

JOURNEY SCRAPBOOK

Technical Training - Week 4

12-Sep-2023 to 15-Sep-2023 (Days 10 – 13)

YUVA SAHITH VARMA SANGARAJU

BATCH - 8

Day 10 – Azure Synapse Analytics

- ▶ Azure Synapse Analytics Services
- ▶ Synapse SQL, Pipelines, Link, Studio and Spark
- ▶ Serverless and Dedicated SQL pools
- ▶ Querying different files using Serverless SQL pools in Data lake
- ▶ Creating external database objects
- ▶ SQL script to create credentials, external data source and format
- ▶ Queries to create external table and view
- ▶ Polybase implementation
- ▶ SQL DW and Dedicated SQL pool architecture
- ▶ Analyze data with Apache Spark

Day 10 continued...

- ▶ Data explorer and transform data with pipelines
- ▶ Massively parallel processing (MPP) architecture
- ▶ Compute and Control nodes
- ▶ Data warehouse unit (DWU) and DWU concurrency
- ▶ DataFrame and Open Rowset
- ▶ Bulk, Format and Parser_Version
- ▶ Demonstration on dataframe loading

Service Levels

The service levels range from DW100c to DW30000c.

Performance level	Compute nodes	Distributions per Compute node	Memory per data warehouse (GB)
DW100c	1	60	60
DW200c	1	60	120
DW300c	1	60	180
DW400c	1	60	240
DW500c	1	60	300
DW1000c	2	30	600
DW1500c	3	20	900
DW2000c	4	15	1200
DW2500c	5	12	1500
DW3000c	6	10	1800
DW5000c	10	6	3000
DW6000c	12	5	3600
DW7500c	15	4	4500
DW10000c	20	3	6000

Create dedicated SQL pool (formerly SQL DW)

Microsoft

* Basics * Networking * Additional settings Tags Review + create

Product details

Azure Synapse Analytics
by Microsoft

[Terms of use](#) | [Privacy policy](#)

Est. Cost Per Hour

--

[View pricing details](#)

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method(s) associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Basics

[Create](#)

[< Previous](#)

[Download a template for automation](#)

Create Synapse workspace

...

Workspace details

Name your workspace, select a location, and choose a primary Data Lake Storage Gen2 file system to serve as the default location for logs and job output.

Workspace name *

sahithws



Region *

East US



Select Data Lake Storage Gen2 * ⓘ

From subscription Manually via URL

Account name * ⓘ

(New) sahitdhls



[Create new](#)

File system name *

(New) sahitdfs



[Create new](#)

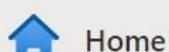
Assign myself the Storage Blob Data Contributor role on the Data Lake Storage Gen2 account to interactively query it in the workspace.



We will automatically grant the workspace identity data access to the specified Data Lake Storage Gen2 account, using the [Storage Blob Data Contributor](#) role. To enable other users to use this storage account after you create your workspace, perform these tasks:

- Assign other users to the **Contributor** role on workspace
- Assign other users the appropriate [Synapse RBAC roles](#) using Synapse

<<



Home



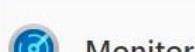
Data



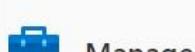
Develop



Integrate



Monitor



Manage

Synapse Analytics workspace

sahithws

New ▾



Ingest

Perform a one-time or scheduled data load.



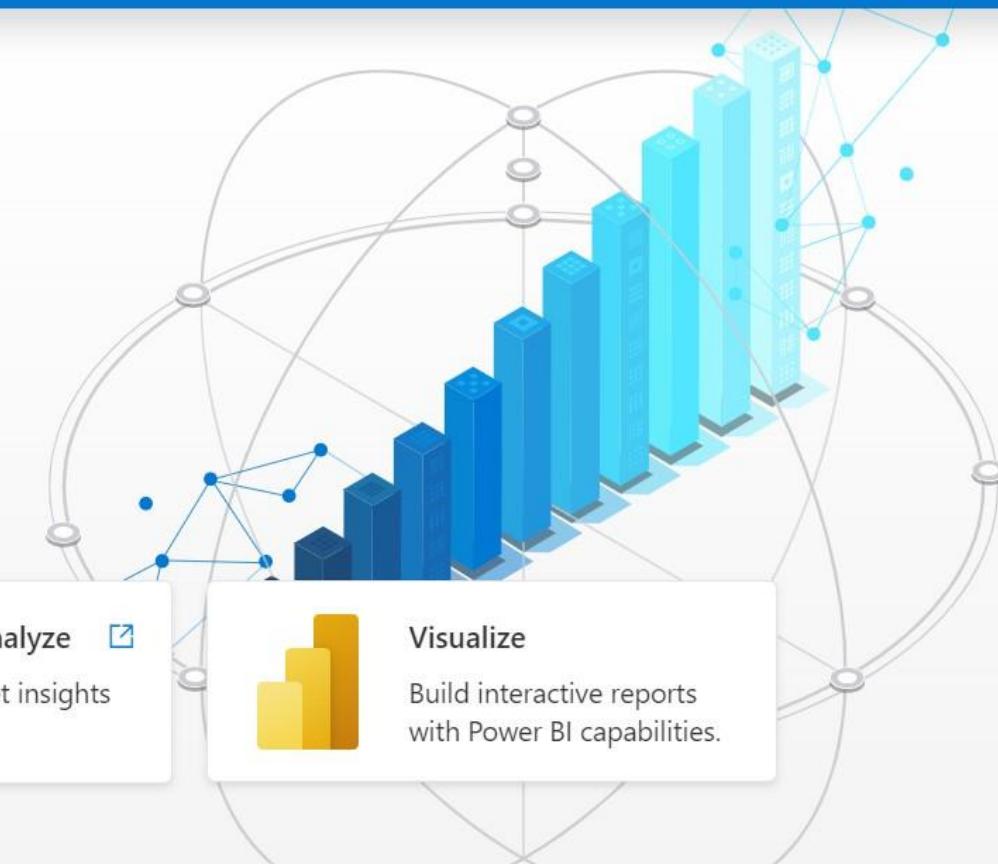
Explore and analyze

Learn how to get insights from your data.



Visualize

Build interactive reports with Power BI capabilities.



Discover more



Knowledge center



Browse partners

Recent resources

Data

+ ⌂ <<

Workspace

Linked

Filter resources by name

▲ Azure Data Lake Storage Gen2 2

▲ sahithws (Primary - sahithdls)

▲ sahithfs (Primary)

▲ [Attached Containers]

sahithfs

x



New SQL script



New notebook



New data flow

More

↗

...

← → ↘ ↗ sahithfs > demodir

Name	Last Modified	Content Type	Size
------	---------------	--------------	------

employee.c	Preview		148 B
------------	---------	--	-------

Products.cs	New SQL script		218 B
-------------	----------------	--	-------

- New notebook
- New data flow

- New integration dataset

- Manage access...

- Rename...

- Download

- Delete

- Properties...

Synapse live Validate all Publish all 1

sahithfs SQL script 1

Other users in your workspace may have access to modify this item. Do not use this item unless you trust all users who may have access to the workspace.

Run Undo | Publish Query plan Connect to: Built-in Use database: master

```
1 -- This is auto-generated code
2 SELECT
3     TOP 100 *
4 FROM
5     OPENROWSET(
6         BULK 'https://sahithdls.dfs.core.windows.net/sahithfs/demodir/employee.csv',
7         FORMAT = 'CSV',
8         PARSER_VERSION = '2.0'
9     ) AS [result]
10
```

sahithfs × SQL script 1 ●

Run Undo Publish Query plan Connect to Built-in Use database master ⌂ ...

```
1 -- This is auto-generated code
2 SELECT
3     TOP 100 *
4 FROM
5     OPENROWSET(
6         BULK 'https://sahithdls.dfs.core.windows.net/sahithfs/demodir/employee.csv',
7         FORMAT = 'CSV',
8         PARSER_VERSION = '2.0',
9         FIRSTROW = 2
10    ) WITH
11    (
12        eid nvarchar(20) 1,
13        ename nvarchar(20) 2,
14        eage nvarchar(20) 3,
15        esalary nvarchar(20) 4
16    ) as [result]
```

Results Messages ^

View Table Chart Export results ▾

Search

eid	ename	eage	esalary
1	ab	13	10

✓ 00:00:02 Query executed successfully.

Synapse live ✓ Validate all Publish all 1 ↻ trash

sahithfs SQL script 1 ↗ ...

Run Undo Publish Query plan Connect to Built-in Use database master ↻ grid ...

```
17
18 SELECT TOP 10 *
19 FROM OPENROWSET(
20     BULK 'https://pandemicdatalake.blob.core.windows.net/public/curated/covid-19/ecdc\_cases/latest/ecdc\_cases.csv',
21     FORMAT = 'CSV',
22     PARSER_VERSION = '2.0',
23     FIRSTROW = 2
24 ) AS ROWS
```

Results Messages ^

Select Query 1 View Table Chart Export results

Search

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
2020-12-14T00:00:00Z	14	12	2020	746	6	Afghanistan	AF	AFG	(
2020-12-13T00:00:00Z	13	12	2020	298	9	Afghanistan	AF	AFG	(
2020-12-12T00:00:00Z	12	12	2020	113	11	Afghanistan	AF	AFG	(
2020-12-11T00:00:00Z	11	12	2020	63	10	Afghanistan	AF	AFG	(
2020-12-10T00:00:00Z	10	12	2020	202	16	Afghanistan	AF	AFG	(

```
33  create external data source covid
34  with ( location = 'https://pandemicdatalake.blob.core.windows.net/public/curated/covid-19/ecdc\_cases/latest/ecdc\_cases');
35
36  select top 10 *
37  from openrowset(
38    bulk 'latest/ecdc_cases.csv',
39    data_source = 'covid',
40    format = 'csv',
41    PARSER_VERSION = '2.0',
42    firstrow=2) WITH
43    (
44      date_rep date 1,
45      [year] int 4,
46      cases int 5,
47      geo_id nvarchar(5) 8
48    ) as rows
49
```

```
54 select top 10 *
55 from
56 openrowset(
57 bulk 'https://pandemicdatalake.blob.core.windows.net/public/curated/covid-19/ecdc\_cases/latest/ecdc\_cases.jsonl',
58 format = 'csv',
59 fieldterminator = '0x0b',
60 fieldquote = '0x0b'
61 ) with (doc nvarchar(max)) as rows
62
63
64
```

sahithdls | Shared access signature

Storage account

Search



Give feedback

For example, 108.1.5.65 or 108.1.5.65-108.1.5.70

Containers

File shares

Queues

Tables

Security + networking

Networking

Access keys

Shared access signature

Encryption

Microsoft Defender for Cloud

Data management

Redundancy

Data protection

Blob inventory

Static website

Allowed protocols i

HTTPS only HTTPS and HTTP

Preferred routing tier i

Basic (default) Microsoft network routing Internet routing

i Some routing options are disabled because the endpoints are not published.

