

Snowflake Data Engineer

Course outline

Snowflake Architecture and Overview

- Snowflake Architecture
- Cloud Services Layer
- Data Storage Layer
- Compute Layer
- Sample Data
- Web User Interface
- SnowSQL

Time Travel and Cloning

- Time Travel
- Cloning and Agile Development

Snowflake Structure and SQL

- Snowflake Structure
- Data Definition Language (DDL)
- Data Manipulation Language (DML)

Data Loading

- Data Loading Concepts
- Bulk Loading

Semi-structured Data

- Querying
- Load and Unload

Data Loading Considerations

- Snowflake Best Practices
- Data Loading, Transformations, and Validations

Performance

- Query Profile
- Explain Plan
- SQL Performance Tips
- Performance Bottleneck Scenarios

Caching

- Metadata Cache
- Query Result Cache
- Data Cache

Clustering

- Natural Clustering
- Automatic Clustering Service
- Explicit Clustering
- Search Optimization Service

Continuous Data Loading

- Data Loading Approaches
- Snowpipe

Streams and Tasks

- Introduction to Streams
- Creating and Managing Tasks
- Using Streams and Tasks Together

Connectors

- Snowflake Connector for Python
- PANDAS
- SQLAlchemy
- Apache Spark

ELT and Transformations

- Sampling
- Estimation

- Grouping Sets
- Recursive WITH
- Windowing

Materialized Views and Data Lake

- Materialized Views
- Data Lake

Data Cloud

- Data Sharing
- Data Exchange
- Snowflake Marketplace
- Secure Views and User Defined Functions

Extending and Streaming

- Stored Procedures
- User Defined Functions
- External Functions
- Snowpark
- Java User Defined Functions
- Snowflake Connector for Kafka

Monitoring and Managing

- Information Schema
- Snowflake Database
- Query Tags
- Cost Governance
- Resource Monitors
- Parameters