

**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