Signing key i

key1



Generate SAS and connection string

Connection string

BlobEndpoint=https://sahithdls.blob.core.windows.net/;QueueEndpoint=https://sahithdls.queue.core.windows.net/;FileEndpoint=https://sahithdls.file.c...



SAS token i

?sv=2022-11-02&ss=b&srt=sco&sp=rwldlacyx&se=2023-09-12T16:11:42Z&st=2023-09-12T08:11:42Z&spr=https&sig=tB7FIISFNv%2FLGoQcm%2BZZ...



Blob service SAS URL

https://sahithdls.blob.core.windows.net/?sv=2022-11-02&ss=b&srt=sco&sp=rwldlacyx&se=2023-09-12T16:11:42Z&st=2023-09-12T08:11:42Z&spr=ht...



Synapse live Validate all Publish all

sahithfs SQL script 1 MetadataDemo

Run Undo Publish Query plan Connect to Built-in Use database demodbpool ...

Creating external table

```
20 CREATE EXTERNAL TABLE empTable
21 (eid int, ename VARCHAR(20), eage int, esalary int)
22 WITH
23 (LOCATION='sahithfs/demodir/employee.csv',
24 DATA_SOURCE=SqlDemo,
25 FILE_FORMAT=QuotedCSVWithHeaderFormat)
26 --Testing table
27 SELECT * FROM empTable
28 --Create view using SQL query
29 create view vwEmp
30 AS
31 select * from empTable
32 --Testing view
33 select * from vwEmp
34
35
36
```

Results Messages

2:13:08 PM Started executing query at Line 33

Statement ID: {0108F009-39AF-413C-8E5E-ED90EDB69FC7} | Query hash: 0xA2D9EF6EAC55E1AC | Distributed request ID: {0A16BAE8-0D02-4A50-A1C0-0999F1C2B0FB}. Total size of data scanned is 1 megabytes, total size of data moved is 1 megabytes, total size of data written is 0 megabytes.
(10 records affected)

00:00:01 Query executed successfully.

sahithshare ⚡ ...

Search «

Connect ⚡ **Upload** ⚡ **Refresh** + **Add director**

ⓘ Enable Backup for file share "sahithshare" to protect your data

Essentials

Storage account	: sahithdls
Resource group (move)	: synapseRG
Location	: East US
Primary/Secondary location	: Primary: East US, Secondary: West US
Subscription (move)	: npunext-1673504988896
Subscription ID	: 2190116a-14d8-4b0c-8821-f97

Properties Capabilities (2) Tutorials

Size

Maximum capacity	5 TiB
Used capacity	0 B
Tier	Transaction C

Performance

Maximum IO/s ⓘ	1000
----------------	------

Connect

sahithshare

Windows Linux macOS

Mount point

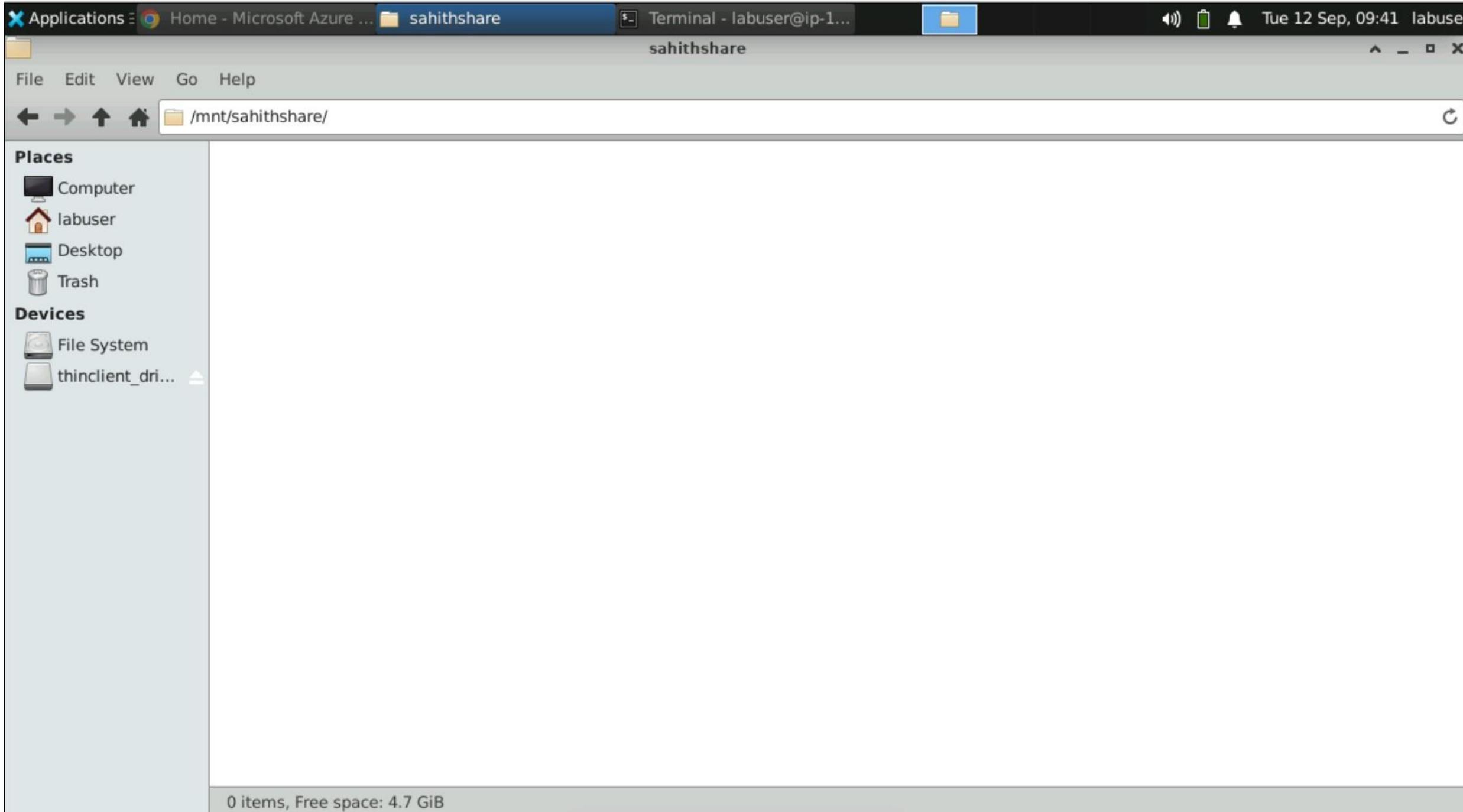
sahithshare

To connect to this file share from a Linux computer, run this command:

Hide Script

```
sudo mkdir /mnt/sahithshare
if [ ! -d "/etc/smbcredentials" ]; then
    sudo mkdir /etc/smbcredentials
fi
if [ ! -f "/etc/smbcredentials/sahithdls.cred" ]; then
    sudo bash -c 'echo "username=sahithdls" >> /etc/smbcredentials/sahithdls.cred'
    sudo bash -c 'echo
"password=0+myF0VdM9YRvXyo+xUIIZoLF/fLUFkCeHLBjuGhlhJsXjWgzObhouhVFIX
tDzv4rc3/pbgtEssG+AStLGfJOA==" >> /etc/smbcredentials/sahithdls.cred'
fi
sudo chmod 600 /etc/smbcredentials/sahithdls.cred

sudo bash -c 'echo "//sahithdls.file.core.windows.net/sahithshare /mnt/sahithshare
cifs
nofail,credentials=/etc/smbcredentials/sahithdls.cred,dir_mode=0777,file_mode=077
7,serverino,nosharesock,actimeo=30" >> /etc/fstab'
sudo mount -t cifs //sahithdls.file.core.windows.net/sahithshare /mnt/sahithshare -o
credentials=/etc/smbcredentials/sahithdls.cred,dir_mode=0777,file_mode=0777,serv
erino,nosharesock,actimeo=30
```



```
labuser@ip-172-31-2-58:~$ sudo mkdir /mnt/sahithshare
if [ ! -d "/etc/smbcredentials" ]; then
sudo mkdir /etc/smbcredentials
fi
if [ ! -f "/etc/smbcredentials/sahithdls.cred" ]; then
    sudo bash -c 'echo "username=sahithdls" >> /etc/smbcredentials/sahithdls.cred'
    sudo bash -c 'echo "password=0+myF0VdM9YRvXyo+xUUIZoLF/fLUFkCeHLBjuGhlhJsXjWgz0bhousVFlXtDzv4rc3/pbgtEssG+AStLGfJ0A=
=" >> /etc/smbcredentials/sahithdls.cred'
fi
sudo chmod 600 /etc/smbcredentials/sahithdls.cred

sudo bash -c 'echo "//sahithdls.file.core.windows.net/sahithshare /mnt/sahithshare cifs nofail,credentials=/etc/smbcrede
ntials/sahithdls.cred,dir_mode=0777,file_mode=0777,serverino,nosharesock,actimeo=30" >> /etc/fstab'
sudo mount -t cifs //sahithdls.file.core.windows.net/sahithshare /mnt/sahithshare -o credentials=/etc/smbcredentials/sah
ithdls.cred,dir_mode=0777,file_mode=0777,serverino,nosharesock,actimeo=30
mount: /mnt/sahithshare: mount(2) system call failed: No route to host.
labuser@ip-172-31-2-58:~$ ls dir
ls: cannot access 'dir': No such file or directory
labuser@ip-172-31-2-58:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos  thinclient_drives
labuser@ip-172-31-2-58:~$ cd /mnt/sahithshare
labuser@ip-172-31-2-58:/mnt/sahithshare$ dir
labuser@ip-172-31-2-58:/mnt/sahithshare$ █
```

Ready



M ↻ ⌂ ⌂+ ⋮ ⏷



```
1 %%pyspark
2 df = spark.read.load('abfss://sahithfs@sahithdls.dfs.core.windows.net/demodir/Products.csv', format='csv'
3 ## If header exists uncomment line below
4 , header=True
5 )
6 display(df.limit(10))
```

[1] ✓ 4 min 10 sec - Apache Spark session started in 3 min 30 sec 641 ms. Command executed in 39 sec 808 ms by Shellunext_1693422046249 on 3:27:25 PM, 9/12/23

> Job execution Succeeded Spark 2 executors 8 cores

[View in monitoring](#) [Open Spark UI](#)

...

