DATA ANALYSIS IN SNOWFLAKE – PYTHON & DATAFRAMES

Comprehensive Hands-On Workshop

Description

Join our intensive 3-day workshop, 'Data Analysis in Snowflake – Python & DataFrames', designed specifically for Data Analysts. This hands-on training will immerse you in the essential aspects of Snowflake, with a focus on practical data analysis using Python and DataFrames. Engage in real-world scenarios, enhance your skills, and transform your data operations with the power of Snowflake and Python.
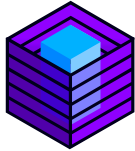
Format

Mostly workshops

Duration

3 days

Prerequisites

- Basic understanding of SQL
- Basic familiarity with Python programming
- Experience with data analysis concepts is a plus but not mandatory

Target audience

- Data Analysts
- Data Engineers
- IT Professionals involved in data analysis
- Anyone interested in enhancing their data analysis skills using Snowflake and Python

Workshop program

1. Snowflake Overview
   - Introduction to Snowflake
   - Key features and architecture

2. Client Interfaces
   - Using the Snowflake web interface
   - Connecting through various client tools
   - Setting up Python environment for Snowflake

3. Retrieving Data with Python and DataFrames
   - Loading data into DataFrames

4. Using Built-in Functions for Processing and Formatting Retrieved Data
   - String functions in Python
   - Date and time functions in Python

5. Type Conversion in DataFrames
   - Converting between data types
   - Practical use cases

6. Sorting DataFrames
   - Sorting techniques
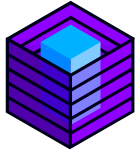
7. Filtering Rows in DataFrames
   - Applying conditions and logical operators

8. Aggregate Functions with DataFrames
   - Aggregating data functions like COUNT, SUM, AVG, MIN, MAX

9. Grouping and Filtering Groups in DataFrames
   - GROUP BY operations
   - Filtering groups with HAVING conditions

10. Joining DataFrames
    - Merging DataFrames to simulate SQL JOIN operations
    - Practical examples of data joining

11. Inner and Outer Joins, Cartesian Product with DataFrames
    - Differences between join types
    - When to use each type

12. Subqueries with DataFrames
    - Simulating single-row and multi-row subqueries

13. Set Operations with DataFrames
    - UNION, INTERSECT, EXCEPT

14. Window Functions with DataFrames
    - Windowing operations like ROW_NUMBER, RANK, DENSE_RANK, LAG, LEAD, FIRST_VALUE, LAST_VALUE

15. DML Operations with DataFrames
    - INSERT, UPDATE, and DELETE operations

16. Working with Semi-Structured Data
    - Loading and querying JSON, Avro, and other formats

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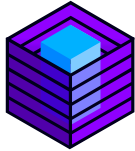
17. Database Objects
    - Understanding tables, views, sequences in the context of Snowflake
    - Managing database objects through Python

18. DDL – Creating Tables and Data Types in Snowflake
    - Using Python to execute CREATE TABLE statements
    - Defining data types and constraints

19. Time Travel & Cloning in Snowflake
    - Accessing historical data and performing data recovery
    - Using cloning for data replication

20. Views – Creating and Retrieving Data
    - Creating and managing views in Snowflake through Python
    - Practical use cases for views

Acquired skills

By the end of this workshop, participants will be well-equipped with the knowledge and hands-on experience needed to leverage Snowflake for data analysis using Python and DataFrames.

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