Thank you for your interest in SQL School's Databricks Training Program.
I'm **Mr. Sai Phanindra**, your trainer and mentor for this course. With 20+ years of experience in Database Technologies, Data Engineering, Business Intelligence, and Data Warehousing, I bring extensive real-world expertise into every training session.

This course is designed to be 100% practical and job-oriented, with step-by-step hands-on learning, real-time Databricks projects, industry use cases, best practices, and implementation scenarios to help you build strong, industry-ready Databricks skills. **Let's connect:** linkedin.com/in/saiphanindra/

Databricks Data Engineer Training – 100% Practical & Project-Based

This hands-on training program is divided into **FOUR comprehensive modules**:

Module 1: SQL Server (MSSQL) & T-SQL
- **Phase 1: Installations, Configurations & Design Concepts**
- **Phase 2: Queries & Data Analytics**
- **Phase 3: Query Optimization & Performance Tuning**

Module 2: Databricks Data Engineering – Spark, Python & PySpark
- **Phase 1: Databricks Fundamentals, Architecture & Unity Catalog**
- **Phase 2: Spark SQL**
- **Phase 3: Python ETL & Analytics**
- **Phase 4: PySpark, Medallion Architecture, Delta Lake, Auto Loader & Lakeflow**

Module 3: End-to-End Real-Time Retail Project

Module 4: Certification, Interview & Career Preparation

Program Details:

- ✓ **100% Practical & Real-Time**
- ✓ **Training Modes:**
  - LIVE Online Training (~2 Months Duration)
  - Self-Paced Videos – Detailed step-by-step lessons, notes, labs & project solutions

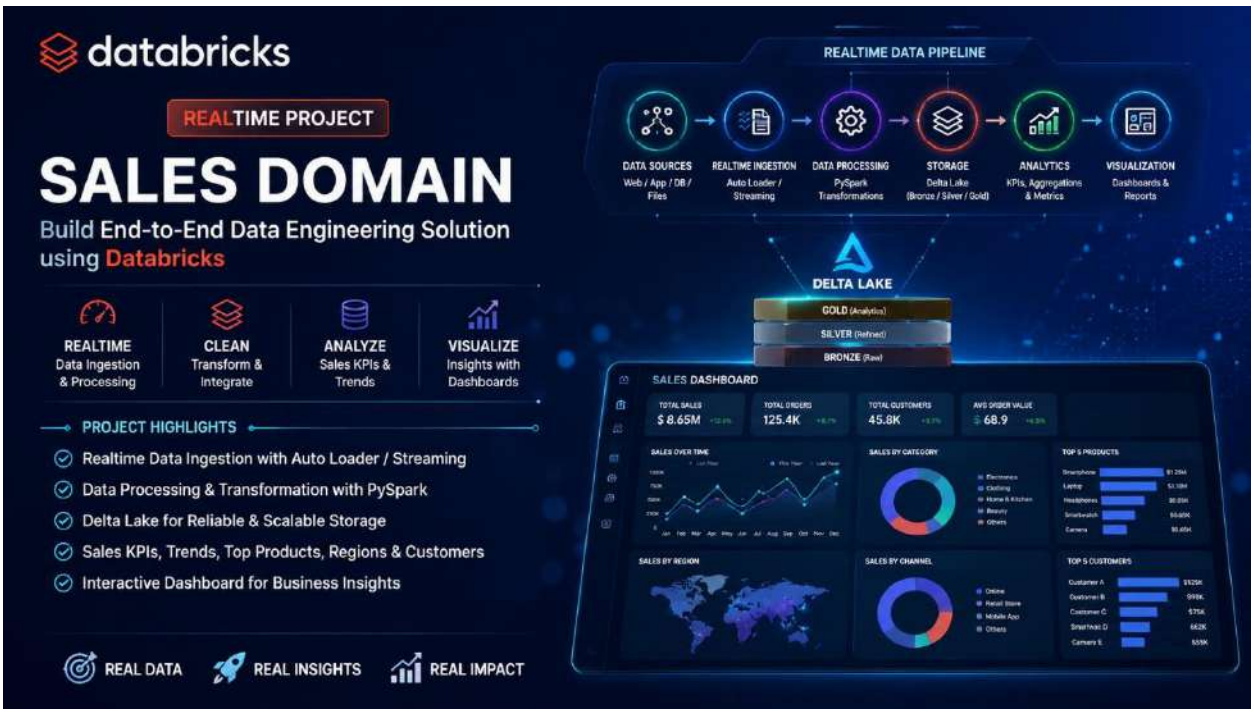
Prerequisites

- ✓ **None**
- ✓ The course starts from the fundamentals and progresses step by step to advanced Databricks Data Engineering concepts !

