

Snowflake Development – SQL & Core Features (3 Months)

Duration: 3 Months (~120 Hours)

Mode: Live Online / Classroom

Tools & Technologies: Snowflake SQL, Views, Secure/Materialized Views, Streams, Tasks

Certifications Prepared: SnowPro Core Certification

Syllabus

Week 1: SQL Foundations

- Databases, Schemas, Tables; Snowflake-specific data types
- DDL & DML operations (CREATE, INSERT, UPDATE, DELETE)
- Hands-on: Create schema and load initial dataset
- Assignment

Week 2: Advanced SQL Queries

- Complex Joins & Subqueries; CTEs
- Set Operators: UNION, MINUS, INTERSECT
- Window Functions (RANK, ROW_NUMBER, LEAD, LAG)
- Hands-on: Build analytics queries with ranking functions
- Assignment

Week 3: Semi-Structured Data Handling

- VARIANT data type for JSON/XML
- Flattening nested JSON with FLATTEN function
- Querying arrays & objects in Snowflake SQL
- Hands-on: Parse nested JSON payloads
- Assignment

Week 4: Views & Materialized Views

- Standard vs Secure Views; Row Access Policies
- Materialized Views for performance optimization
- Hands-on: Create secure views for sensitive fields
- Assignment
- Mock Interview 1

Week 5: Stored Procedures & UDFs

- JavaScript Stored Procedures; SQL UDFs
- Scalar & Table Functions; Table UDFs
- Hands-on: Build procedure for ETL process and UDF for string manipulation
- Assignment

Week 6: Streams & Tasks

- Change Data Capture (CDC) using Streams
- Automating ETL workflows with Tasks
- Hands-on: Incremental load using Streams & Tasks
- Assignment

Week 7: Data Sharing & Marketplace

- Secure Data Sharing; Reader accounts
- Exploring Snowflake Data Marketplace
- Hands-on: Share dataset securely with another account
- Assignment

Week 8: Capstone Project & Interview Prep

- Capstone: Build CDC-enabled ETL pipeline with Streams, Tasks, and Views
- Assignment
- Mock Interview 2

Learning Outcomes

- Develop secure and optimized SQL for analytics on Snowflake
- Apply advanced SQL features such as window functions and CTEs
- Work with semi-structured data using VARIANT and FLATTEN
- Create secure & materialized views; implement row access policies
- Automate CDC pipelines with Streams & Tasks
- Leverage Data Sharing and Marketplace effectively
- Prepare for SnowPro Core Certification