SQL SCHOOL
★ Trainings ★ Projects ★ Jobs

Thank you for contacting our **SQLSchool** Training Institute. We assure you 100% Practical, step-by-step training on the **Snowflake Data Engineer** Course.

Whom we are?

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

Details of our Snowflake Data Engineer 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.

What are the Job Roles for Snowflake Engineers?

Snowflake Data Engineers are responsible for:

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

2. Who can join this course?

1. Analysts
2. Developers
3. Administrators
4. IT Professionals
5. Students
6. Anyone who wanted to step into Cloud ETL

3. What is included in this complete, practical step by step-by-step course?

DWH BASICS	DWH ARCHITECTURE	CLOUD BASICS	SNOWFLAKE CONCEPTS	SNOWFLAKE ARCHITECTURE	VWH ARCHITECTURE
MPP ARCH	SNOWFLAKE OPERATIONS	CLASSIC UI	SNOWSIGHT	EDITIONS, PRICING	DWH CREATION
DATABASES	SCHEMA CONCEPT	TABLES, DATA LOADS	CTAS, SCHEMAS, CONTEXT	CONSTRAINTS, KEYS	VIEWS, DATA TYPES
TRANSIENT TABLES	TEMPORARY TABLES	DATA RECOVERY	UNDROP, OFFSET, QID	SNOWFLAKE CLONING	ZERO COPY CLONE
PROCEDURES, UDF	sqlText(), statement()	CURSORING DATA	TRANSACTIONS	EXPLICIT, AUTO COMMIT	BATCH PROCESSING
SECURITY MANAGEMENT	SYSTEM ROLES	USERS, PREVELIGES	RBAC	DAC	OBJECT SECURITY
DATA STREAMS	CDC	SCHEDULED TASKS	DML, DDL, TCL AUDITS	DATA RECOVERY	TIME TRAVEL
TASKS	DAG	CRON CONCEPTS	PARTITIONS	TABLE PARTITIONS	INDEXES, TUNING
SNOWSQL	TOOL CONFIGURATION	SNOW CLOUD AUTH"	VARIABLES	OPERATORS, AUDITS	DATA IMPORTS
STAGES	INTERNAL STAGES	EXTERNAL STAGES	AZURE CLOUD	BLOB DATA STAGES	COPY INTO
SNOWPIPES	INTEGRATIONS	AZURE AD AUTH"	FILE FORMATS	INCREMENTAL LOADS	REAL-TIME PROJECT

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 www.sqlschool.com/schedules

Snowflake Data Engineer Training

Module 1: SQL Server TSQL (MS SQL) Queries
Helpful for Data Analysts, Data Engineers, 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**
✓ **Data Engineering 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 ▢ , Encryption, Deferred Names
✓ Cross Joins, Query Tuning	✓ Inline & Multiline Functions	SPs for Validations, Analysis
✓ Creating & Using Views	✓ Date & Time Functions	System SPs, Recompilation
✓ DML, SELECT with Views	✓ String, Aggregate Functions	Normal Forms & Types
✓ RLS : WITH CHECK OPTION	✓ Data Types : Integer, Char, Bit	Data Models, Self-References
✓ System Views & Metadata	✓ SQL Variant, Timestamp, Date	

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
✓ SELECT .. INTO & Bulk Loads	Query Blocking Scenarios	✓ Tuning Remote Queries

Ch 13: Merge, Upsert & Rank	Ch 14: Grouping & Cube	Ch 15: Self Joins, Excel Analysis
✓ Need for Merge in ETL	✓ Group By & HAVING	✓ Self Joins & Self References
✓ Incremental Loads with SQL	✓ Cube, Rollup & Grouping	✓ UNION, UNION ALL
✓ MERGE and RANK Functions	✓ Joins with Group By	✓ Sub Queries with Joins
✓ Window Functions, Partition	✓ 3 Table, 4 Table Joins	✓ IIF, CASE, EXISTS Statements
✓ Identify, Remove Duplicates	✓ Query Execution Order	✓ Excel Analytics, Pivot Reports

Real-time Case Study

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 & 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
- ✓ Cloning with Snowflake
- ✓ Zero Copy, Schema Cloning
- ✓ Real-time Cloning
- ✓ Snapshot, Metadata
- ✓ Permissions for Cloning
- ✓ Accessing, 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

✓ Using 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

✓ Certification Guidance

Module 3: Data Build Tool (DBT)

Ch 1 : DBT Fundamentals
- ✓ What is Data Build Tool?
- ✓ DBT as a data transformation tool
- ✓ Importance of DBT in ELT workflows
- ✓ DBT Cloud for data transformations

Ch 2: DBT Models and Materializations

- ✓ Building models in DBT
- ✓ Types of materializations
- ✓ Table, view, incremental materializations
- ✓ Model configurations

Ch 3: DBT Jinja Templating ✓
Introduction to Jinja
- ✓ Using Jinja with DBT
- ✓ Macros and reusable code
- ✓ Implementing dynamic SQL

Ch 4: DBT Testing and Documentation
- ✓ Writing and executing tests
- ✓ Data quality checks
- ✓ DBT documentation and 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**

Ch 7: DBT Deployment and CI/CD
- ✓ **Deployment strategies for DBT**
- ✓ **Continuous integration and deployment**
- ✓ **Automating DBT workflows**
- ✓ **Version control with Git**

Ch 7: DBT Best Practices
- ✓ **Project structure recommendations**
- ✓ **Coding standards and guidelines**
- ✓ **DBT project optimization**
- ✓ **Performance tuning tips**

Ch 8: Hooks in DBT
- ✓ **Custom scripts to run at specific points**
- ✓ **Adding additional logic to streamline Snowflake**
- ✓ **Analyses and exploratory data workflows**
- ✓ **Ad-hoc analyses that do not get materialized**

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**
- ✓ **Integrations with other data tools**

Ch 11: DBT Advanced Topics
- ✓ **Advanced Jinja usage**
- ✓ **Handling complex data scenarios**
- ✓ **Custom materializations**
- ✓ **Troubleshooting and debugging techniques**

Ch 12: Real-time Project Phase 1
- ✓ **Defining project requirements**
- ✓ **Initial project setup and DBT configuration**
- ✓ **Model planning and 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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