Learning Outcomes

By the end of this course, you will be able to:

- Design enterprise-grade Lakehouse architectures
- Build scalable ETL pipelines using Databricks
- Implement Bronze, Silver, and Gold data layers
- Perform advanced data transformations using PySpark
- Optimize Spark jobs for large-scale data processing
- Automate production workflows
- Secure data using Unity Catalog
- Deliver business-ready datasets for analytics
- Build executive dashboards in Power BI
- Gain hands-on experience through production-style Data Engineering projects



🔥 Detailed Course Content 🔥

Module 1: SQL Server (MSSQL), T-SQL

Phase 1: Installations, Configurations & Design Concepts

Ch 1: SQL Database Job Roles

- ✓ Database Intro
- ✓ OLTP, DWH, OLAP
- ✓ DBMS Concepts
- ✓ Data Engineer Job Roles

Ch 2: Database Intro & Installations

- ✓ SQL Server Installations
- ✓ Instance & Collations
- ✓ SSMS Tool Installation
- ✓ Connections, Authentications

Ch 3: SQL Basics V1 (Commands)

- ✓ SQL Basics (DDL, DML, etc..)
- ✓ Creating Databases, Tables
- ✓ Data Inserts (GUI, SQL)
- ✓ Basic SELECT Queries

Ch 4: SQL Basics V2 (Commands, Operators)

- ✓ DDL: Create, Alter, Drop
- ✓ DML: Insert, Update, Delete
- ✓ DQL: Select, Fetch
- ✓ Add, Truncate Statements
- ✓ SQL Operators

Ch 5: Data Types & Variables

- ✓ Integer Data Types
- ✓ Character, MAX Data Types
- ✓ Decimal & Boolean Data Types
- ✓ Date and Time Data Types
- ✓ SQL_Variant Type

Ch 6: Data Imports

- ✓ Data Imports with Excel
- ✓ Data Imports with CSV
- ✓ Auto Detection of DataTypes
- ✓ OLE-DB Connections
- ✓ Order By, TOP, OFFSET

Ch 7: Schemas & Batches

- ✓ Schemas: Creation, Usage
- ✓ Schemas & Table Grouping

- ✓ Real-world Banking Database
- ✓ 2 Part, 3 Part & 4 Part Naming
- ✓ Batch Concept & "Go" Command

Ch 8: Constraints, Keys & RDBMS

- ✓ Null, Not Null Constraints
- ✓ Unique Key & Check
- ✓ Primary Key Constraint
- ✓ Foreign Keys, Default
- ✓ DB Diagrams & ER Models

Ch 9: Normal Forms & RDBMS

- ✓ Normal Forms: 1 NF, 2 NF
- ✓ 3 NF, BCNF and 4 NF
- ✓ 1:1, 1:M, M:1 Cardinality
- ✓ Cascading Keys
- ✓ Self Referencing Keys

Phase 2: Queries & Data Analytics

Ch 10: Joins & Queries

- ✓ Joins: Table Comparisons
- ✓ Inner Joins & Matching Data
- ✓ Outer Joins: LEFT, RIGHT
- ✓ Full Outer Joins & Aliases
- ✓ Self Joins & Aliases

Ch 11: Sub Queries

- ✓ Basic Sub Queries
- ✓ Aggregations
- ✓ Combining Queries
- ✓ UNION, UNION ALL

Ch 12: Views & RLS

- ✓ Views: Realtime Usage
- ✓ DML, SELECT with Views
- ✓ Excel Analytics with Views
- ✓ Important System Views

Ch 13: Stored Procedures - 1

- ✓ Stored Procedures: Realtime Use
- ✓ Parameters Concept with SPs
- ✓ Procedures with SELECT
- ✓ System Stored Procedures
- ✓ Stored Procedures, Tuning

Ch 14: Stored Procedures - 2

- ✓ Merge Statement (Upsert)

- ✓ Merge with OLTP & DWH
- ✓ Matched and Not Matched
- ✓ Merge Statement inside SPs
- ✓ SP Recompilations

Ch 15: User Defined Functions - 1

- ✓ Scalar Functions in Real-world
- ✓ Inline & Multiline Functions
- ✓ Parameterized Queries
- ✓ Variables & Parameters
- ✓ Function Executions

Ch 16: User Defined Functions - 2

- ✓ Date & Time Functions
- ✓ String Functions & Queries
- ✓ Aggregated Functions & Usage
- ✓ Window Functions (Rank)
- ✓ Row_Number, DenseRank
- ✓ Partition By & Order By

