

Complete Practical; Real-time Job Oriented Training

Thank you for contacting our **SQL School** Training Institute. We assure you 100% Practical, Step by Step Trainings on **Snowflake Full Stack** Course.

### Whom we are?

Over 19 Years of strong commitment in training excellence, we assure you 100% practical, step by step learning process paired with Assignments, Use Case Scenarios and Realtime Project Implementations for your Resume and Job Work. We are sure, you will have a wonderful journey with us.

# **Details of our Snowflake Training**

## 1. What is Snowflake?

Snowflake is an Open-Source Cloud Warehouse Technology.

Snowflake is used to store Huge Volumes of Data (Big Data), Aggregated and also Historical Data. Very Robust and use Friendly environment paired with Enterprise Level Security.

# 2. What is the Job Roles for Snowflake Data Engineers?

Snowflake Data Engineers are responsible for performing:

- 1. Data Extraction (E), Transformations (T) and Data Loads (L)
- 2. Data Warehouse (**DWH**) Design
- 3. Data Analytics
- 4. LIVE Streaming Data
- 5. Cloud Computing
- 6. Big Data Security and more ..!

### 3. Who can join this course?

- 7. Analysts
- 8. Developers
- 9. Administrators
- 10. Data Scientists
- 11. IT Professionals
- 12. Data Engineers
- 13. Students
- 14. Anyone who wanted to step into in Cloud / DWH / ETL Platform

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# 4. What about Placement Assistance?

We train you with step-by-step activities, concept wise FAQs and Answers. Resume Guidance and Placement Assistance part of this Snowflake Training Program!

# 5. How do I join the course?

Reach us now on +91 9666440801 or visit us on <a href="https://www.sqlschool.com/schedules">www.sqlschool.com/schedules</a>

# **Snowflake Training Plans**

	PLAN A	PLAN B	PLAN C
Training Details	1. Snowflake	1. MSSQL & TSQL 2. Snowflake	1. MSSQL & TSQL 2. Snowflake 3. Data Build Tool
Snowflake: Cloud & DWH	✓	✓	<b>✓</b>
Snowflake: DWH Architecture	✓	✓	✓
Snowflake: DWH & ETL Concepts	✓	✓	✓
Snowflake: Partitions & Tuning	✓	✓	✓
Snowflake: Security & Tuning	✓	✓	✓
Snowflake: Backups & HA DR	✓	✓	✓
Snowflake: Streams, Stages	✓	✓	✓
Snowflake: SnowSQL, Upserts	✓	✓	✓
Snowflake: Snow Pipes, Tasks	✓	✓	✓
Snowflake: SnowSQL Concepts	✓	✓	✓
Snowflake: File Formats, Stages	✓	✓	✓
Snowflake: Azure Cloud Integrations	✓	✓	✓
TSQL: Database Concepts, T-SQL	X	✓	✓
TSQL : Constraints, Joins, Queries	X	✓	<b>✓</b>
TSQL: Views, Group By, Self Joins	X	✓	✓
TSQL: SPs, Udf, Transactions, Indexes	Х	✓	✓
TSQL: Merge, Rank, Tuning & CTEs	X	✓	✓
DBT Fundamentals	X	Х	✓
DBT Core and DBT Cloud	X	Х	X
Performance Optimization	X	Х	X
DBT Deployment and Orchestration	Х	Х	X
Total Duration	4 Weeks	7 Weeks	10 Weeks

