# Case Study: Azure → Snowflake with Snowpark, then Power BI

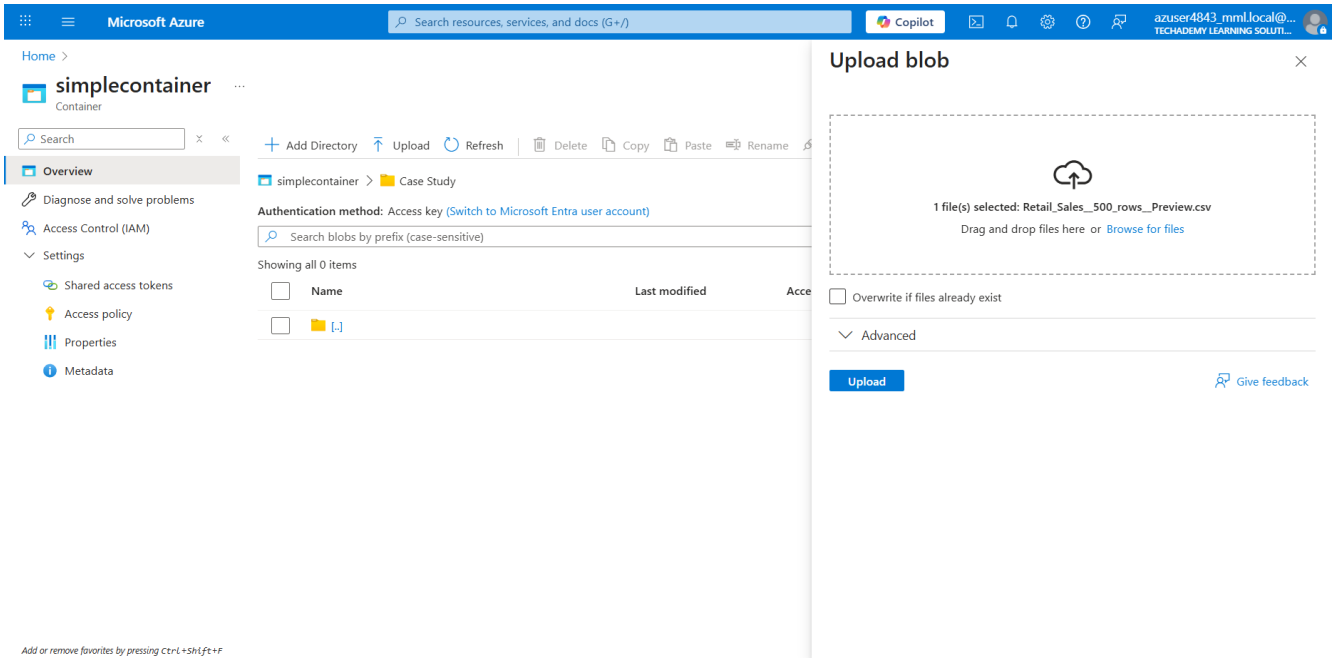
## Scenario

You're the data engineer at **ItTechGenie Retail**. Sales teams drop monthly CSVs into an **Azure Storage** container. You must:

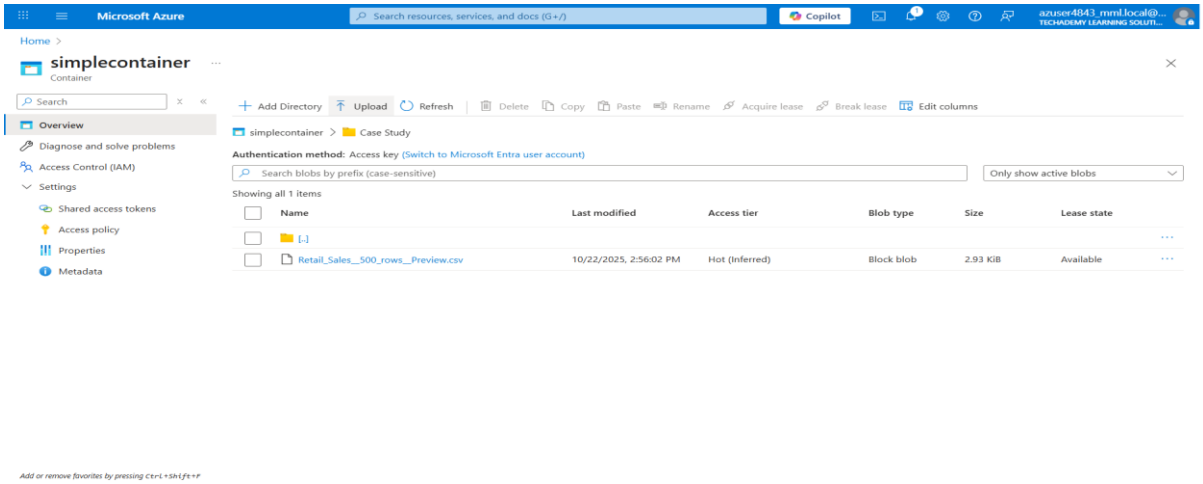
1. upload the CSV to Azure,
2. ingest it into **Snowflake** using **Snowpark**,
3. model it into proper **database/schema/table**, and
4. build a quick **Power BI** report for business users.

## Steps

1. Upload the csv to Azure blob container




Uploading csv dataset to a directory inside blob container




File uploaded to Case study directory

2. Ingest into snowflake as table using snowpark

# Installing *SNOWPARK* libary

```
%pip install snowflake-connector-python
```

```
%restart_python
```

Installing required libraries

# Reading from *AZURE* container using *PANDAS*

```
import pandas as pd
from snowflake.connector import connect
from snowflake.connector.pandas_tools import write_pandas
```

```
url = "https://unicron.blob.core.windows.net/simplecontainer/Case%20Study/Retail_Sales__500_rows__Preview.csv?sp=racwdyti&st=2025-10-22T09:37:17Z&se=2025-10-22T17:52:17Z&sv=2024-11-04&sr=b&sig=rPQW%2Fco0GpmdFsqXNlDmXy9dfc13tGmHDu2yBUOkI%2BI%3D"
```

```
df = pd.read_csv(url)
```

df: pandas.core.frame.DataFrame = [OrderID: object, OrderDate: object ... 12 more fields]

```
df.head(5)
```

| | OrderID | OrderDate | MonthOfSale | CustomerID | CustomerName | Country | Region | City | Category | Subcategory | Quantity | Discount | Sales | Profit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | ORD-5F8D6F0C | 2024-10-08 | 2024-10 | CUST1000 | Ananya Sharma | India | South | Mumbai | Office Supplies | Paper | 9 | 0.00 | 2700.0 | 780.43 |
| 1 | ORD-BF0078E4 | 2024-08-11 | 2024-08 | CUST1001 | Aarav Iyer | India | Central | Lucknow | Technology | Networking | 4 | 0.15 | 27200.0 | 4135.60 |
| 2 | ORD-86CD58A3 | 2024-06-12 | 2024-06 | CUST1002 | Arjun Sharma | USA | East | Kolkata | Furniture | Tables | 4 | 0.10 | 31500.0 | 5676.96 |
| 3 | ORD-FB0CD2D9 | 2024-12-18 | 2024-12 | CUST1003 | Ananya Das | India | North | Kolkata | Office Supplies | Appliances | 9 | 0.00 | 36000.0 | 11783.22 |
| 4 | ORD-EF35596B | 2024-10-27 | 2024-10 | CUST1004 | Ishaan Bhat | UK | Central | Chennai | Furniture | Storage | 4 | 0.00 | 24000.0 | 4189.98 |

Reading SAS url using pandas

# Writting into ***SNOWFLAKE*** schema

Markdown

03:26 PM (2s) 10 Python

```
conn = connect(
    user="THARUN",
    password="Pubg123456789@",
    account="DQYZILX-ZU27027",
    warehouse="THARUN",
    database="THARUN_LEARNING",
    schema="DAY_7"
)
```

03:26 PM (6s) 11

```
result = write_pandas(
    conn=conn,
    df=df,
    table_name="IT_TECH_GENIE_RETAIL",
    schema="DAY_7",
    database="THARUN_LEARNING",
    auto_create_table=True,
    quote_identifiers=False)
```

Using *write_pandas()* function to write *Pandas.DataFrame* to snowflake table

# Verifying result

03:27 PM (<1s) 13 Python

```
result[0]
```

```
True
```

Verifying result if True the done.