View

Table

Chart

Export results ▾



pid	pname	orderqty	unitprice
1	Phone	5	500
2	Keyboard	5	500
3	Laptop	3	100000
4	Desktop	4	60000
5	Chipcard	20	3000
6	Biometric	10	12000

New dedicated SQL pool

...

... Submitting deployment...



Submitting the deployment template for resource group 'synapseRG'.

* Basics * Additional settings Tags Review + create

Create a dedicated SQL pool with your preferred configurations. Complete the Basics tab then go to Review + Create to provision with smart defaults, or visit each tab to customize. [Learn more](#)

Dedicated SQL pool details

Name your dedicated SQL pool and choose its initial settings.

Dedicated SQL pool name *

sahithsqlpool 

Performance level 



Estimated price 

Est. Cost Per Hour

--

[View pricing details](#)

[Review + create](#)

[Next: Additional settings >](#)

MetadataDemo

sahithfs

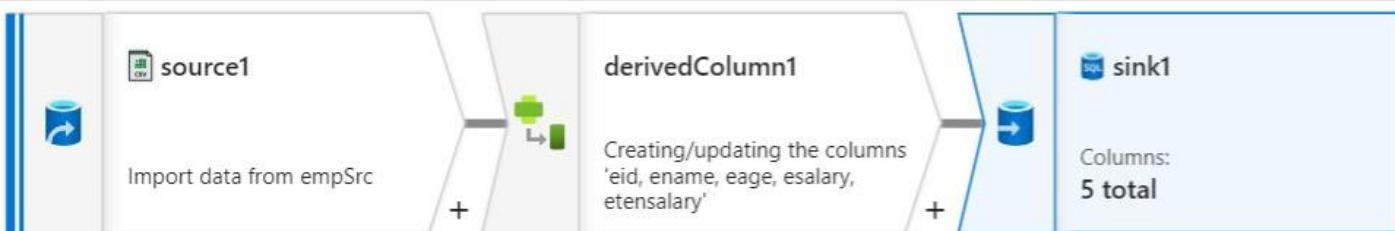
Notebook 1

EmpPipeline

Dataflow1

AzureSqlTableDest

...

 Validate Data flow debug Debug Settings

Add Source

Sink Settings Errors Mapping Optimize Inspect Data preview

Incoming stream *

derivedColumn1

Sink type *

Integration dataset	Inline	Workspace DB	Cache
---------------------	--------	--------------	-------

Dataset *

AzureSqlTableDest

Test connection

Open

New

Options

 Allow schema drift ⓘ Validate schema ⓘ

Day 11 – PowerBI

- ▶ Business Intelligence (BI)
- ▶ SSIS, SSAS, SSRS and Self-Service BI
- ▶ Power tools in PowerBI
- ▶ MS Data Analytics and categories
- ▶ Tasks of a Data Analyst
- ▶ PowerBI approaches and PowerBI Desktop
- ▶ Visualization, Reports, Dashboards and Tiles
- ▶ Datasets, Apps and PowerBI services
- ▶ Getting data from various sources into PowerBI
- ▶ Load, Transform and Import Data
- ▶ Direct query and Connect live options

Day 11 continued...

- ▶ Report, Dataset and Model Views
- ▶ Drill up, Drill down and Drill through
- ▶ Slicer and Grouping columns
- ▶ Adding new columns and measures
- ▶ Replace missing values and Fill up/down
- ▶ Power Query Editor, Dynamic inputs with parameters
- ▶ Row level security (RLS) – Static and Dynamic
- ▶ Practical session on the features learnt

Power BI Desktop



 Open other reports

 Get data

 Recent sources

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TUTORIALS

Ready to learn more about Power BI?

Untitled - Power BI Desktop

Search

Sign in

File Home Insert Modeling View Help

Cut Copy Format painter Paste Clipboard

Get data v workbook hub Data SQL Server Enter data Dataverse Recent sources v Transform data v New visual Text box More visuals v New measure Quick measure Sensitivity v Publish Share

Common data sources

- Excel workbook
- Power BI datasets
- Dataflows
- Dataverse
- SQL Server
- Analysis Services
- Text/CSV
- Web
- OData feed
- Blank query
- Power BI Template Apps

Add data to your report

Once loaded, your data will appear in the Fields pane.

Import data from SQL Server Paste data into a blank table Try a sample dataset

Get data from another source →

Page 1 +

Visualizations

Build visual

Filters

Fields

Values

Add data fields here

Drill through

Cross-report

Keep all filters

Off On

Page 1 of 1

57%

Update available (click to download)

Drilling_Dataset.csv - LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sans 10 pt B I U A Underline (Ct) A1 fx Σ = Rigb

You are running version 7.0 of LibreOffice for the first time. Do you want to learn what's new? Release Notes X

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	RigID	DrillingDepth	DrillingSpeed	Location	Date									
2	1001	4500	120	Texas	2023-09-01									
3	1002	4200	110	Alaska	2023-09-02									
4	1003	4800	130	California	2023-09-03									
5	1004	4100	105	New Mexico	2023-09-04									
6	1005	4400	118	Colorado	2023-09-05									
7	1006	4700	125	Arizona	2023-09-06									
8	1007	4300	112	Nebraska	2023-09-07									
9	1008	4600	121	North Dakota	2023-09-08									
10	1009	4900	135	Wyoming	2023-09-09									
11	1010	4200	110	Alaska	2023-09-10									
12	1011	4500	120	Texas	2023-09-11									
13	1012	4800	130	California	2023-09-12									
14	1013	4100	105	New Mexico	2023-09-13									
15	1014	4400	118	Colorado	2023-09-14									
16	1015	4700	125	Arizona	2023-09-15									
17	1016	4300	112	Nebraska	2023-09-16									
18	1017	4600	121	North Dakota	2023-09-17									
19	1018	4900	135	Wyoming	2023-09-18									
20	1019	4200	110	Alaska	2023-09-19									
21	1020	4500	120	Texas	2023-09-20									

< > + Drilling_Dataset

Sheet 1 of 1 | Default Page Style | English (USA) | Average: ; Sum: 0 | 100% | 10:53 AM | 9/13/2023

Windows Search File Internet Explorer Google Chrome Microsoft Edge



File

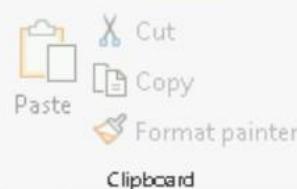
Home

Insert

Modeling

View

Help



Drilling_Dataset.csv

File Origin

1252: Western European (Windows)

Delimiter

Comma

Data Type Detection

Based on first 200 rows

RigID	DrillingDepth	DrillingSpeed	Location	Date
1001	4500	120	Texas	9/1/2023
1002	4200	110	Alaska	9/2/2023
1003	4800	130	California	9/3/2023
1004	4100	105	New Mexico	9/4/2023
1005	4400	118	Colorado	9/5/2023
1006	4700	125	Arizona	9/6/2023
1007	4300	112	Nebraska	9/7/2023
1008	4600	121	North Dakota	9/8/2023
1009	4900	135	Wyoming	9/9/2023

Extract Table Using Examples

Load

Transform Data

Cancel

Page 1

+

Options



GLOBAL

- Always allow data previews to download in the background
 - Allow data previews to download in the background according to each file's setting
 - Never allow data previews to download in the background
- Parallel loading of tables**
- When you load data into Power BI (via import or DirectQuery), each data table is backed by a Power Query query. These queries are evaluated simultaneously instead of one-by-one, which can speed up the process. In certain situations, you might want to adjust the default number of simultaneous query evaluations and memory used. [Learn more](#)
- Maximum number of simultaneous evaluations ⓘ
- Maximum memory used per simultaneous evaluation (MB) ⓘ
- Time intelligence**
- Auto date/time for new files ⓘ [Learn more](#)
- Data Cache Management Options** ⓘ
- Currently used: 0 bytes
-
- Maximum allowed (MB): ⓘ
-

CURRENT FILE

- Data Load
- Regional Settings
- Privacy
- Auto recovery

OK

Cancel

File Home Help

Table tools

Name Drilling_Dataset



Mark as date
table ▾



Manage
relationships



New
measure
column



Quick
table



New
measure
table



New
table

Relationships

Calculations

Structure

Calendars



RigID	DrillingDepth	DrillingSpeed	Location	Date
1001	4500	120	Texas	Friday, September 1, 2023
1002	4200	110	Alaska	Saturday, September 2, 2023
1003	4800	130	California	Sunday, September 3, 2023
1004	4100	105	New Mexico	Monday, September 4, 2023
1005	4400	118	Colorado	Tuesday, September 5, 2023
1006	4700	125	Arizona	Wednesday, September 6, 2023
1007	4300	112	Nebraska	Thursday, September 7, 2023
1008	4600	121	North Dakota	Friday, September 8, 2023
1009	4900	135	Wyoming	Saturday, September 9, 2023
1010	4200	110	Alaska	Sunday, September 10, 2023
1011	4500	120	Texas	Monday, September 11, 2023
1012	4800	130	California	Tuesday, September 12, 2023
1013	4100	105	New Mexico	Wednesday, September 13, 2023
1014	4400	118	Colorado	Thursday, September 14, 2023
1015	4700	125	Arizona	Friday, September 15, 2023
1016	4300	112	Nebraska	Saturday, September 16, 2023
1017	4600	121	North Dakota	Sunday, September 17, 2023
1018	4900	135	Wyoming	Monday, September 18, 2023
1019	4200	110	Alaska	Tuesday, September 19, 2023

