

# Case Study

- Ashwin Harish P






## 1. Uploading CSV to Azure

## Creating a new container “Retail Sales” in Azure

Add container
Upload
Refresh
Delete
Change access level
Restore containers
Edit columns

Only show active containers

Showing all 5 items

<input type="checkbox"/>	Name	Last modified	Anonymous access level	Lease state
<input type="checkbox"/>	 \$logs	10/14/2025, 5:16:09 PM	Private	Available <span>⋮</span>
<input type="checkbox"/>	 copyactivity-logs	10/15/2025, 10:59:49 AM	Private	Available <span>⋮</span>
<input checked="" type="checkbox"/>	 retail-sales	10/22/2025, 2:52:13 PM	Private	Available <span>⋮</span>
<input type="checkbox"/>	 sales-data	10/14/2025, 5:19:27 PM	Private	Available <span>⋮</span>
<input type="checkbox"/>	 snowpipe-data	10/15/2025, 5:06:06 PM	Private	Available <span>⋮</span>

## Uploading csv file in the container

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

azuser4834.mml.local@...  
TECHWADAY LEARNING SOLUTIONS

Home > ashwinblobst | Containers >

retail-sales

Container

Search

+ Add Directory + Upload Change access level Refresh Delete Copy Paste

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

retail-sales

Authentication method: Access key (Switch to Microsoft Entra user account)

Add filter

Search blobs by prefix (case-sensitive)

Showing all 0 items

☐

Name

Last modified

Access

No items found

Upload blob

1 file(s) selected: Retail\_Sales.csv

Drag and drop files here or [Browse for files](#)

☐ Overwrite if files already exist

Advanced

Upload

[Give feedback](#)

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Search

Home > ashwinblobst | Containers >

**retail-sales**  
Container

Search

+ Add Directory Upload Change access level Refresh Delete Copy Paste Rename Acquire lease Break lease Edit columns

**Overview**

retail-sales

Authentication method: Access key (Switch to Microsoft Entra user account)

Add filter

Search blobs by prefix (case-sensitive) Only show active blobs

Showing all 1 items

<input type="checkbox"/>	Name	Last modified	Access tier	Blob type	Size	Lease state
<input type="checkbox"/>	Retail_Sales.csv	10/22/2025, 2:54:00 PM	Hot (Inferred)	Block blob	2.93 KiB	Available

## 2. Ingest it into Snowflake using Snowpark,

### Creating a new database and schema

RETAIL\_SALES.RETAIL\_SALES\_SCHEMA Settings

Open in Workspaces Code Versions

```
1 // Creating Database and Schema
2 CREATE OR REPLACE DATABASE RETAIL_SALES;
3 CREATE OR REPLACE SCHEMA RETAIL_SALES.RETAIL_SALES_SCHEMA;
4
5
```

Results Chart

	status
1	Schema RETAIL_SALES_SCHEMA successfully created.

Query Details

Query duration 54ms

Rows 1

### Creating a new integration which points to azure

```
5 // Creating Integration
6 CREATE OR REPLACE STORAGE INTEGRATION AZURE_INTEGRATION
7     TYPE = EXTERNAL_STAGE
8     STORAGE_PROVIDER = AZURE
9     ENABLED = TRUE
10    AZURE_TENANT_ID = '7540734b-e567-46c3-9ad3-ec9fb9e50140'
11    STORAGE_ALLOWED_LOCATIONS = ( 'azure://ashwinblobst.blob.core.windows.net/retail-sales' );
12
13
14 DESC INTEGRATION AZURE_INTEGRATION;
15
```

Results Chart

	property	property_type	property_value	property_default
1	ENABLED	Boolean	true	false
2	STORAGE_PROVIDER	String	AZURE	
3	STORAGE_ALLOWED_L	List	azure://ashwinblobst.blob	
4	STORAGE_BLOCKED_L	List		
5	USE_PRIVATELINK_EN	Boolean	false	false
6	AZURE_TENANT_ID	String	7540734b-e567-46c3-9	

Query Details

Query duration 34ms

Rows 9

Query ID 01bfe0a7-0001-672b-0...