3. Modeling into proper database/schema/table (Executeing from vscode connected to snowflake using extension)

Code:

```
SHOW TABLES;
```

Output:

| | created_on | name | database_name | schema_name | kind | comment |
|---|---|---|---|---|---|---|
| 1 | 2025-10-22 02:57:03.379 | IT_TECH_GENIE_RETAIL | THARUN_LEARNING | DAY_7 | TABLE | |
| 2 | 2025-10-21 21:16:43.358 | USERS | THARUN_LEARNING | DAY_7 | TABLE | |

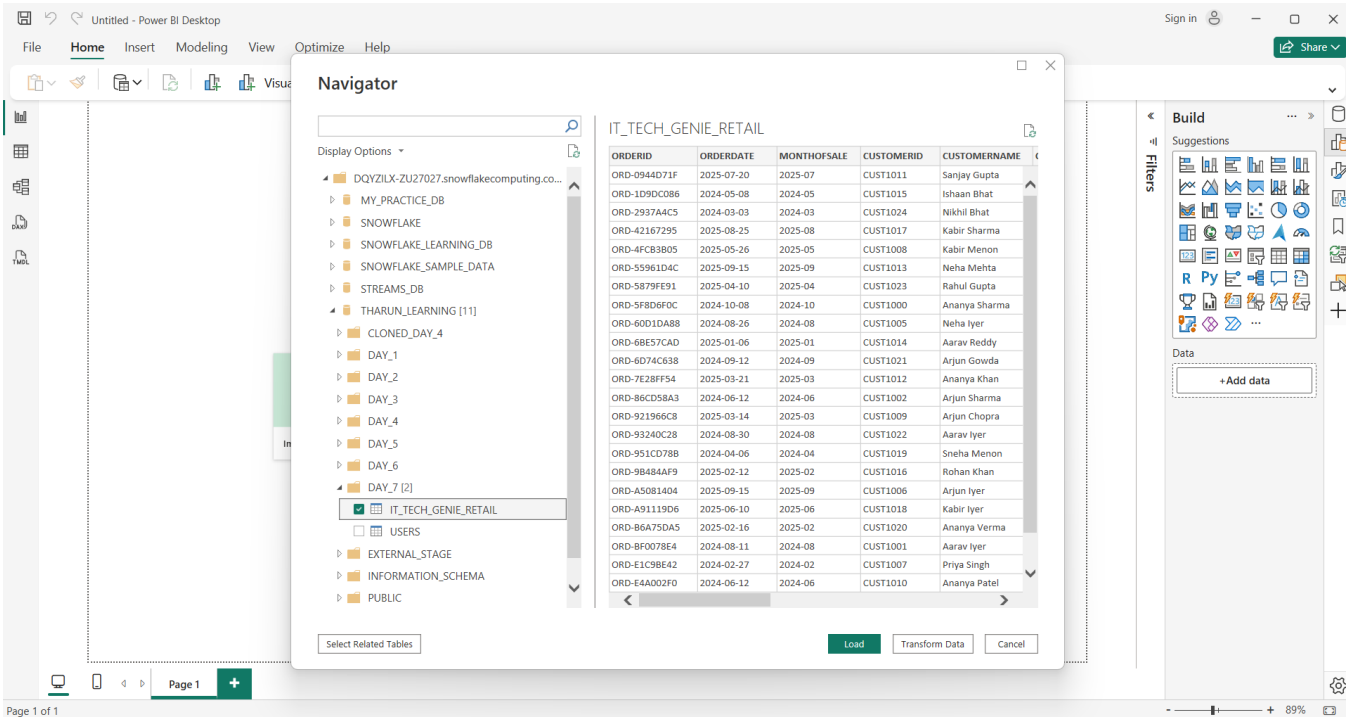
Code:

```
DESC TABLE IT_TECH_GENIE_RETAIL;
```

