

# DATA ANALYSIS IN SNOWFLAKE – PYTHON & DATAFRAMES

Comprehensive Hands-On Workshop

*We are not affiliated or endorsed by Snowflake, Inc.*

## 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

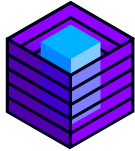
Mostly workshops

## 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

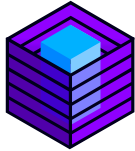
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- Data Analysts
- Data Engineers
- IT Professionals involved in data analysis
- Anyone interested in enhancing their data analysis skills using Snowflake and Python

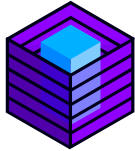
## Workshop program

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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



#### 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**

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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.