Show more

### Creating a file format

```
15 // Creating a File
16 CREATE OR REPLACE FILE FORMAT RETAIL_SALES.RETAIL_SALES_SCHEMA.CSV_FILE
17     TYPE=CSV
18     FIELD_DELIMITER=', '
19     SKIP_HEADER=1;
```

Results Chart

	status
1	File format CSV_FILE successfully created.

Query Details

Query duration 52ms

Creating a Stage

22    // Creating Stage  
23    CREATE OR REPLACE STAGE RETAIL\_SALES.RETAIL\_SALES\_SCHEMA.AZURE\_STAGE  
24       STORAGE\_INTEGRATION = AZURE\_INTEGRATION  
25       URL='azure://ashwinblobst.blob.core.windows.net/retail-sales'  
26       FILE\_FORMAT = CSV\_FILE;

↶ Results

~ Chart

	<a href="#">A</a> status
1	Stage area AZURE_STAGE successfully created.

Listing files in Stage

17    -- List files in the Stage  
18    LIST @RETAIL\_SALES.RETAIL\_SALES\_SCHEMA.AZURE\_STAGE;  
19

↶ Results

~ Chart

	<a href="#">A</a> name	# size	<a href="#">A</a> md5	<a href="#">A</a> last_modified
1	azure://ashwinblobst.blob	3004	a38163e0b0e75a2fc23a	Wed, 22 Oct 2025 10:14:.

## Doing Transformations in Snowpark

Installing Necessary Packages

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

Downloading cffi-1.17.1-cp312-cp312-manylinux_2_17_aarch64.manylinux2014_aarch64.whl (478 kB)
Downloading cryptography-46.0.0-cp311-abi3-manylinux_2_34_aarch64.whl (4.3 MB)
----- 4.3/4.3 MB 78.5 MB/s eta 0:00:00

Installing collected packages: tzlocal, cffi, cryptography, snowflake-connector-python, snowflake-snowpark-python
Attempting uninstall: cffi
  Found existing installation: cffi 2.0.0
  Uninstalling cffi-2.0.0:
    Successfully uninstalled cffi-2.0.0
Attempting uninstall: cryptography
  Found existing installation: cryptography 46.0.3
  Uninstalling cryptography-46.0.3:
    Successfully uninstalled cryptography-46.0.3
Attempting uninstall: snowflake-connector-python
  Found existing installation: snowflake-connector-python 4.0.0
  Uninstalling snowflake-connector-python-4.0.0:
    Successfully uninstalled snowflake-connector-python-4.0.0
Successfully installed cffi-1.17.1 cryptography-46.0.0 snowflake-connector-python-3.18.0 snowflake-snowpark-python-1.40.0 tzlocal-5.3.1
Note: you may need to restart the kernel using %restart_python or dbutils.library.restartPython() to use updated packages.
```

```
%restart_python
```

Importing Necessary Packages

```
from snowflake.snowpark import Session
from snowflake.snowpark.functions import col, avg, split, year, month
```

## Importing Necessary Packages

▶ ✓ 1 minute ago (1s)

5

```
from snowflake.snowpark import Session
from snowflake.snowpark.functions import col, avg
```

## Creating Connection with Snowflake and Creating Session

▶ ✓ 4 minutes ago (2s)

7

```
connection_parameters = {
    "account": "okmtjfr-rf98839",
    "user": "ASHWINHARISHP",
    "password": "Ashwinakhilesh21",
    "warehouse": "COMPUTE_WH",
    "database": "RETAIL_SALES",
    "schema": "RETAIL_SALES_SCHEMA"
}
session = Session.builder.configs(connection_parameters).create()
```

▶ ✓ 04:33 PM (1s)

9

```
df = session.read.option("header", True).csv("@RETAIL_SALES.RETAIL_SALES_SCHEMA.AZURE_STAGE/Retail_Sales.csv")
```

## Doing Transformation

### Renaming Column Names

```
df = df.rename({
    "c1": "OrderID",
    "c2": "OrderDate",
    "c3": "OrderMonth",
    "c4": "CustomerID",
    "c5": "CustomerName",
    "c6": "Country",
    "c7": "Region",
    "c8": "City",
    "c9": "Category",
    "c10": "SubCategory",
    "c11": "Quantity",
    "c12": "Discount",
    "c13": "Sales",
    "c14": "Profit"
})
```

## Type Casting

