

**Comprehensive Snowflake**

**Course Number:** SQL-708  
**Duration:** 5 days

**Overview**

This Comprehensive Snowflake training course covers fundamental and advanced Snowflake architecture and teaches best practices for configuring and deploying a Snowflake cloud-based database. Attendees take their skills to the next level to build an RBAC (role-based access control) hierarchy, incorporate a disaster recovery plan, optimize performance, and create automated workflows in Snowflake.

**Prerequisites**

Students must have a basic knowledge of the Snowflake user interface and execution of SnowSQL.

**Materials**

All Snowflake training students receive comprehensive courseware.

**Software Needed on Each Student PC**

All attendees will need access to a Snowflake SQL environment with Accelebrate’s sample data loaded.

**Objectives**

* Describe the basics of Cloud, Data Warehouse, ETL/ETL, and Data Analytics
* Examine the architecture of Snowflake
* Examine Snowflake's key features
* Connect to Snowflake and assign roles
* Create database objects in Snowflake
* Ingest structured and unstructured data into Snowflake
* Ingest streaming data using Snowpipe
* Clone database objects
* Share Data using Web UI
* Un-drop database objects using SQL Commands
* Describe advanced Snowflake architecture features and functionality
* Design and build an RBAC hierarchy
* Share data from inside or outside of an organization
* Incorporate Snowflake into a disaster recovery plan
* Use performance tuning and resource management features to optimize Snowflake
* Leverage advanced caching features to enhance performance
* Enhance continuous data pipelines with scheduled tasks to create an automated workflow

**Outline**

* Introduction to Cloud and Data Warehouses
  + Introduction to Cloud
  + Why Cloud?
  + Cloud Providers
  + SaaS, PaaS, IaaS
  + What is a Data Warehouse
  + Why Data Warehouse
  + Data Warehouse Basic
* Data Integration and Analytics
  + ETL/ELT
  + Batching vs. Streaming
  + Data Analytics & Visualizations
  + On-Prem Vs. Cloud
* Introduction to Snowflake
  + What is Snowflake
  + Snowflake History
  + Datawarehouse as a Service
  + Supported Cloud platforms & Regions
* Snowflake UI
  + Query Pane
  + Result Pane
  + Object Navigation Pane
  + Different Tabs
  + Examine Snowflake UI
* Snowflake Architecture
  + Introduction to Snowflake Architecture
  + 3 Tier Architecture
  + Data Storage
  + Query Processing
  + Cloud Services
* Snowflake Feature
  + Security & Data Protection
  + Standard & Extended SQL
  + Tools & Interfaces
  + Connectivity
  + Data Import & Export
  + Data Sharing
  + Database Replication & Failover
  + Continuous Data Protection
* Connecting to Snowflake and Assigning Roles
  + Connecting to Snowflake
  + Snowflake Roles
  + Snowflake Editions
* Creating Database Objects
  + Create Database objects
  + Stage Files
  + Create Objects in Snowflake
* Structure Data Ingestion
  + Structured Data Ingestion
  + Data Staging
  + Bulk load from Cloud Storage
  + Bulk load from Local Storage
  + Query Data
* Unstructured Data Ingestion
  + Unstructured Data Ingestion
  + JSON Ingestion
  + Query Data
* Stream Data Ingestion
  + Introduction to Snowpipe
  + How to Create Pipe
  + How to Load Streaming Data
  + How Query Data
  + Ingesting Streaming Data
* Clone Database Objects
  + Zero Copy Cloning
  + How to Clone a Database
  + How to Clone a Schema
  + How Clone Tables and Views
  + Cloning a Database
* Data Sharing
  + What is Data Share
  + Data Providers
  + Data Consumers
  + Share with Snowflake users
  + Using Wed UI to Share
  + Share Data with Snowflake and Non-Snowflake
* Un-drop Database Objects
  + Un-drop Database Objects
  + SQL Commands
* Advanced Snowflake Architecture
  + Three Tiered Architecture
  + Micro-Partitioning in Snowflake
  + Snowflake Clustering
* Building an RBAC Hierarchy
  + Role Hierarchies
  + Multifactor Authentication and Authorization
  + Security Best Practices
  + Snowflake Roles
  + Connecting Snowflake
* Data Sharing and Disaster Recovery
  + Overview of Time Travel and Copy Cloning
  + Data Sharing
  + Overview of Disaster Recovery
  + Disaster Recovery with Snowflake
* Performance Tuning and Resource Management
  + Designing High-Performance Tables and Queries
  + Resource Usage and Billing
  + Multi-clustering and Clustering Keys
  + Scaling
  + Performance Tuning
* How Caching Improves Performance
  + Temp Tables
  + Transient Tables
  + Snowflake Caching Features
  + Advanced Caching
* Tasks and Scheduling Management
  + Integrating Stored Procedures, Views, and Functions
  + Tasks and Scheduling
  + Enhance Continuous Data Pipeline
* Conclusion