Ch 17: Triggers & Automations

- ✓ Need for Triggers in Real-world
- ✓ DDL & DML Triggers
- ✓ For / After Triggers
- ✓ Instead Of Triggers
- ✓ Memory Tables with Triggers
- ✓ Disabling DMLs Triggers

Ch 18: Group By Queries

- ✓ Group By, Distinct
- ✓ GROUP BY, HAVING
- ✓ Cube( ) and Rollup( )
- ✓ Sub Totals & Grand Totals
- ✓ Grouping( ) & Usage

Ch 19: Joins with Group By

- ✓ 3 Table, 4 Table Joins
- ✓ Join Queries & WHERE
- ✓ Join Queries & Group By
- ✓ IIF(), CASE Statement
- ✓ Query Execution Order

Phase 3: Query Optimization & Performance Tuning

Ch 20: Transactions & ACID

- ✓ Auto Commit Transaction
- ✓ Explicit Transactions
- ✓ COMMIT, ROLLBACK

- ✓ Checkpoint & Query Blocking
- ✓ READPAST, LOCKHINT

Ch 21: Indexes Basics, Tuning

- ✓ Clustered Index, Primary Key
- ✓ Non Clustered Index
- ✓ Query Optimizer
- ✓ Tuning Join Queries
- ✓ Tuning Group By Queries

Ch 22: CTEs & Tuning

- ✓ Common Table Expression
- ✓ CTEs for Data Retrieval
- ✓ CTEs for DML Operations
- ✓ CTEs for Data Cleansing
- ✓ Using CTEs with Row Number

Ch 23: Cursors

- ✓ Cursors & Fetch
- ✓ Cursor Life Cycle
- ✓ Scroll, Forward Only Types
- ✓ Local & Global Cursors
- ✓ Realtime Use

Ch 24: Temp Tables

- ✓ Purpose of Temp Tables
- ✓ Local Temp Tables
- ✓ Global Temp Tables
- ✓ Testing Temp Tables
- ✓ SELECT..INTO Statement (Bulk Copy)

Ch 25: Real-Time Case Study – Retail/E-Commerce Database

- ✓ Data Validations
- ✓ Query Writing
- ✓ Excel Analytics

Module 2: Databricks (Spark, PySpark, Big Data, Genie AI)

Phase 1: Databricks Fundamentals, Architecture & Unity Catalog

Ch 1: Databricks Introduction

- ✓ Cloud ETL, DWH
- ✓ Cloud Computing
- ✓ Databricks Concepts
- ✓ Databricks Account
- ✓ Big Data in Cloud

Ch 2: Databricks Architecture

- ✓ Databricks Runtime (DBR)
- ✓ RDD & DAG
- ✓ Databricks Lakehouse Architecture
- ✓ Spark Compute Concepts
- ✓ Workers & Drivers
- ✓ Databricks Framework
- ✓ Databricks APIs

Ch 3: Unity Catalog

- ✓ Unity Catalog Concepts
- ✓ Metastore
- ✓ Catalogs & Schemas
- ✓ Managed & External Tables
- ✓ Storage Credentials
- ✓ External Locations
- ✓ Volumes
- ✓ GRANT / REVOKE
- ✓ Data Permissions
- ✓ Lineage
- ✓ Data Governance
- ✓ Databricks Workspace UI
- ✓ Spark Table Creations

Phase 2: Spark SQL Concepts

Ch 4: Spark SQL: Basics

- ✓ Spark SQL Notebooks
- ✓ Creating Catalog
- ✓ Creating Schemas
- ✓ Creating Tables
- ✓ Spark Data Types
- ✓ PySpark API: SQL Queries
- ✓ Dropping Objects
- ✓ Notebooks: Exports, Clone

Ch 5: Spark SQL: Table Types

- ✓ Delta Tables
- ✓ Managed Tables
- ✓ External Tables
- ✓ Data Partitioning
- ✓ Union, Views in Spark
- ✓ External Volumes

Ch 6: Spark SQL: Functions

- ✓ Math, Sort Functions
- ✓ String, DateTime Functions
- ✓ Conditional Statements
- ✓ SQL Expressions with expr()

- ✓ Volume for our Data Assets
- ✓ File Formats, Schema Inference
- ✓ Spark SQL Aggregations