```
df = df.with_column("Quantity", col("Quantity").cast("INTEGER")) \
    .with_column("Discount", col("Discount").cast("FLOAT")) \
    .with_column("Sales", col("Sales").cast("FLOAT")) \
    .with_column("Profit", col("Profit").cast("FLOAT")) \
    .with_column("OrderDate", col("OrderDate").cast("DATE"))
```

## Injecting to a Snowflake Table

Ingesting to a Snowflake Table

▶

✓ 1 minute ago (2s)

19

```
df.write.save_as_table("RETAIL_SALES.RETAIL_SALES_SCHEMA.SALES_DATA", mode="overwrite")
```

## Verifying Data in Snowflake

19  
20 -- Verifying Data  
21 SELECT \* FROM SALES\_DATA;

Results

Chart

	OrderID	OrderDate	MonthOfSale	CustomerID	CustomerName	Country	Region	City	Category
1	ORD-5F8D6FOC	2024-10-08	2024-10	CUST1000	Ananya Sharma	India	South	Mumbai	Office Supp
2	ORD-BF0078E4	2024-08-11	2024-08	CUST1001	Aarav Iyer	India	Central	Lucknow	Technology
3	ORD-86CD58A3	2024-06-12	2024-06	CUST1002	Arjun Sharma	USA	East	Kolkata	Furniture
4	ORD-FB0CD2D9	2024-12-18	2024-12	CUST1003	Ananya Das	India	North	Kolkata	Office Supp
5	ORD-EF35596B	2024-10-27	2024-10	CUST1004	Ishaan Bhat	UK	Central	Chennai	Furniture

Query Details

...

Query duration 516ms

Rows 25

Query ID 01bfe0f8-0001-6723-0...

Show more

Generating Power BI Report

Loading Data from External Source-Snowflake

Get Data

snow

All

Database

All

Snowflake

Certified Connectors

Template Apps

Connect

Cancel

Snowflake

Server

OKMTJFR-RF98839.snowflakecomputing.com

Warehouse

COMPUTE\_WH

Advanced options

OK

Cancel



## Transforming Data

Navigator

Display Options ▾

OKMTJFR-RF98839.snowflakecomputing.co...

COPY\_INT0