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

Ch 1: Introduction	Ch 2: Installations	Ch 3: SQL Basics - 1
✓ Database Introduction	✓ SQL Server 2019, 2022	✓ 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
✓ Snowflake Engineer 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	Ch 8: Functions(UDF), Data Types	Ch 9: Stored Procedures, Models
✓ JOINS: Purpose. Inner Joins	✓ Using Functions in MSSQL	✓ Stored Procedures & Usage
✓ Left / Right / Full Outer Joins	✓ Scalar Value Functions	✓ Creating, Testing Procedures
✓ Cross Joins, Query Tuning	✓ Inline & Multiline Functions	✓ Encryption, Deferred Names
✓ Creating & Using Views	✓ Date & Time Functions	✓ SPs for Validations, Analysis
✓ DML, SELECT with Views	✓ String, Aggregate Functions	✓ System SPs, Recompilation
✓ RLS: WITH CHECK OPTION	✓ Data Types : Integer, Char, Bit	✓ Normal Forms & Types
✓ System Views & Metadata	✓ SQL Variant, Timestamp, Date	✓ Data Models, Self-References
Ch 10: Triggers, Temp Tables	Ch 11: DB Architecture, Locks	Ch 12: Cursors & CTEs, Links
✓ Need for Triggers	✓ Planning VLDBs : Files, Sizing	✓ Cursors : Realtime Use
✓ DDL & DML Triggers	✓ Filegroups, Extents & Types	✓ Fetch & Access Cursor Rows
✓ Using Memory Tables	✓ Log Files : VLF, Mini LSN	✓ CTEs for SELECT, DML
✓ Data Replication, Automation	✓ Table Location, Performance	✓ CTEs: Scenarios & Tuning
✓ Local & Global Temp Tables	✓ Schemas, Transfer, Synonyms	✓ Linked Servers, Remote Joins
✓ Testing & Using Temp Tables	✓ Transactions Types, Lock Hint	✓ Linked Servers: MSDTC, RPC
	iransactions types, Lock time	Linked Servers. Wisbre, Kre
✓ SELECT INTO & Bulk Loads	✓ Query Blocking Scenarios	✓ 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: Snowflake

# **Ch 1: Introduction to Snowflake**

- ✓ Database, DWH Introduction
- ✓ OLTP, OLAP and DWH
- ✓ Data Warehouse Advantages
- ✓ Cloud DWH Implementations
- ✓ IaaS, PaaS & SaaS Concepts
- ✓ Snowflake Cloud Intro
- ✓ Snowflake: SaaS Platform
- ✓ Snowflake Advantages

# **Ch 2: Snowflake Concepts**

- ✓ Snowflake Account (Cloud)
- ✓ Snowflake Components
- ✓ Snowflake Editions, Credits
- ✓ Web UI & Snow Sight
- ✓ Snowflake Editions
- ✓ Snowflake Storage
- ✓ Virtual Private Edition (VPS)
- ✓ Snowflake Pricing

#### Ch 3: Architecture, Warehouse

- ✓ Compute Architecture
- ✓ Shared Disk Architecture
- ✓ Nodes and Clusters
- ✓ CPU & Memory in Clusters
- ✓ Database Query & Data Cycle
- ✓ ColumnStore, Virtual Warehouse
- ✓ Classic UI with Snowflake
- ✓ Massively Parallel Processing

#### Ch 4: Snowflake DB & Tables

- ✓ DB Objects and Hierarchy
- ✓ Worksheet Parameters
- ✓ DB Creation with Snowflake
- ✓ Snowflake Tables and Usage
- ✓ Retention Time, Connections
- ✓ Permanent, Transient Types
- ✓ CREATE TABLE AS SELECT
- ✓ ALTER, DROP & UNDROP

# Ch 5: Time Travel, Recovery

- √ Time Travel in Snowflake
- ✓ Continuous Data Protection
- ✓ Invoking Time Travel Feature
- ✓ Timestamp, Offset, Query ID.
- ✓ Data Recovery, TIMESTAMP
- ✓ OFFSET in Real-world
- ✓ Fail Safe and UNDROP
- ✓ Transient Tables, Real-time

#### **Ch 6: Schemas and Session Context**

- ✓ Schema Creation Usage
- ✓ Permanent, Transient Schemas
- ✓ Managed Schemas in Snowflake
- ✓ Invoking Schemas & Cloning
- ✓ Snowflake Workspaces
- ✓ Session Context & Schema
- ✓ Query and History Tab in GUI
- ✓ Data Loading with GUI