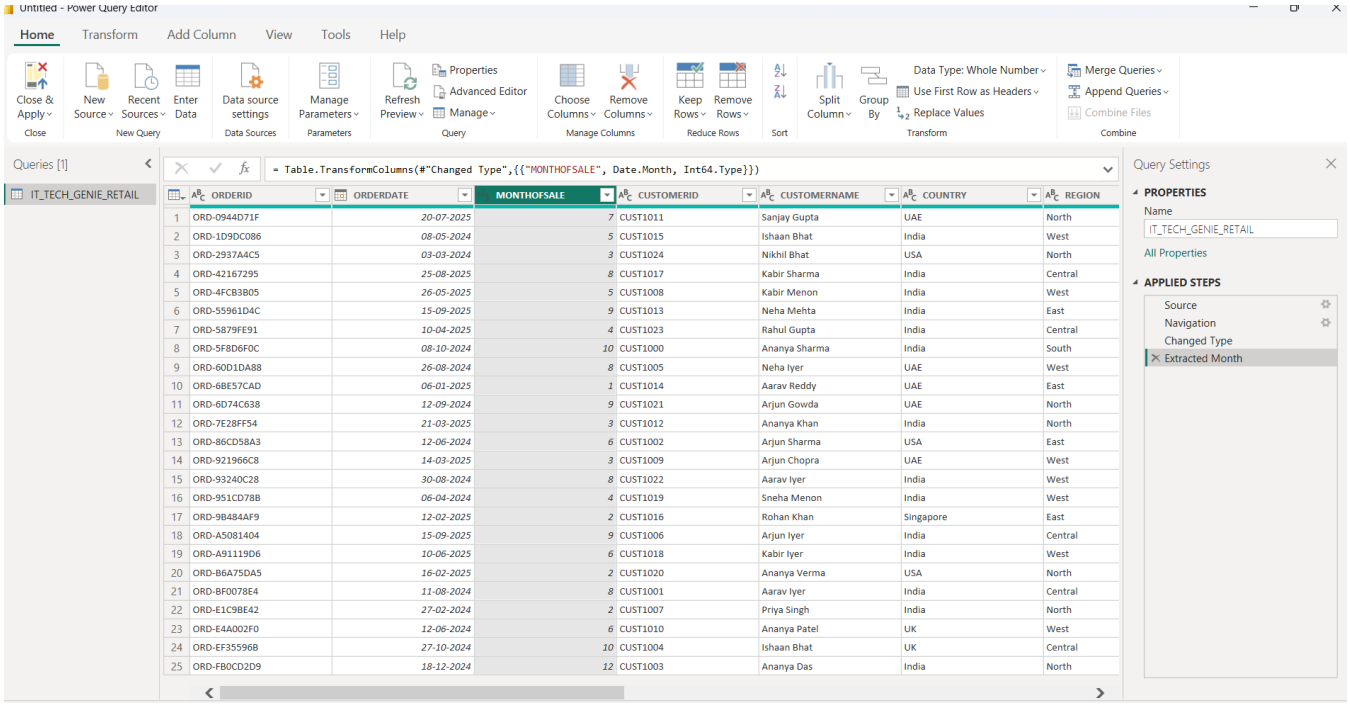
Output:

| | name | type | kind | null? | default | primary key |
|---|---|---|---|---|---|---|
| 1 | ORDERID | VARCHAR(16777216) | COLUMN | Y | null | Y |
| 2 | ORDERDATE | VARCHAR(16777216) | COLUMN | Y | null | N |
| 3 | MONTHOFSALE | VARCHAR(16777216) | COLUMN | Y | null | N |
| 4 | CUSTOMERID | VARCHAR(16777216) | COLUMN | Y | null | N |
| 5 | CUSTOMERNAME | VARCHAR(16777216) | COLUMN | Y | null | N |
| 6 | COUNTRY | VARCHAR(16777216) | COLUMN | Y | null | N |
| 7 | REGION | VARCHAR(16777216) | COLUMN | Y | null | N |
| 8 | CITY | VARCHAR(16777216) | COLUMN | Y | null | N |
| 9 | CATEGORY | VARCHAR(16777216) | COLUMN | Y | null | N |
| 10 | SUBCATEGORY | VARCHAR(16777216) | COLUMN | Y | null | N |
| 11 | QUANTITY | NUMBER(38,0) | COLUMN | Y | null | N |
| 12 | DISCOUNT | FLOAT | COLUMN | Y | null | N |
| 13 | SALES | FLOAT | COLUMN | Y | null | N |
| 14 | PROFIT | FLOAT | COLUMN | Y | null | N |