CRON\_JOB\_DB

CUSTOMER\_DB

DATASHARING

MANAGED\_DB

OUR\_FIRST\_DB

PRATICE\_1

PROD\_DB

RETAIL\_SALES [3]

INFORMATION\_SCHEMA

PUBLIC

RETAIL\_SALES\_SCHEMA [2]

☐ SALES

☒ SALES\_DATA

SNOWFLAKE

SNOWFLAKE\_LEARNING\_DB

SNOWFLAKE\_SAMPLE\_DATA

SNOWPIPE

STREAM\_DB

SALES\_DATA

OrderID	OrderDate	MonthOfSale	CustomerID	CustomerName
ORD-5F8D6FOC	2024-10-08	2024-10	CUST1000	Ananya Sharma
ORD-BF0078E4	2024-08-11	2024-08	CUST1001	Aarav Iyer
ORD-86CD58A3	2024-06-12	2024-06	CUST1002	Arjun Sharma
ORD-FB0CD2D9	2024-12-18	2024-12	CUST1003	Ananya Das
ORD-EF35596B	2024-10-27	2024-10	CUST1004	Ishaan Bhat
ORD-60D1DA88	2024-08-26	2024-08	CUST1005	Neha Iyer
ORD-A5081404	2025-09-15	2025-09	CUST1006	Arjun Iyer
ORD-E1C9BE42	2024-02-27	2024-02	CUST1007	Priya Singh
ORD-4FCB3B05	2025-05-26	2025-05	CUST1008	Kabir Menon
