Empowering Snowflake with Microsoft Fabric

Course Description

This 5-day training program provides a deep dive into using Microsoft Fabric alongside Snowflake as a data source for analytics and reporting. Participants will learn to configure, integrate, and optimize data flows between Snowflake and Microsoft Fabric, covering the entire analytics lifecycle. The training will encompass data ingestion, transformation, modelling, query optimization, and advanced analytics.

Participants will engage in hands-on labs that emphasize real-world applications and best practices for cost optimization throughout the data lifecycle. By the end of the training, participants will be equipped to build robust data solutions, ensure data governance, and manage costs effectively while leveraging the power of Microsoft Fabric and Snowflake.

Target Audience

- **Data Analysts** seeking to enhance their skills in Microsoft Fabric and Snowflake integration.
- **Business Intelligence Professionals** who want to leverage cloud data for advanced analytics and reporting.
- **Data Engineers** interested in building efficient data pipelines and optimizing data workflows.
- **IT Professionals** involved in data management and governance within their organizations.

Prerequisites

- Basic understanding of data analytics concepts and practices.
- Familiarity with Microsoft Power BI or similar BI tools.
- Basic knowledge of SQL for querying data.
- Understanding of cloud computing fundamentals, particularly in relation to data storage and processing.
- Prior experience with Snowflake is beneficial but not required.

Content Coverage :

Module 1: Introduction to Microsoft Fabric

- Overview of Fabric architecture, Lakehouse, and Power BI components
- Key concepts: Data Integration, Data Factory, Dataflows, Analytics lifecycle in Fabric

Module 2: Snowflake Integration with Fabric

- Basic Snowflake concepts: Virtual warehouses, data storage layers
- Connecting Fabric with Snowflake: Authentication (OAuth), configuring datasets
- Direct Query vs Import Mode: Best practices

Module 3: Hands-on: Configuring Snowflake as Data Source

- Walkthrough of connecting Snowflake to Microsoft Fabric
- Setup of datasets and tables from Snowflake in Power BI and Lakehouse

Module 4: Ingesting Snowflake Data into Fabric

- Importing data from Snowflake using Data Factory pipelines
- Incremental data loads and real-time ingestion

Module 5: Data Transformation in Fabric

- Using Power Query for transformation
- Handling semi-structured data from Snowflake

Module 6: Cost Optimization Strategies for Data Ingestion

- Minimizing data transfer costs between Snowflake and Fabric
- Managing incremental loads to reduce storage and compute usage
- Scheduling low-cost ingestion processes with automated triggers

Module 7: Hands-on Lab: Dataflows and Transformation

- Build and optimize dataflows for large-scale datasets from Snowflake

Module 8: Data Modelling in Fabric

- Create Star Schemas with Snowflake data

- Use of aggregations and DAX to optimize models

Module 9: Query Optimization

- Optimizing queries for Power BI with Snowflake data

- Utilizing Snowflake caching and clustering to improve performance

Module 10: Cost Optimization for Data Models and Queries

- Reducing compute costs by efficient model design in Fabric

- Optimizing query execution and minimizing large query costs in Snowflake

- Managing resource consumption in both Snowflake and Fabric

Module 11: Hands-on: Advanced Data Models and Cost Management

- Build and optimize composite models combining Snowflake and other sources

- Implement best practices for cost-efficient querying

Module 12: Governance and Security

- Implementing Row-Level Security (RLS) and Data Masking in Fabric with Snowflake

- Monitoring and auditing data access

Module 13: Cost Governance in Fabric and Snowflake

- Managing and tracking costs using Fabric's cost management tools

- Snowflake cost management best practices: Monitoring warehouse usage, optimizing compute billing

- Setting up automated alerts and thresholds to control costs