4. Build a quick Power BI report




Loading table from snowflake schema




| | ORDERID | ORDERDATE | MONTHOFSALE | CUSTOMERID | CUSTOMERNAME | COUNTRY | REGION |
|---|---|---|---|---|---|---|---|
| 1 | ORD-0944D71F | 20-07-2025 | 7 | CUST1011 | Sanjay Gupta | UAE | North |
| 2 | ORD-1D9DC086 | 08-05-2024 | 5 | CUST1015 | Ishaan Bhat | India | West |
| 3 | ORD-2937A4C5 | 03-03-2024 | 3 | CUST1024 | Nikhil Bhat | USA | North |
| 4 | ORD-42167295 | 25-08-2025 | 8 | CUST1017 | Kabir Sharma | India | Central |
| 5 | ORD-4FCB3B05 | 26-05-2025 | 5 | CUST1008 | Kabir Menon | India | West |
| 6 | ORD-55961D4C | 15-09-2025 | 9 | CUST1013 | Neha Mehta | India | East |
| 7 | ORD-5879FE91 | 10-04-2025 | 4 | CUST1023 | Rahul Gupta | India | Central |
| 8 | ORD-5F8D6F0C | 08-10-2024 | 10 | CUST1000 | Ananya Sharma | India | South |
| 9 | ORD-60D1DA88 | 26-08-2024 | 8 | CUST1005 | Neha Iyer | UAE | West |
| 10 | ORD-6BE57CAD | 06-01-2025 | 1 | CUST1014 | Aarav Reddy | UAE | East |
| 11 | ORD-6D74C638 | 12-09-2024 | 9 | CUST1021 | Arjun Gowda | UAE | North |
| 12 | ORD-7E28FF54 | 21-03-2025 | 3 | CUST1012 | Ananya Khan | India | North |
| 13 | ORD-86CD58A3 | 12-06-2024 | 6 | CUST1002 | Arjun Sharma | USA | East |
| 14 | ORD-921966C8 | 14-03-2025 | 3 | CUST1009 | Arjun Chopra | UAE | West |
| 15 | ORD-93240C28 | 30-08-2024 | 8 | CUST1022 | Aarav Iyer | India | West |
| 16 | ORD-951CD78B | 06-04-2024 | 4 | CUST1019 | Sneha Menon | India | West |
| 17 | ORD-9B484AF9 | 12-02-2025 | 2 | CUST1016 | Rohan Khan | Singapore | East |
| 18 | ORD-A5081404 | 15-09-2025 | 9 | CUST1006 | Arjun Iyer | India | Central |
| 19 | ORD-A91119D6 | 10-06-2025 | 6 | CUST1018 | Kabir Iyer | India | West |
| 20 | ORD-B6A75DA5 | 16-02-2025 | 2 | CUST1020 | Ananya Verma | USA | North |
| 21 | ORD-BF0078E4 | 11-08-2024 | 8 | CUST1001 | Aarav Iyer | India | Central |
| 22 | ORD-E1C9BE42 | 27-02-2024 | 2 | CUST1007 | Priya Singh | India | North |
| 23 | ORD-E4A002F0 | 12-06-2024 | 6 | CUST1010 | Ananya Patel | UK | West |
| 24 | ORD-EF35596B | 27-10-2024 | 10 | CUST1004 | Ishaan Bhat | UK | Central |
| 25 | ORD-FB0CD2D9 | 18-12-2024 | 12 | CUST1003 | Ananya Das | India | North |

Performing basic data transformation


A quick PowerBI report for business users.