# Ch 7: Constraints and Data Types

- ✓ Constraints & Validations
- ✓ NULL, NOT NULL Properties
- ✓ Keys & Constraints, Usage
- ✓ Inline, Out Of LineConstraints
- √ Table Constraints, Use
- ✓ ENFORCED Constraints
- ✓ DEFERRED. IMMEDIATE
- ✓ Snowflake Data Types

# **Ch 8: Snowflake Cloning (Zero Copy)**

- ✓ Cloning with Snowflake
- ✓ Zero Copy, Schema Cloning
- ✓ Real-time Cloning
- ✓ Snapshot Concept, Metadata
- ✓ Permissions for Cloning
- ✓ Accessing, Controlling Clone
- ✓ Storage & Metadata Layer
- ✓ Real-time Considerations

#### **Ch 9: Snowflake Procedures**

- ✓ Procedures and Functions
- ✓ SQL and JavaScript & CALL
- ✓ Transactions & Injection
- √ sqlText:command
- ✓ Cursoring Data and Operations
- ✓ Dynamic DML with SPs
- ✓ Working with Loops
- ✓ RETURN, RETURNS Statements

## **Ch 10: Security Management**

- ✓ Security with Snowflake
- ✓ Users & Roles in Snowflake
- ✓ Privileges and Groups
- ✓ Organization, Account, Users
- ✓ Creating, Using Roles, Users
- ✓ System Defined Roles Usage
- ✓ Role Hierarchy, Dependency
- ✓ RBAC & DAC in Real-time

#### **Ch 11: Snowflake Transactions**

- ✓ Transaction ACID Properties
- ✓ Implicit, Explicit and Auto
- ✓ Durability and Data Storage
- √ current\_transaction() Usage
- √ to\_timestamp\_ltz and Usage
- ✓ Failed Transactions with SPs
- ✓ Transactions and SPs
- ✓ Scoped & INNER Transactions

#### Ch 12: Snowflake Streams & Audits

- ✓ Snowflake Streams & Usage
- ✓ Streams and DML Auditing
- ✓ Snapshot Creation, Offset
- ✓ METADATA Options & Streams
- ✓ Auditing DML Operations
- ✓ Data Flow & Snowflake Streams
- ✓ Streams on Transient Tables
- ✓ Time Travel with Stream Tables

#### Ch 13: Snowflake Tasks, Partitions

- √ Tasks, Serverless Compute
- ✓ Tasks Tree: Root and DAG
- ✓ Tasks Schedules and RESUME
- ✓ User & Snowflake Managed
- ✓ CRON Syntax with Tasks
- ✓ Virtual Warehouse Concepts
- ✓ Multi Cluster Warehouse
- ✓ Auto Scale Options, Billing

#### Ch 14: SnowSQL and Variables

- ✓ SnowSQL Configurations
- ✓ DDL, DML & SELECT
- ✓ SnowSQL Command Line
- √ Variables and Batch Process
- ✓ DECLARE, LET, BEGIN & END
- ✓ EXECUTE IMMEDIATE, FOR
- ✓ Creating Virtual Warehouse
- ✓ Writing Output to Files

# **Ch 15: Snowflake Partitions, Stages**

- ✓ Snowflake Partitions. Use
- ✓ Micro Partition with DML. CDC
- ✓ Cluster Key, Depth and Overlap
- ✓ Internal Partition Types & Usage
- ✓ List, Range and Hash Partitions
- ✓ Snowflake Stages, Types
- ✓ Internal and External Stages
- ✓ COPY Command, Bulk Loads

#### Ch 16: Azure & External Stages

- ✓ Azure Subscriptions
- ✓ Azure Storage Account, BLOB
- ✓ SAS: Shared Access Signature
- ✓ SAS Key and FILE PATH
- ✓ Azure Storage with BLOB
- ✓ COPY INTO Command Usage
- ✓ Snowflake Patterns & RegEx
- ✓ File Formats: Creation, Usage