Fields

Search

Drilling_Dataset



Date



DrillingDepth



DrillingSpeed

Location



RigID



Drilling_Dataset

- Date
- Σ DrillingDepth
- Σ DrillingSpeed
- Location
- Σ RigID

[Collapse ^](#)

All tables

+

Properties

Row label

Select a row label

Key column

Select a column with unique values

Is hidden

No

Is featured table

No

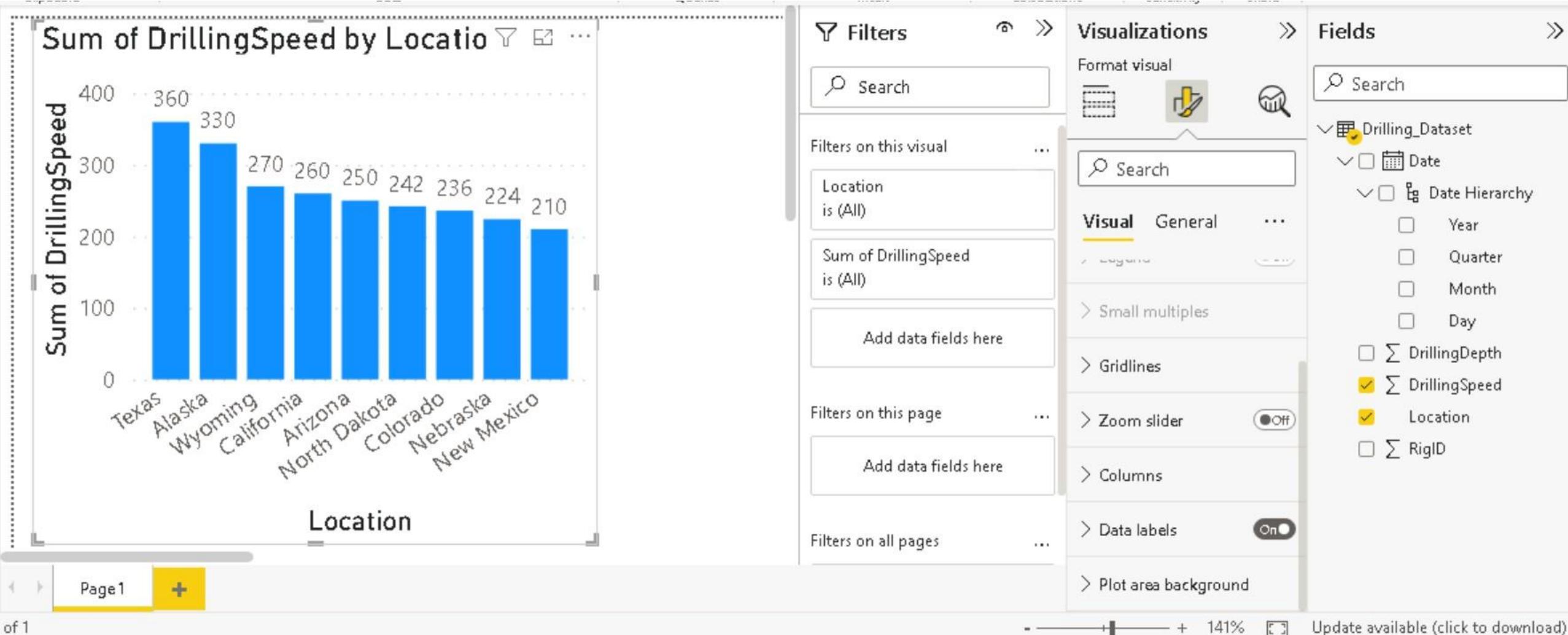
Import

DirectQuery

Dual

Import

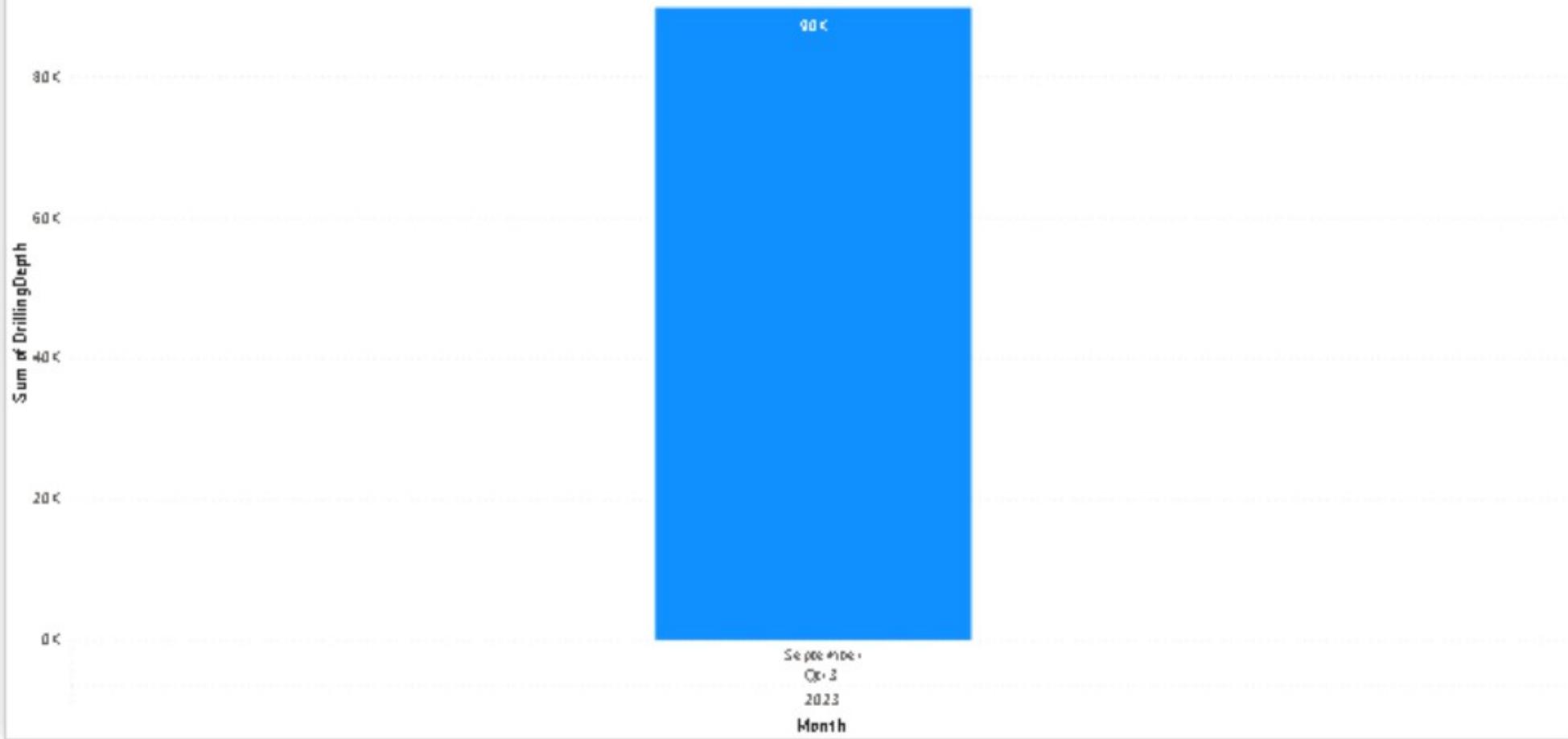
»