Ch 7: Spark SQL: Time Travel

- ✓ Time Travel Concepts
- ✓ Spark DB: Logical Architecture
- ✓ Spark DB: Physical Store
- ✓ Data File Store
- ✓ Log File Store
- ✓ Time Travel
- ✓ DESCRIBE, EXTENDED
- ✓ HISTORY
- ✓ Version Numbers

Phase 3: Python ETL & Analytics Concepts

Ch 8: Python: Introduction, Print

- ✓ Python Introduction
- ✓ Python Versions
- ✓ Python Implementations
- ✓ Python in Spark (PySpark)
- ✓ Python Print()
- ✓ Single, Multiline Statements

Ch 9: Python: Variables

- ✓ Python Variables
- ✓ Variable Declarations
- ✓ Variable Values
- ✓ Value Types
- ✓ Multi Variable Values
- ✓ Common Variable Values
- ✓ Realtime use of Variables

Ch 10: Python: Operators

- ✓ Need for Operators
- ✓ Arithmetic Operators
- ✓ Assignment Operators
- ✓ Comparison Operators
- ✓ Operator Precedence
- ✓ Operands in Python

Ch 11: Python: Control Statements

- ✓ Python Control Structures
- ✓ If ... Else Statement
- ✓ Short Hand If
- ✓ ELIF & ELSE IF Statements
- ✓ OR, AND Concepts

- ✓ Python Loops

Ch 12: Python: Data Types

- ✓ Python Data Types
- ✓ Integer / Int Data Types
- ✓ Float, String Data Types
- ✓ List Data Type
- ✓ Dictionary Data Type
- ✓ Tuple Data Type

Ch 13: Python: Modules & DataFrames

- ✓ Python Modules
- ✓ Pandas
- ✓ NumPy
- ✓ DataFrame Concepts
- ✓ Handling Nulls
- ✓ Data Cleansing Concepts
- ✓ Python Functions

Phase 4: PySpark, Medallion Architecture, Delta Lake, Auto Loader & Lakeflow

Ch 14: PySpark DataFrames & Transformations

- ✓ Creating PySpark DataFrames
- ✓ Reading Data Sources
- ✓ select(), filter(), withColumn()
- ✓ Handling NULL Values
- ✓ Data Type Casting
- ✓ Joins
- ✓ union() / unionByName()
- ✓ Aggregations
- ✓ Window Functions
- ✓ Writing DataFrames
- ✓ DataFrame vs Spark SQL

Ch 15: Medallion Architecture - 1

- ✓ Medallion Architecture
- ✓ Aggregated Data Loads
- ✓ Bronze, Silver and Gold
- ✓ Temp Views
- ✓ Spark Tables (Parquet)
- ✓ Work with File Sources

Ch 16: Medallion Architecture - 2

- ✓ Medallion Architecture
- ✓ Azure SQL DB Connections
- ✓ Joining Source Tables
- ✓ Data Frames, Temp Views
- ✓ Aggregated Data Loads

- ✓ Gold Data Consumption
- ✓ Raw Sources → Bronze → Silver → Gold → BI/Analytics

Ch 17: Delta Lake

- ✓ Databricks Delta Lake
- ✓ Schema Evolution
- ✓ Azure SQL DB Connections
- ✓ DataFrames, Temp Views
- ✓ Delta Table API
- ✓ Update, Delete Records
- ✓ MERGE / Upsert Operations
- ✓ Version History & Data Retention
- ✓ Delta Transaction Log

Ch 18: PySpark: Widgets

- ✓ PySpark Parameters
- ✓ Text Widgets
- ✓ User Parameters
- ✓ Manual Executions
- ✓ Automations
- ✓ UI & JSON For Widgets

Ch 19: Lake Flow Jobs

- ✓ Workflows & CRON
- ✓ Job Compute, Running Tasks
- ✓ Python Script Tasks
- ✓ Parameters into Notebook Tasks
- ✓ Parameters into Python Script Tasks
- ✓ Concurrent Executions, Dependencies
- ✓ Branching Control with the If-Else Task

Ch 20: PySpark: Auto Loader - 1

- ✓ Auto Loader Concept
- ✓ Cloud Files Architecture
- ✓ Checkpoint Configurations
- ✓ Schema Location
- ✓ Checkpoint Location
- ✓ Initial Loads

Ch 21: PySpark: Auto Loader - 2

- ✓ Reading Streams
- ✓ Manually Cancel your Data Streams
- ✓ Writing to a Data Stream
- ✓ Schema Evaluation Modes
- ✓ Workspace Modules
- ✓ Incremental File Ingestion
- ✓ Schema Evolution