# **Ch 17: Snow Pipes & Incr Loads**

- ✓ SnowPipe Incremental Loads
- ✓ Azure Queues & Integrations
- ✓ Azure Active Directory
- ✓ External Stage, Enterprise AD
- ✓ Snow Pipes and Data Loads
- ✓ Incremental Data Loads
- ✓ Enterprise Applications
- ✓ File Format with Reg Expr

## Ch 18: Power BI with Snowflake

- ✓ Power BI: Big Data Analytics
- ✓ Configuring Power BI
- ✓ Snowflake Data Access
- ✓ Datawarehouse Access
- ✓ SnowPro Exam Guidance
- ✓ SnowPro Exam Samples
- ✓ Mock Certification

# Module 3: Snowflake Data Build Tool

### Ch 1: DBT Fundamentals

- ✓ What is Data Build Tool?
- ✓ DBT as a data transformation
- ✓ Importance of DBT
- ✓ ELT & ETL Process
- ✓ DBT Cloud
- ✓ Data Transformations

#### Ch 2: DBT Models

- ✓ Building models in DBT
- ✓ Types of materializations
- ✓ Table, view, incremental
- √ Materializations
- ✓ ETL Models & Usage
- ✓ ETL Model configurations

# **Ch 3: DBT Jinja Templating**

- ✓ Introduction to Jinja
- ✓ Using Jinja with DBT
- ✓ Macros and reusable code
- ✓ Implementing dynamic SQL
- ✓ ETL with DBT SQL
- ✓ ETL Optimizations

# **Ch 4: DBT Testing**

- ✓ Writing and executing tests
- ✓ Data quality checks
- ✓ DBT documentation
- ✓ Lineage Graphs
- ✓ Generating DBT docs

### Ch 5: DBT Seeds and Sources

- ✓ Using seeds for static data
- ✓ Defining and using sources
- ✓ Source freshness checks
- ✓ Integrating external data
- ✓ Using DBT Seeds, Usage

# Ch 6: DBT Deployment

- ✓ Deployment strategies
- ✓ Continuous integration
- ✓ ETL Deployment.
- ✓ Automating DBT workflows
- ✓ Version control with Git.

## **Ch 7: DBT Best Practices**

- ✓ Project structure
- ✓ Recommendations
- ✓ Coding standards, Guidelines
- ✓ DBT project optimization
- ✓ Performance tuning tips

#### Ch 8: Hooks in DBT

- ✓ Custom Scripts & Runs
- ✓ Adding additional logic to
- ✓ Streamline Snowflake
- ✓ Analyses & exploratory data
- ✓ Ad-hoc Analyses

## Ch 9: DBT Snapshots

- ✓ Managing historical data.
- ✓ Implementing DBT snapshots
- ✓ Snapshot configuration.
- ✓ Strategies for handling changes

# Ch 10: DBT Packages and **Extensions**

- ✓ Leveraging DBT packages
- ✓ Using community packages
- ✓ Extending DBT functionality
- ✓ Data Integrations
- ✓ Realtime Considerations

# **Ch 11: DBT Advanced Topics**

- ✓ Advanced Jinja usage
- ✓ Handling complex data
- ✓ ELT Scenarios
- ✓ Custom materializations
- ✓ Troubleshooting
- ✓ Debugging

# Ch 12: Real-time Project Phase 1

- ✓ Project Requirements
- ✓ Project Setup in DBT
- ✓ Model planning
- ✓ DBT Development
- ✓ Initial testing and validation

#### Ch 13: Real-time **Project** Phase 2

- ✓ Project deployment and monitoring
- ✓ Implementing advanced **DBT** features
- ✓ Comprehensive testing and documentation
- ✓ Real-world deployment considerations

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