ORD-921966C8	2025-03-14	2025-03	CUST1009	Arjun Chopra
ORD-E4A002F0	2024-06-12	2024-06	CUST1010	Ananya Patel
ORD-0944D71F	2025-07-20	2025-07	CUST1011	Sanjay Gupta
ORD-7E28FF54	2025-03-21	2025-03	CUST1012	Ananya Khan
ORD-55961D4C	2025-09-15	2025-09	CUST1013	Neha Mehta
ORD-6BE57CAD	2025-01-06	2025-01	CUST1014	Aarav Reddy
ORD-1D9DC086	2024-05-08	2024-05	CUST1015	Ishaan Bhat
ORD-9B484AF9	2025-02-12	2025-02	CUST1016	Rohan Khan
ORD-42167295	2025-08-25	2025-08	CUST1017	Kabir Sharma
ORD-A91119D6	2025-06-10	2025-06	CUST1018	Kabir Iyer
ORD-951CD78B	2024-04-06	2024-04	CUST1019	Sneha Menon
ORD-B6A75DA5	2025-02-16	2025-02	CUST1020	Ananya Verma
ORD-6D74C638	2024-09-12	2024-09	CUST1021	Arjun Gowda
ORD-93240C28	2024-08-30	2024-08	CUST1022	Aarav Iyer

Select Related Tables

Load

Transform Data