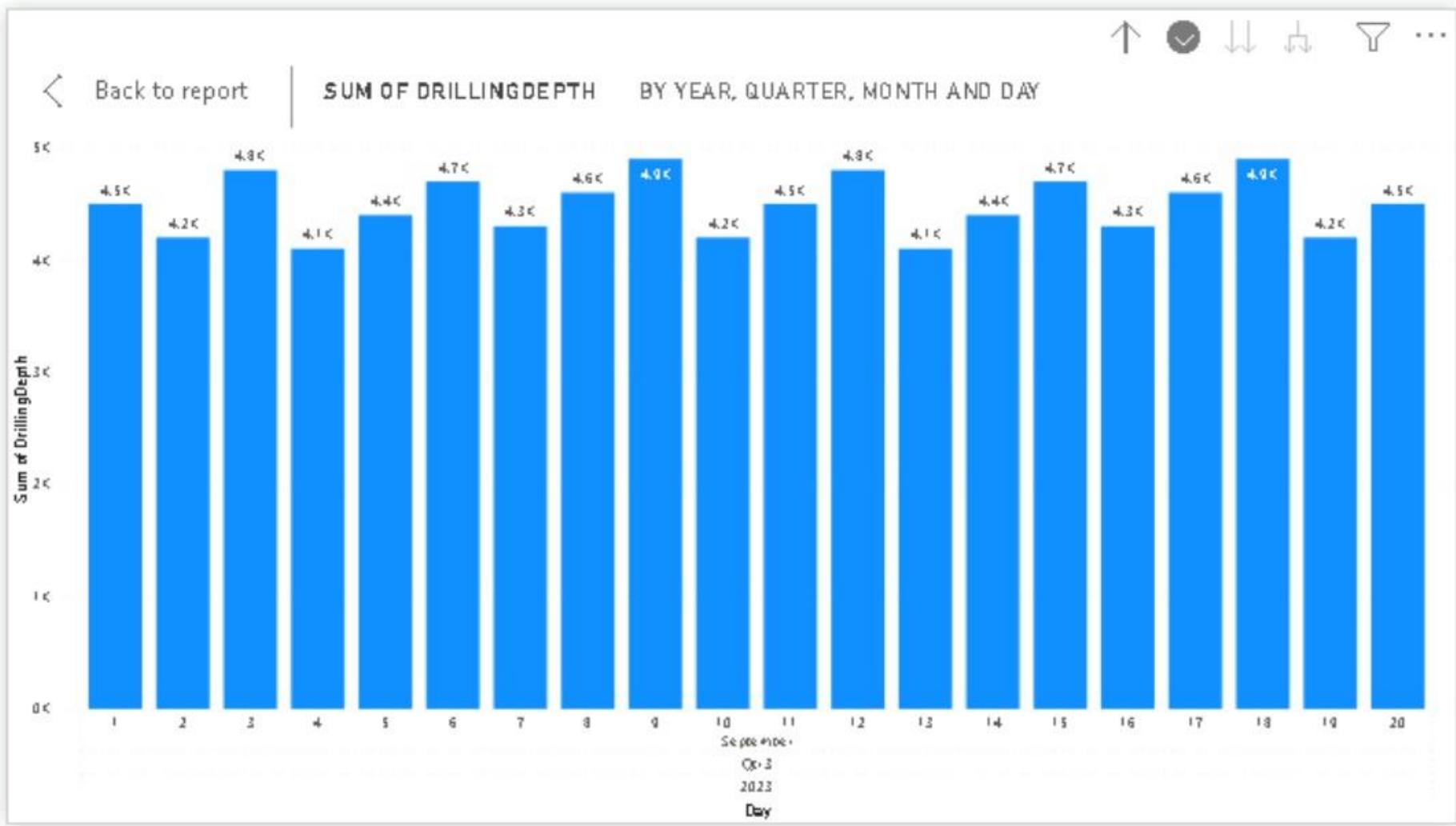


↑ ✓ ↓ ↴ ⌂ ⌃ ⌁

< Back to report

SUM OF DRILLINGDEPTH BY YEAR, QUARTER AND MONTH





Filters

Sum of DrillingSpeed by Location

Location	Sum of DrillingSpeed
Texas	360
Alaska	330
Arizona	290
New Mexico	210

Sum of DrillingDepth by Year

Year	Sum of DrillingDepth
2023	44k

Location

Location

- Alaska
- Arizona
- California
- Colorado
- Nebraska
- New Mexico
- North Dakota
- Texas
- Wyoming

Page 1

Visualizations

Format visual

Filters

Search

Visual General ...

Selection

Single select Off

Multi-select with C... On

Show "Select all" o... Off

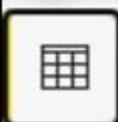
Reset to default

Slicer header On

Values

Page 1 of 1 70%

Data



RigID	DrillingDepth	DrillingSpeed	Location	Date
1001	4500	120	Texas	9/1/2023
1002	4200	110	Alaska	9/2/2023
1003	4800	130	California	9/3/2023
1004	4100	105	New Mexico	9/4/2023
1005	4400	118	Colorado	9/5/2023
1006	4700	125	Arizona	9/6/2023
1007	4300	112	Nebraska	9/7/2023
1008	4600	121	North Dakota	9/8/2023
1009	4900	135	Wyoming	9/9/2023
1010	4200	110	Alaska	9/10/2023
1011	4500	120	Texas	9/11/2023
1012	4800	130	California	9/12/2023
1013	4100	105	New Mexico	9/13/2023
1014	4400	118	Colorado	9/14/2023
1015	4700	125	Arizona	9/15/2023
1016	4300	112	Nebraska	9/16/2023
1017	4600	121	North Dakota	9/17/2023
1018	4900	135	Wyoming	9/18/2023
1019	4200	110	Alaska	9/19/2023

Table: Drilling_Dataset (20 rows)

WeekDay = WEEKDAY(Drilling_Dataset[Date],1)

Sum of DrillingSpeed

Location

WeekDay

1
2
3
4
5
6
7

Sum of DrillingDepth

Date

Page 1 **+**

Visualizations

Build visual

Filters

Fields

Search

Drilling_Dataset

- Date
- \sum DrillingDepth
- \sum DrillingSpeed
- Location
- Quarter
- \sum RigID
- WeekDay**
- Year

Field

WeekDay

Drill through

Cross-report Off

Keep all filters On



Fields

Visualizations

Filters

Search

Drilling_Dataset

- Date
- \sum DrillingDepth
- \sum DrillingSpeed
- Location
- Location (groups)
- Quarter
- \sum RigID
- WeekDay
- Year

```
= Table.ReplaceValue(#"Changed Type",null,20,Replacer.ReplaceValue,{"CustomerID"})
```

Replace Values

Replace one value with another in the selected columns.

Value To Find

Replace With

OK

Cancel

Query Settings

PROPERTIES

Name

Sheet1

All Properties

APPLIED STEPS

Source

Navigation

Promoted Headers

Changed Type

X Replaced Value

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Transpose Reverse Rows Detect Data Type Rename

Group By as Headers Count Rows

Data Type: Text 1 2 ABC 123 Extract abc Parse

Merge Columns Split Column Format Statistics Standard Scientific Information

Date Time Duration

R Py Run R script Run Python script

Table Any Column Text Column Number Column Date & Time Column Scripts

Queries [2]

Drilling_Dataset Sheet1

= Table.FillDown(#"Replaced Value1", {"Age"})

	CustomerName	Gender	MaritalStatus	PhoneNo	Age
1	null	M	M	1234567890	

Query Settings

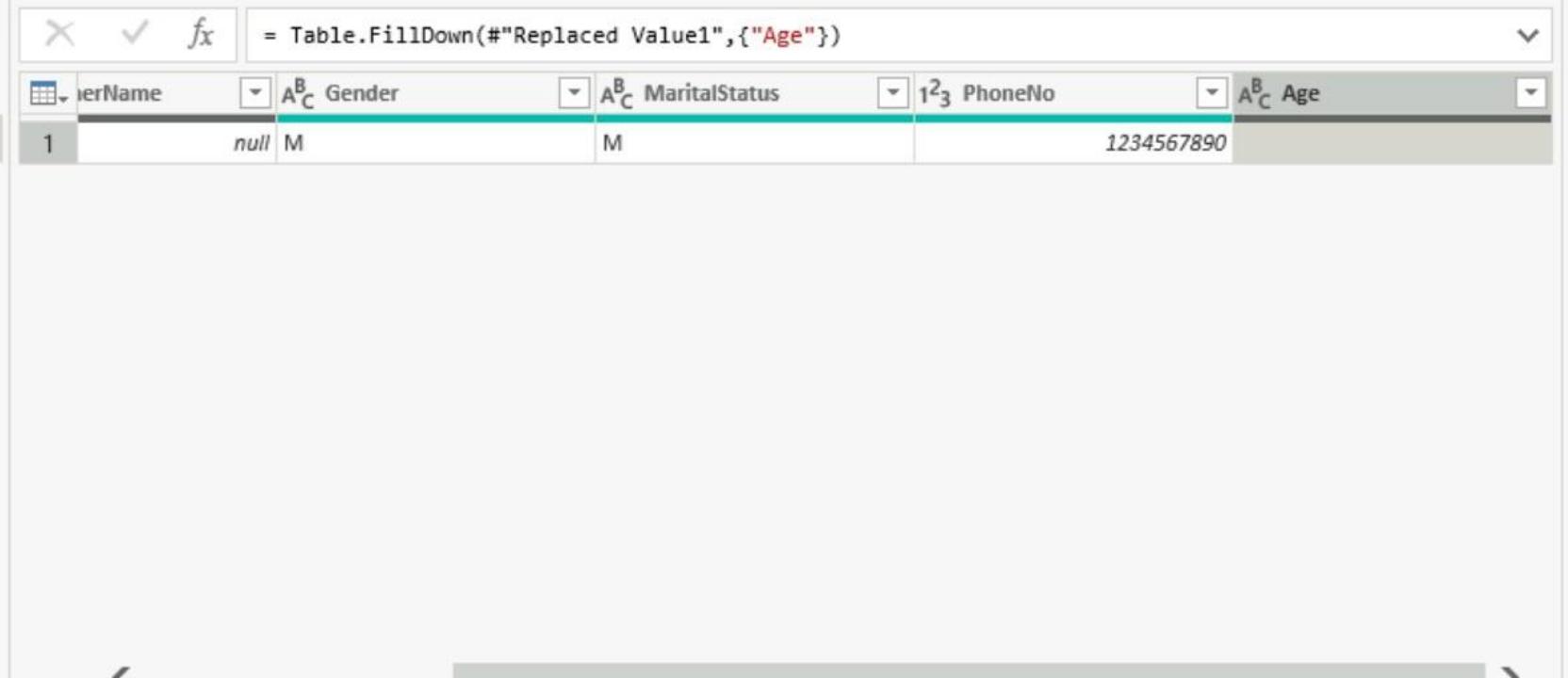
PROPERTIES

Name: Sheet1

All Properties

APPLIED STEPS

Source Navigation Promoted Headers Changed Type Replaced Value Replaced Value1 Filled Down





fx = Table.FillDown(#"Replaced Value1", {"Age"})

Replace Values

Replace one value with another in the selected columns.

