Handling ✓ NameError Resolution ✓ Python Finally Block, Usage ✓ Raise an exception method ✓ TypeError, Scripting in Python ✓ Python User Inputs ✓ Python Index Numbers ✓ Named Indexes, Usage ✓ input() & raw_input()	**Ch 12: Python File Handling** ✓ File Handling, Activities ✓ r, a, w, x modes ✓ t, b Operations ✓ Read Only Parts ✓ Loop, Write, Close Files ✓ Appending, Overwriting ✓ import os, path.exists ✓ f.open, f.write ✓ f.read, f.close
Ch 13: Data Analytics - Pandas ✓ Python Modules & Pandas ✓ Pandas Codebase & Usage ✓ Installation of Pandas ✓ import pandas.DataFrame ✓ Checking Pandas Version ✓ Pandas Series, arrays ✓ Labels : Creation, Use ✓ series(), print()	**Ch 14: Data Analytics - DataFrames** ✓ Indexes & Named Options ✓ Locate Row and Load Rows ✓ Row Index & Index Lists ✓ Load Files Into a DataFrame ✓ pd.read_csv() Function ✓ pd.options.display.max_rows ✓ df.to_string() Function ✓ tail() & null() Function	**Ch 15: Data Analytics - Pandas** ✓ Pandas - Cleaning Data ✓ Replace, Transform Columns ✓ Data Discovery & Column Fill ✓ Identify & Remove Duplicates ✓ dropna(), fillna() Functions ✓ Pandas - Data Correlations ✓ Good & Bad Correlation ✓ Data Plotting & matlib Lib
Ch 16: SQL Server & Python - 1 ✓ SQL Server DB Engine ✓ Azure Data Studio Tool ✓ sp_execute_external_script ✓ Input Data & Result Sets ✓ DDL & DML with Python ✓ SQL_out, SQL_in ✓ Variables & Parameters ✓ Versions, Package List ✓ WITH RESULT SETS Options	**Ch 17: SQL Server & Python - 2** ✓ pandas.Series with SQL Server ✓ Indexing Methods in Realtime ✓ Convert series to data frame ✓ Output values into data.frame ✓ pymssql package in SQL Server ✓ pip list & Package Manager ✓ Python runtime, Py Package ✓ pymssql.connect & Usage ✓ Cursor Variables & Usage	**Ch 18: Power BI with Python** ✓ Using Python Script Visual ✓ PyScript Options & Tuning ✓ Settings, Labelling Options ✓ Running and Testing Scripts ✓ Data Validations in Power BI ✓ Power BI: ipynb Scripts ✓ Interactive Reports ✓ Data Formatting with Python ✓ End to End Realtime Projects

ETL Developer : Resume, Mock Interview + Project FAQs and Solutions