- ✓ Rescued Data Column
- ✓ Trigger Options
- ✓ Exactly-once processing concepts

Ch 22: LakeFlow Declarative Pipelines

- ✓ SDP: Spark Declarative Pipelines
- ✓ Delta LIVE Tables
- ✓ Streaming Data Loads
- ✓ Bronze, Silver, Gold Data
- ✓ Materialized Views
- ✓ Pipeline Clusters
- ✓ Databricks CLI
- ✓ Data Quality Checks

Ch 23: Databricks Optimizations

- ✓ Lazy Evaluation
- ✓ Explain Plan
- ✓ Caching
- ✓ Data Shuffling
- ✓ Broadcast Joins
- ✓ Partitions
- ✓ Data Skipping
- ✓ Liquid Clustering
- ✓ VACUUM
- ✓ OPTIMIZE, Z Ordering

Ch 24: Databricks Security, AI

- ✓ Overview of ACLs
- ✓ Adding a New User to Workspace
- ✓ Workspace Access Control
- ✓ Cluster Access Control
- ✓ Groups & Lake Bridge
- ✓ Access Keys (Tokens), Genie AI

Ch 25: GitHub Concepts

- ✓ Creating GitHub Account
- ✓ GIT Project Concept
- ✓ GIT Project Creation
- ✓ GIT: Main, Branches
- ✓ GIT Credentials
- ✓ Connecting with ADF
- ✓ Connecting with Databricks

Module 3: Realtime Project Retail (End to End)

Project Title

Retail Sales Analytics Platform using Databricks (Medallion Architecture)

Project Overview

Students will build a production-style data platform using Lakehouse Architecture (Bronze, Silver, and Gold), implementing modern ETL practices, data quality validation, incremental processing, orchestration, optimization, and reporting.

Business Scenario

A multinational retail company receives daily data from multiple operational systems. The company wants to build a centralized analytics platform to:

- Consolidate data from different business domains
- Improve data quality and consistency
- Track sales performance across regions
- Analyse customer purchasing behaviour
- Monitor inventory levels
- Generate business KPIs for decision-makers
- Deliver Power BI dashboards with near real-time insights

Source Systems

Students will work with multiple datasets including:

- Customer Master
- Product Master
- Orders
- Inventory
- Region Master

Technologies Covered

- Apache Spark
- PySpark
- Spark SQL
- Delta Lake
- Unity Catalog
- Databricks Workflows
- Git Integration

Resume Highlights

After completing this project, you can confidently showcase experience in:

- PySpark & Spark SQL
- Delta Lake
- Medallion Architecture
- ETL Pipeline Development
- Incremental Data Processing

- Data Quality & Validation
- Unity Catalog
- Workflow Automation
- Performance Optimization

Module 4: Databricks Data Engineer Certification Guidance

- ✓ **Exam Q & A, Scenarios**
- ✓ **Certification Exam Objectives**
- ✓ **Topic-Wise Revision**
- ✓ **Scenario-Based Questions**
- ✓ **Practice Assessments**
- ✓ **Mock Exams**
- ✓ **Databricks Interview Questions**
- ✓ **Real-Time Scenario Discussions**
- ✓ **Resume Project Explanation**
- ✓ **Technical Mock Interview**

Why Choose This Training?

🚀 Industry-Oriented Curriculum
💼 End-to-End Real-Time Projects & Solutions
🏗️ Medallion Architecture Implementation
📊 100% Hands-on Practical Sessions
⚡ Production-Ready ETL Pipelines
🔥 PySpark & Spark SQL from Basics to Advanced
🎯 Interview Preparation
📚 Assignments & Practice Labs
⭐ 100% Practical • No Unnecessary Theory
🚀 Learn Like You're Working in a Real Company

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Watch practical Databricks content before you enroll:
✓ Technical Tutorials
✓ Short & Full Demo Classes
✓ Real-Time Project Walkthroughs
✓ PySpark, Spark SQL & Delta Lake
✓ Interview Questions & Scenarios
✓ Job Roles & Career Guidance

🚀 **Watch a Free Class Before You Decide..**
Databricks Data Engineering Free Classes: https://www.youtube.com/playlist?list=PLT3eLIlc1sgg

BUILD REAL SKILLS. WORK ON REAL PROJECTS. BECOME JOB READY.

At SQL School, our focus goes beyond completing a syllabus. You will learn through hands-on labs, production-style scenarios, end-to-end projects, assignments, interview preparation, and certification guidance designed to build practical Databricks Data Engineering skills.

✓ Practical Skill Development
✓ Real-Time Project Guidance
✓ Resume & Interview Preparation
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