Value To Find

Replace With

Advanced options

OK Cancel

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Transpose Data Type: Whole Number 1 2 Merge Columns ABC 123 Extract Trigonometry Date R Py
Reverse Rows Detect Data Type ABC 123 Extract Trigonometry Date R Py
Group Use First Row By as Headers Count Rows Rename Split Column Format Parse Statistics Standard Scientific Information Date & Time Column Run R script Run Python script
Table Any Column Text Column Number Column Date & Time Column Scripts

Queries [3] = Table.FillDown(#"Changed Type", {"Age"})

Drilling_Dataset

Sheet1

Table1

	MaritalStatus	PhoneNo	Age	Annual Income
1	Married	1234567890	20	
2	Single	14124	37	
3	Married	1241231	37	
4	Single	241241	41	
5	Married	4124123	26	
6	Married	12313	26	
7	Single	12313	54	
8	Single	32134	13	
9	Married	211241	90	
10	Single	12445	29	

Query Settings

PROPERTIES

Name: Table1

All Properties

APPLIED STEPS

Source, Navigation, Changed Type, Filled Down

File Home Insert Modeling View Help Format Data / Drill

Cut Copy Paste Format painter Clipboard Get data workbook hub Data SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More visuals New measure Quick Sensitivity Publish

Clipboard Data Queries Insert Calculations Sensitivity Share

Back to report SUM OF AGE BY CUSTOMERNAME

CustomerName

Etc 84
Luis 75
Aly 65
Raul 55
Sara 50
Sara 45
Sara 40
Geeta 35
Geeta 30
Ravi 25
Sal 20

Sum of Age

0 20 40 60 80

80

Fields

Search

Visualizations

Filters

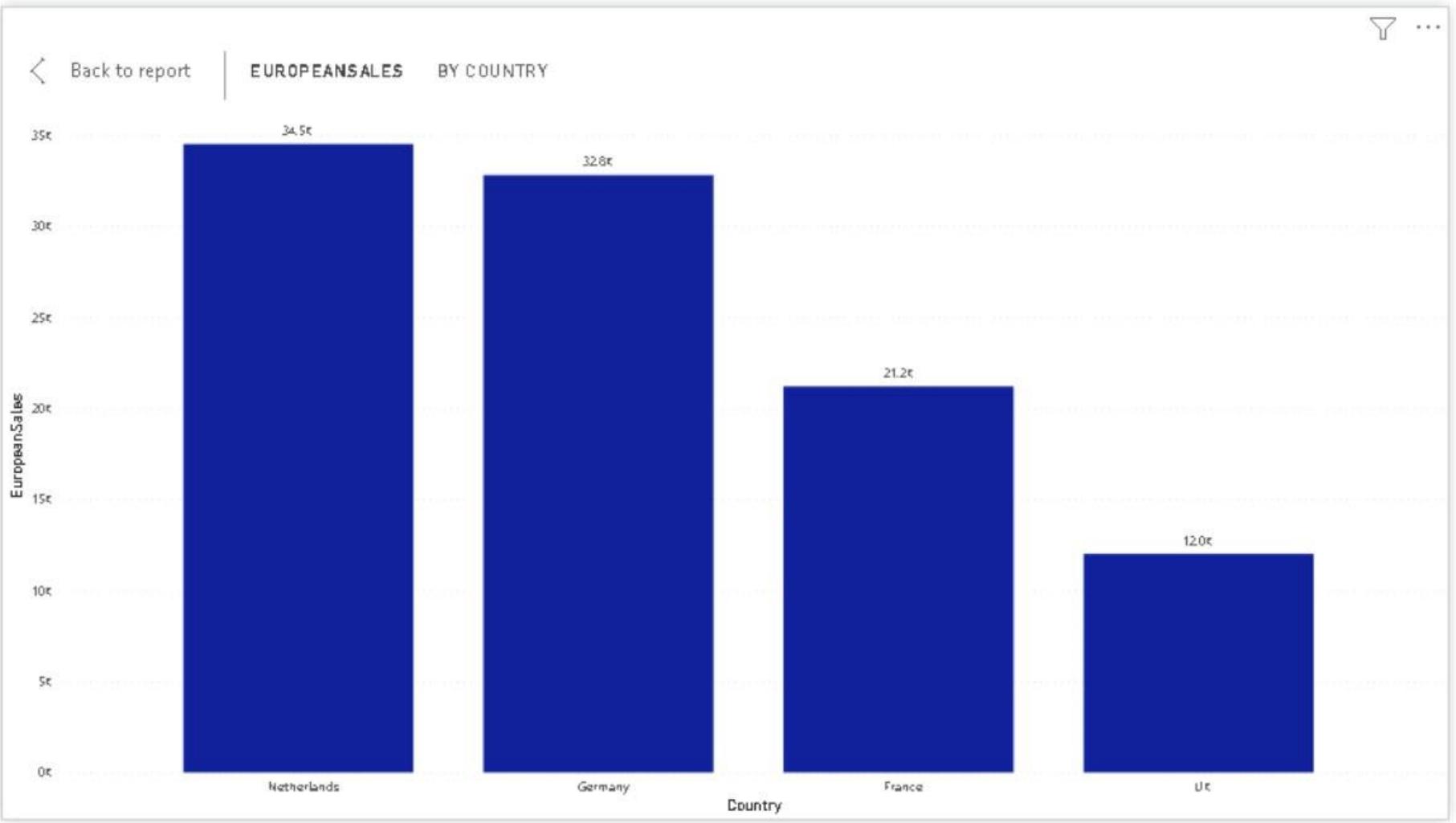
Table1

- Age
- \sum CustomerID
- CustomerName
- Gender
- MaritalStatus
- \sum PhoneNo

- Table1
- \sum Age
- \sum Annual Income
- \sum CustomerID
- CustomerName
- Gender
- MaritalStatus
- \sum MonthlyIncome
- \sum PhoneNo

Page 3 of 3 Update available (click to download)

CustomerName	Sum of Age
Etc	84
Luis	75
Aly	65
Raul	55
Sara	50
Sara	45
Sara	40
Geeta	35
Geeta	30
Ravi	25
Sal	20



Fields

Search

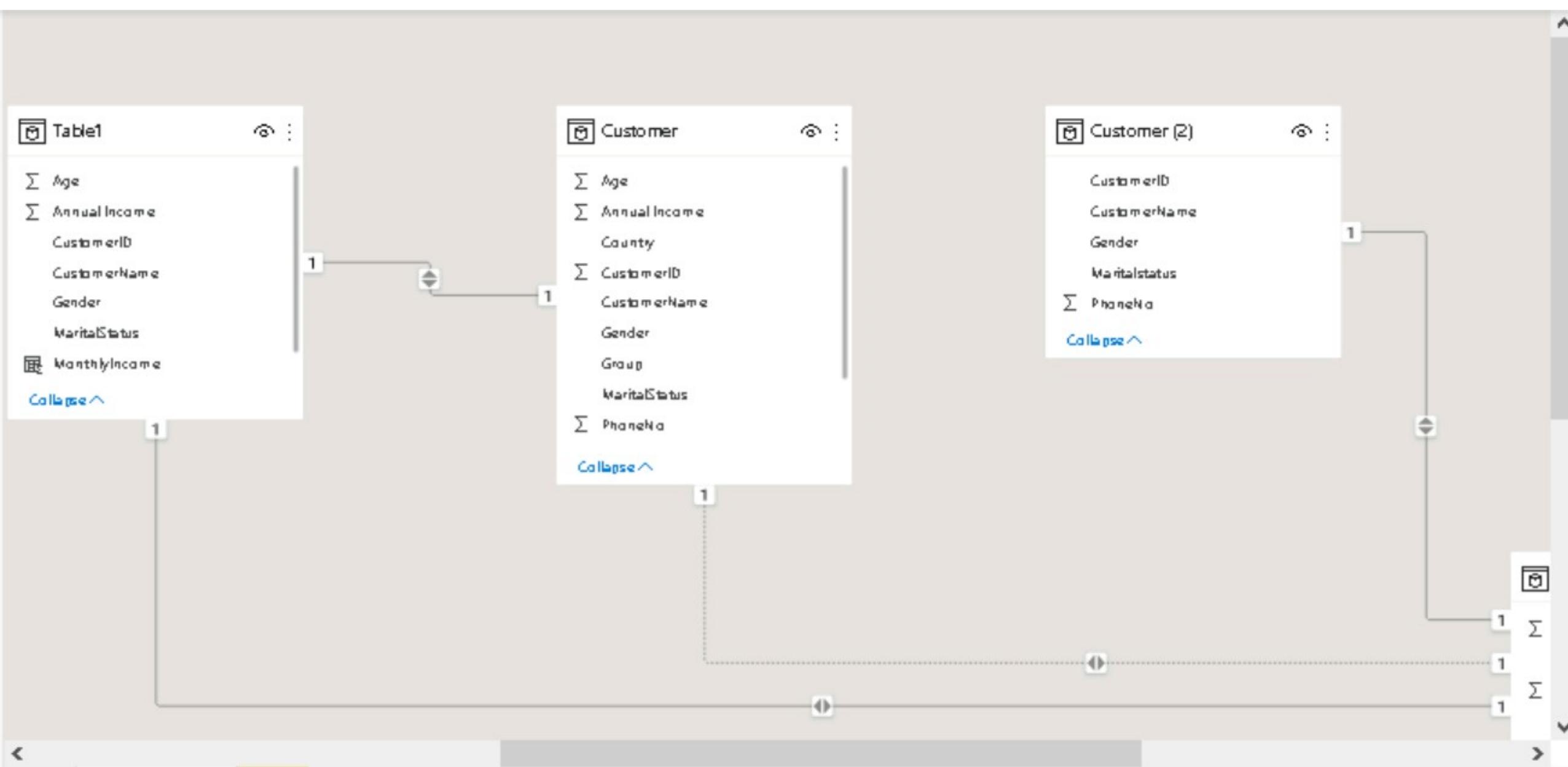
Customer

- \sum Age
- \sum Annual Income
- Country
- \sum CustomerID
- CustomerName
- EuropeanSales
- Gender
- Group
- MaritalStatus
- \sum PhoneNo
- \sum SalesAmt
- TotalSales

Drilling_Dataset

Sheet1

- Age
- \sum CustomerID
- CustomerName
- Gender
- MaritalStatus



DemoProject - Power BI Desktop

File Home

Manage relationships New measure

Relationships

WeekDayNum

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Manage roles

Roles

European Customer

Create Delete

Tables

Customer
Customer (2)
Drilling_Dataset
SalesInfo1
Sheet1
Table1
Territory

Table filter DAX expression

[Group] = "Europe"

Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"

