SNOWFLAKE FUNDAMENTALS

Duration: 5 Days (8 Hrs/Day)

Prerequisites: Basic knowledge of Computers, SQL commands

Course Objective: Learn the core of Snowflake with 'Snowflake Fundamentals.' From understanding the architecture and overview to mastering objects, commands, and SQL support for data analysis. Navigate through managing security, semi-structured data, Snowflake clients, ecosystem, data sharing, and proficiently handle account and resource management. Elevate your skills in Snowflake through comprehensive learning and application.

Lab Requirement: Koenig-DC (Windows) and Snowflake Snowsight Account

Module 1 - Snowflake Architecture and Overview

Snowflake Technical Overview

Cloud Services Layer

Compute Layer

Storage Layer

Lab: How to signup for Snowflake account

Module 2 - Data Movement

Data Loading

Unloading

Best Practices

Lab: How to load the data into Snowflake

Lab: How to unload the data from Snowflake

Module 3 - Snowflake Objects & Commands

Query Constructs

Data Description Language (DDL)

Data Manipulation Language (DML)

Lab: How to use Snowsight for writing Queries

Lab: How to write Snowflake queries to perform different data related operations

Lab: How to refer to the documentation for quick reference of the Snowflake Queries

Lab: How to create Databases

Lab: How to create Schemas

Lab: How to create Views

Module 4 - Snowflake SQL Support for Data Analysis

SQL Support and Query Best Practices

SQL Analytic Functions

High Performing Estimation Functions

UDF and Stored Procedure

Demo Query Profile

Lab: How to create UDFs

Lab: How to create stored procedure

Lab: How to view a query profile

Lab: How to format a query

Module 5 - Managing Security

Data Encryption

Authentication

Role-Based Access Control

Lab: How to enrol for 2FA

Lab: How to use system defined roles

Lab: How to create user defined roles

Lab: How to use RBACs

Module 6 - Semi-structured Data

Capabilities and Best Practices for working with semi-structured data in Snowflake

Caching Features in Snowflake

Best Practices of using caching for performance and cost optimisation

Lab: How to handle semi-structured data

Module 7 - Snowflake Clients and Ecosystem

Snowflake Clients and Connectors Overview

SnowSQL – Snowflake CLI

Continuous Data Protection

Time Travel in Snowflake

Cloning in Snowflake

Lab: How to install SnowSQL

Lab: How to configure SnowSQL

Lab: How to use SnowSQL

Lab: How to use time travel in snowflake

Lab: How to use cloning in snowflake

Module 8 - Data Sharing

Snowflake Data Sharing Overview

Performance & Concurrency

Query Profile

Micro-Partitions & Data Clustering

Scaling a Virtual Warehouse

Lab: How to optimise Query's performance

Lab: How to use Query Profile to understand a Query

Lab: How to use Micro-Partitions and Data Clustering

Lab: How to scale a virtual warehouse

Lab: How to run multiple virtual warehouses at the same time

Module 9 - Account and Resource Management and Monitoring

System Resource Usage and Billing

Managing Virtual Warehouses

Workload independence and segmentation

Monitoring Tool: Resource Monitors

Monitoring Tools: Information Schema and Account Usage

Lab: How to view system resource usage

Lab: How to manage virtual warehouses

Lab: How to create resource monitor

Lab: How to manage resource monitor

Lab: How to query information schema

Lab: How to query Account Usage