Cancel

## Connection settings

You can choose how to connect to this data source. Import allows you to bring a copy of the data into Power BI. DirectQuery will connect live to this data source.

☐ Import

☒ DirectQuery

[Learn more about DirectQuery](#)

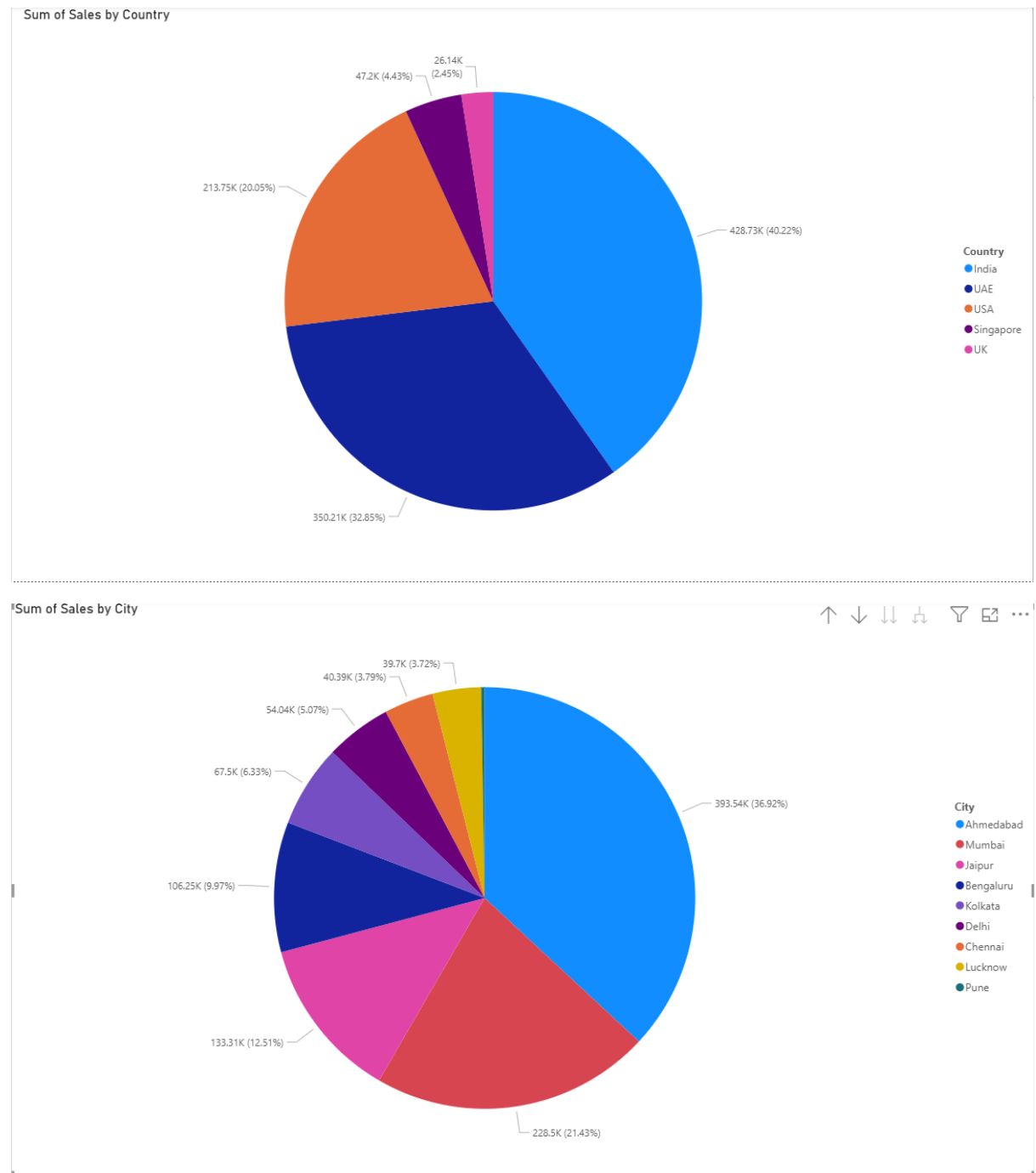
OK

Cancel

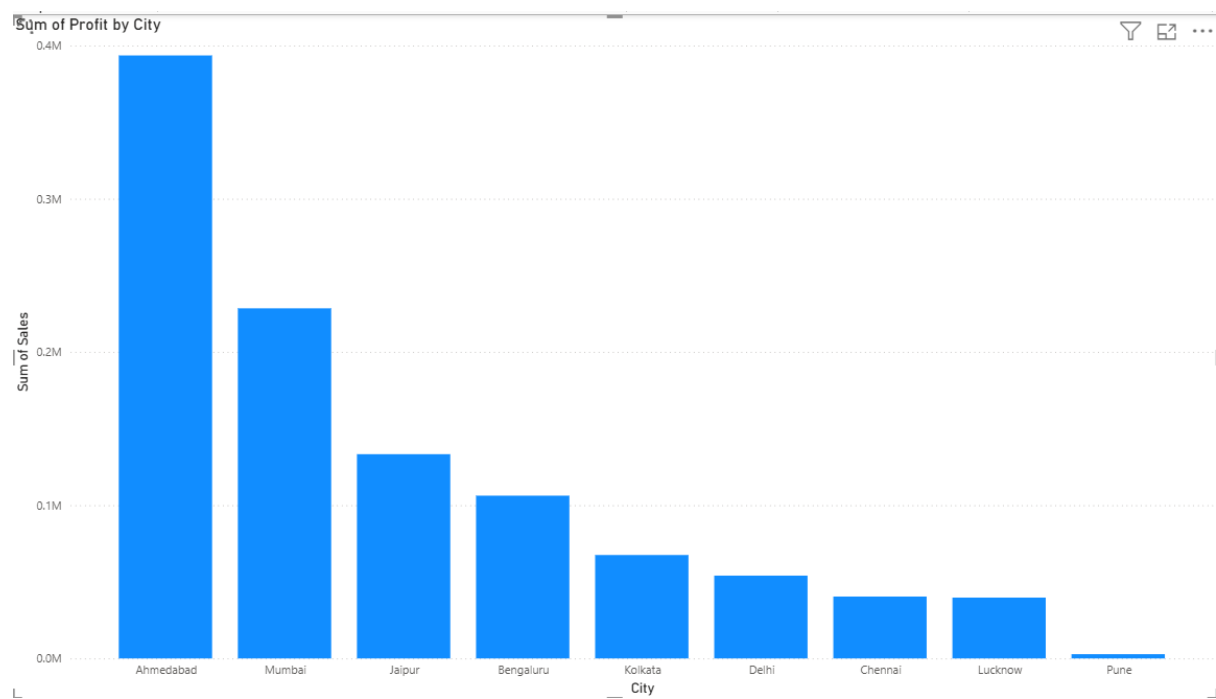
After making some transformation, I loaded the data

## Visualizations

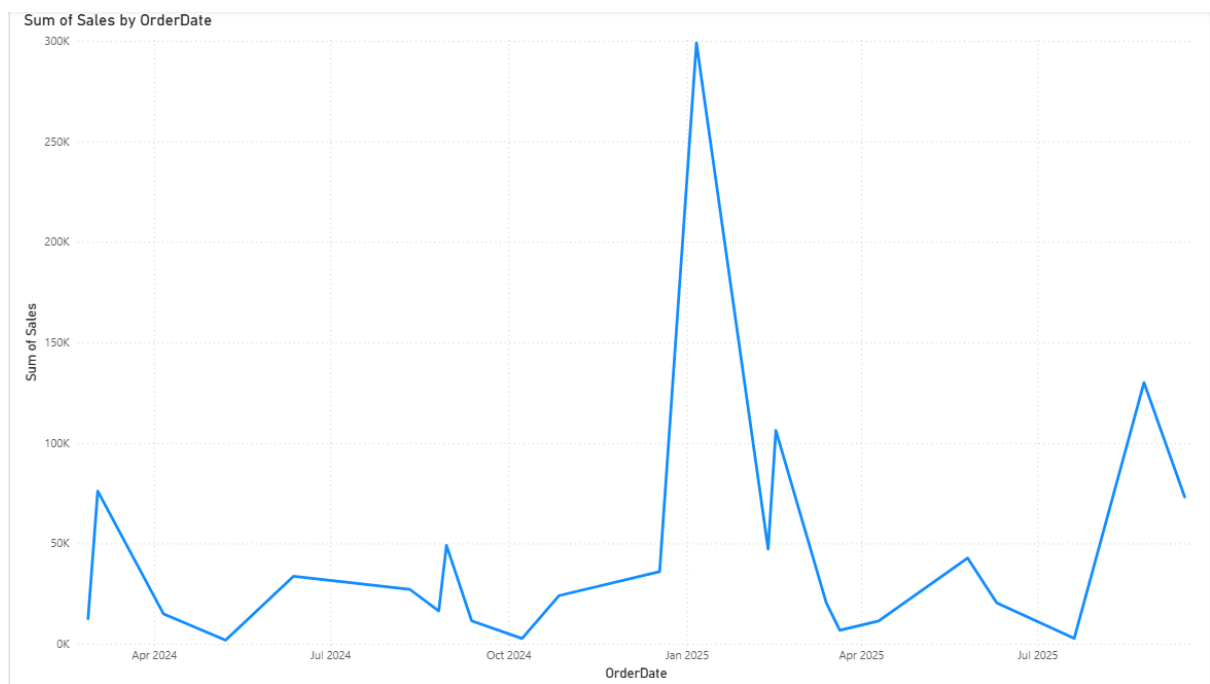
### 1. Sales of Each City and Country using Drill Through



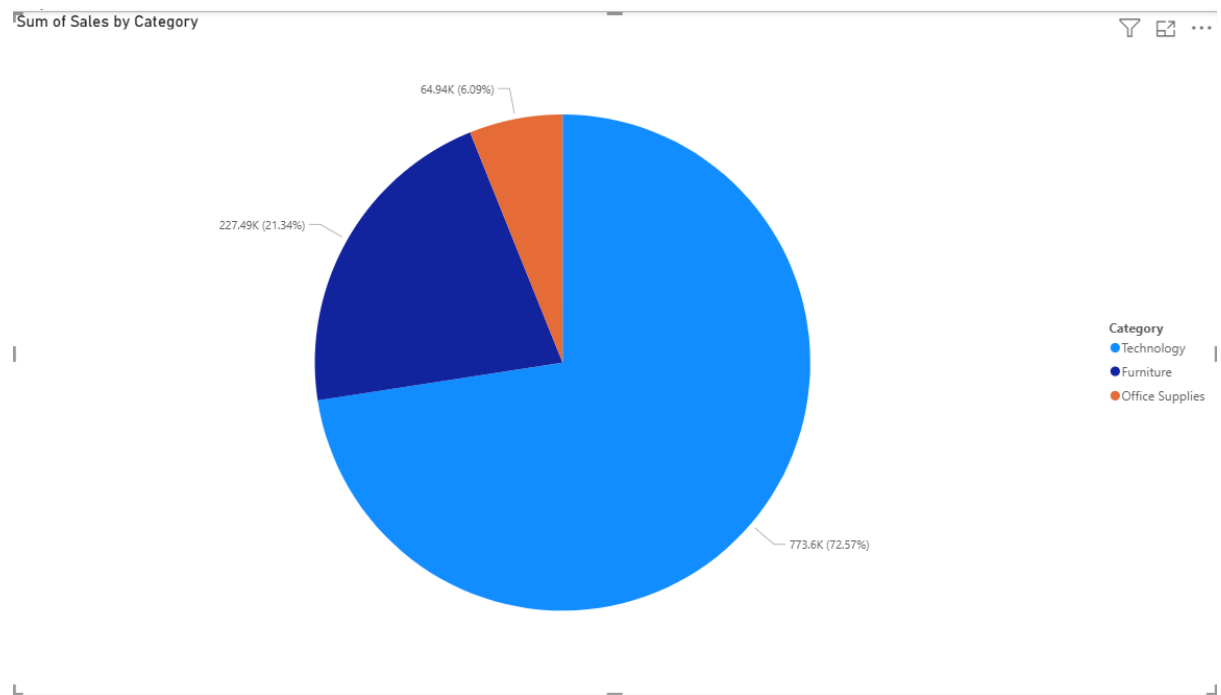
## 2. Profit of Each City



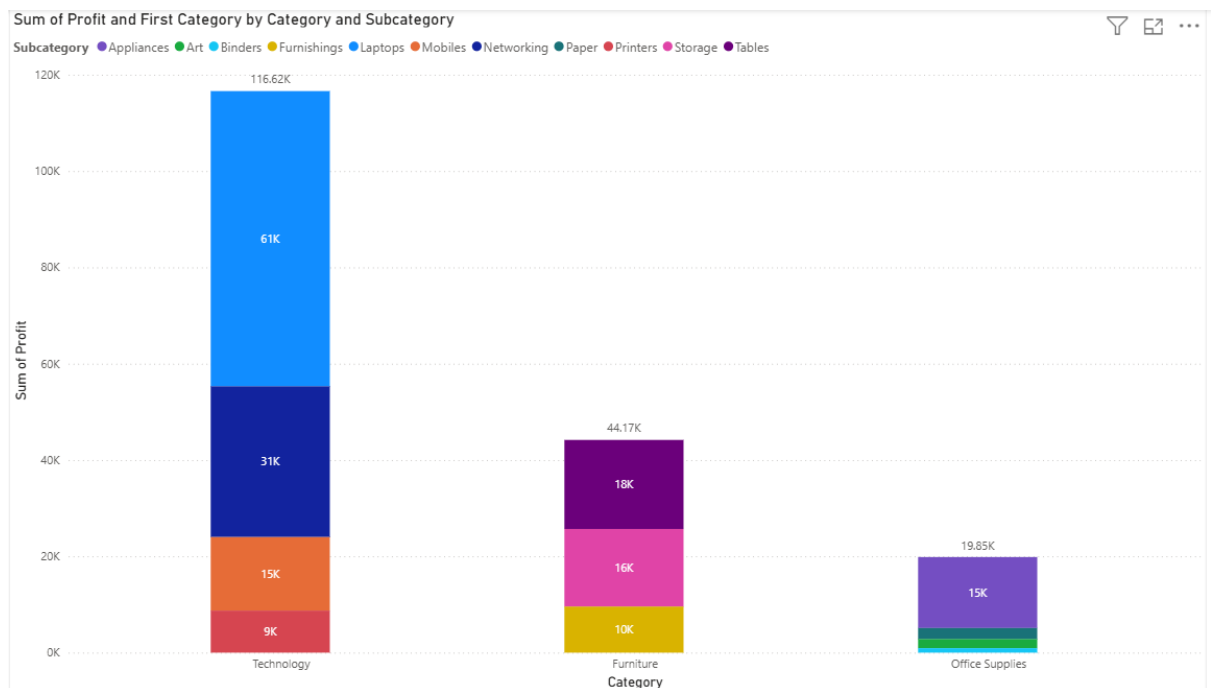
## 3. Sales by Month



#### 4. Sales by Category and Sub Category using Drill Thoug



#### 5. Profit by Category and Sub Category



## 6. Quantity Sold by Sub-Category