Save Cancel

Page 1

Page 1 of 5

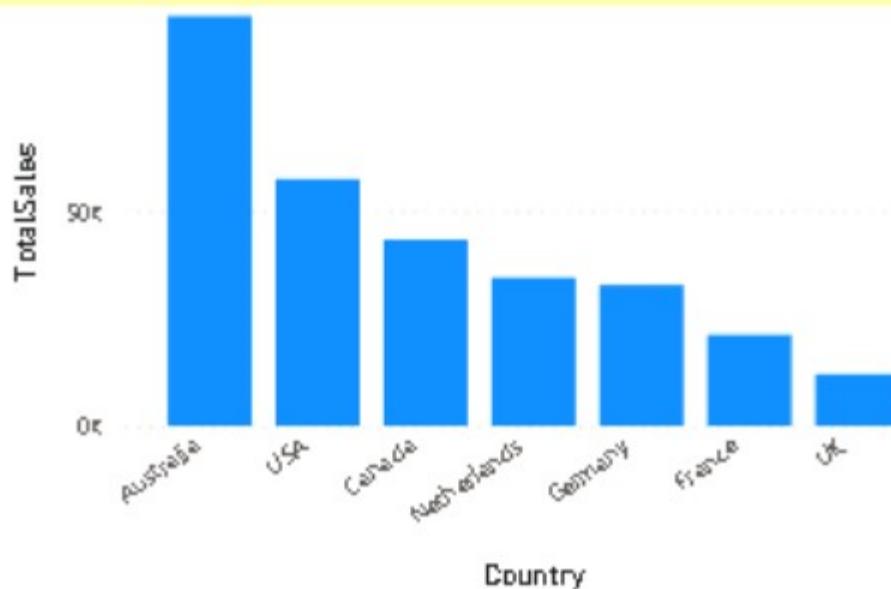
- + 70% Update available (click to download)



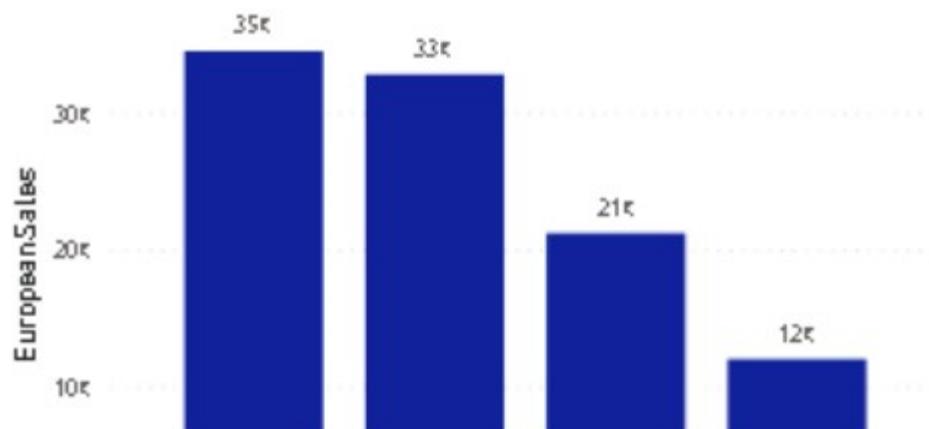
🛡️ Now viewing as: European Customer

Stop viewing

∨ Filters



EuropeanSales by Country



Page 1

Page 2

Page 3

Page 4



Page 5



< Back to report

TOTALSALES1 BY GROUP

300K

250K

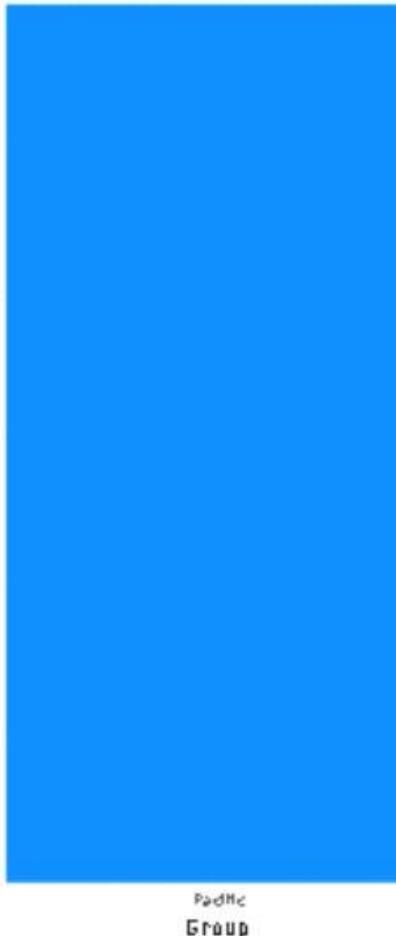
200K

150K

100K

50K

0K



Filters

Visualizations

Untitled - Power BI Desktop

File Home

Manage relationships Relationships

New measure

Manage roles

DynamicRoles

New role

Create Delete

UserTable

Table filter DAX expression

[UserName] = ""

Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"

Save Cancel

Latitude

- + 100% Update available (click to download)

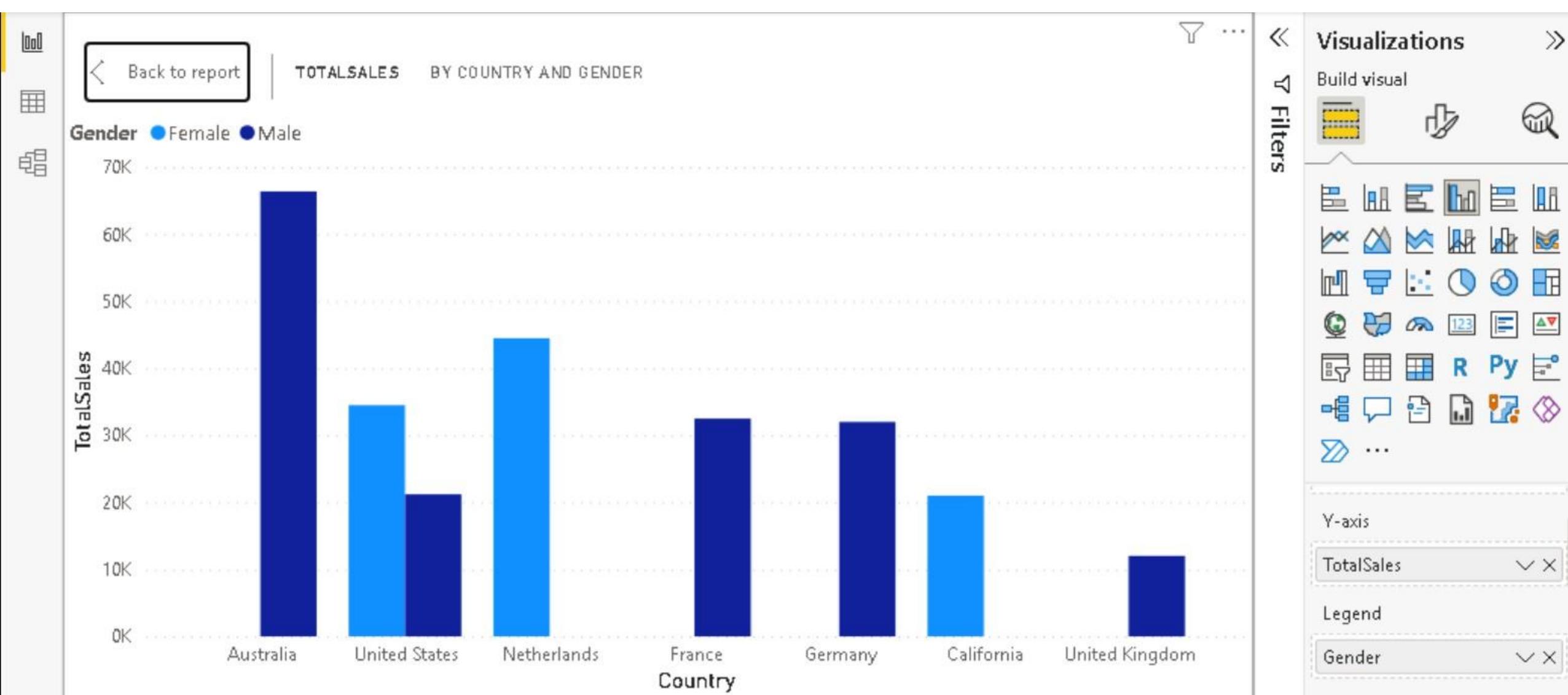
Page 2 of 2

Day 12 – Data Visualization with PowerBI

- ▶ Report design and layout
- ▶ Effective visualizations and charts
- ▶ Line, bar, ribbon and waterfall charts
- ▶ Pie, donut, tree map, bubble and gauge charts
- ▶ Card, scorecard and matrix charts
- ▶ Python programming and maps
- ▶ Edit interactions: Filter, Highlight, None
- ▶ Dynamic labels and Conditional formatting
- ▶ Custom buttons, Bookmarks and Actions
- ▶ Using pandas and matplotlib libraries to create visuals

Day 12 continued...

- ▶ Q&A Visual
- ▶ Arrow buttons for page navigation
- ▶ Calendar functions



Visualizations

Format visual



Filters

Search

Visual

Size

5 px

Color



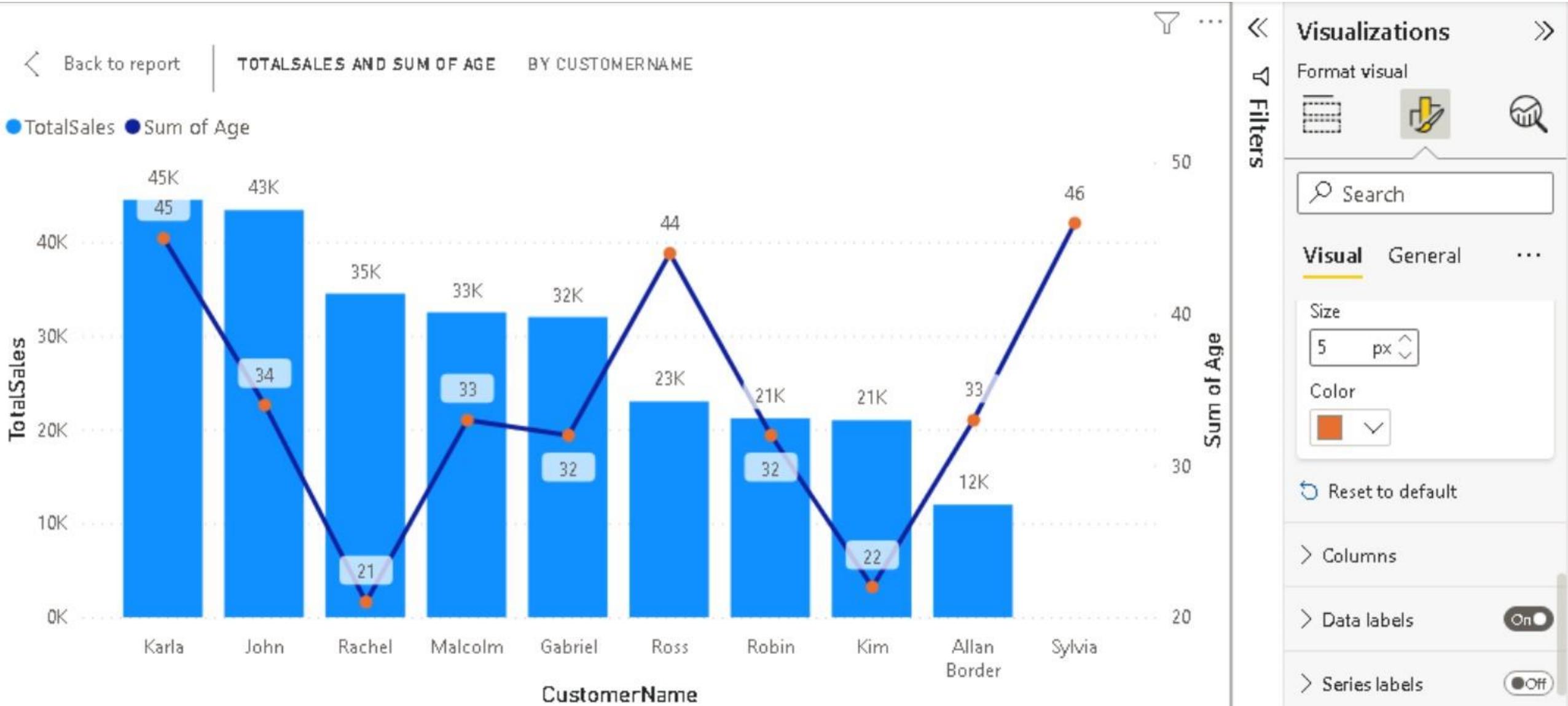
Reset to default

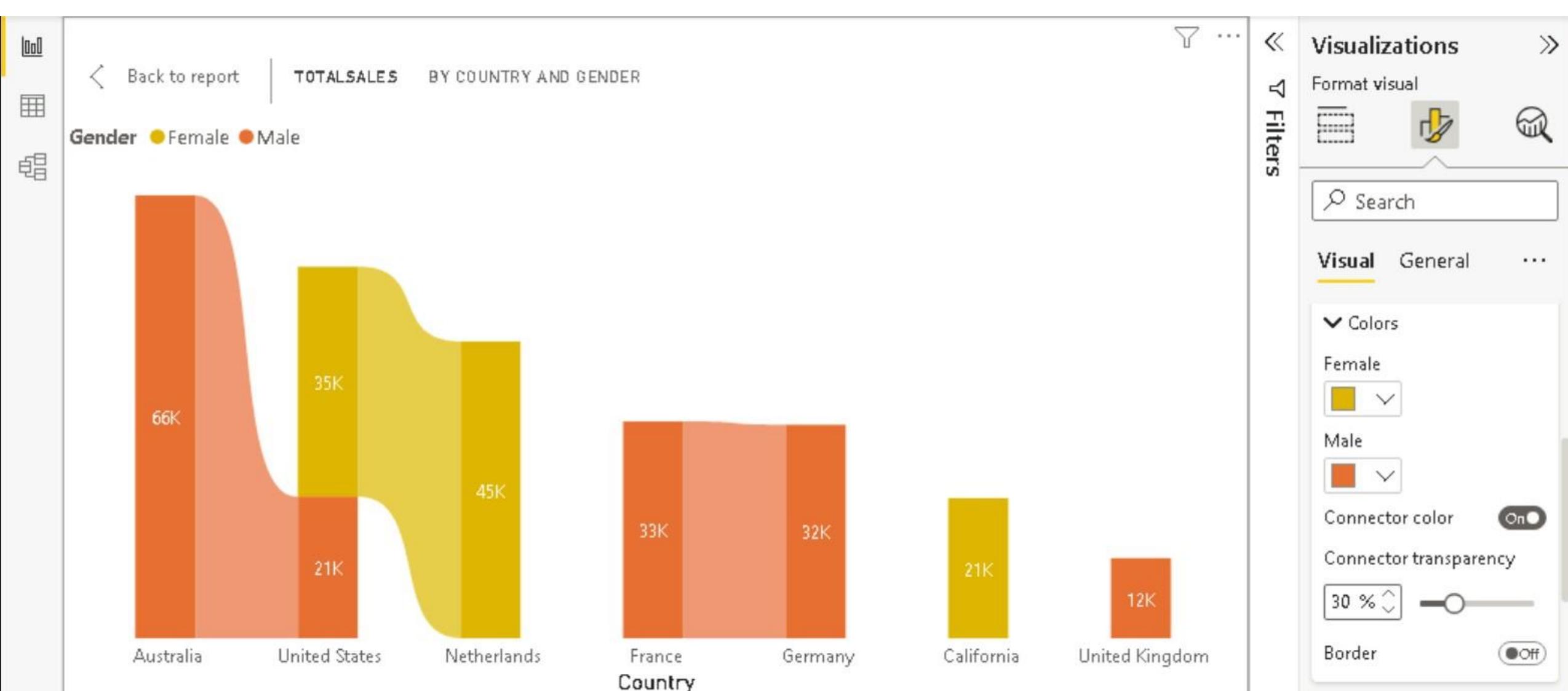
Columns

Data labels

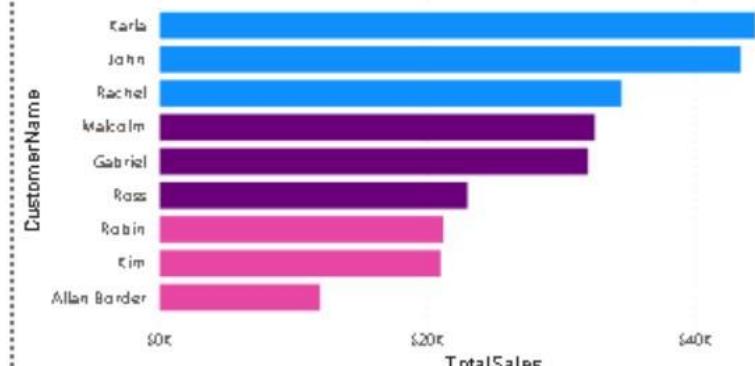


Series labels

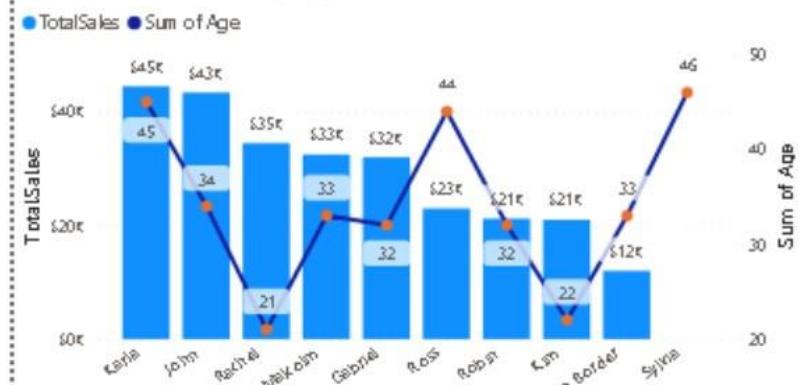




TotalSales by CustomerName and CustomerName (groups)



TotalSales and Sum of Age by CustomerName

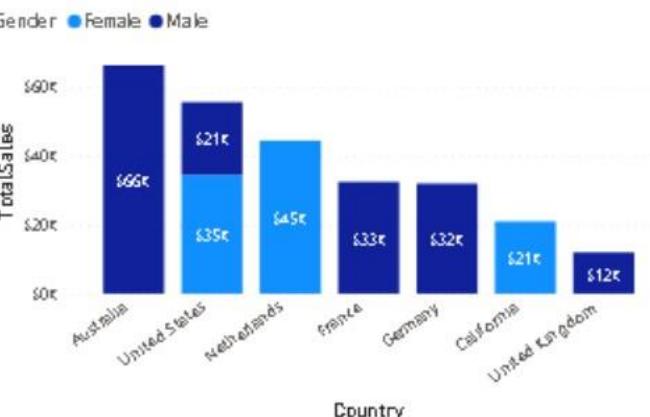


Page 1

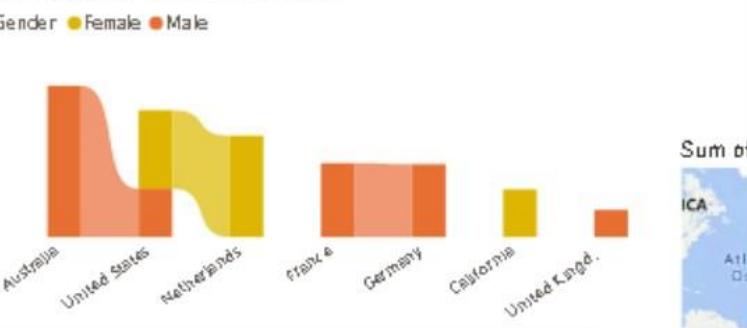
Page 2



TotalSales by Country and Gender



TotalSales by Country and Gender



Visualizations

Build visual



Filters

Search:

Customer:

- CustomerID
- CustomerName
- CustomerName...
- Gender
- Maritalstatus
- \sum PhoneNo

SalesInfo1:

- \sum Age
- CustomerID
- \sum SalesAmount
- TerritoryKey
- TotalSales

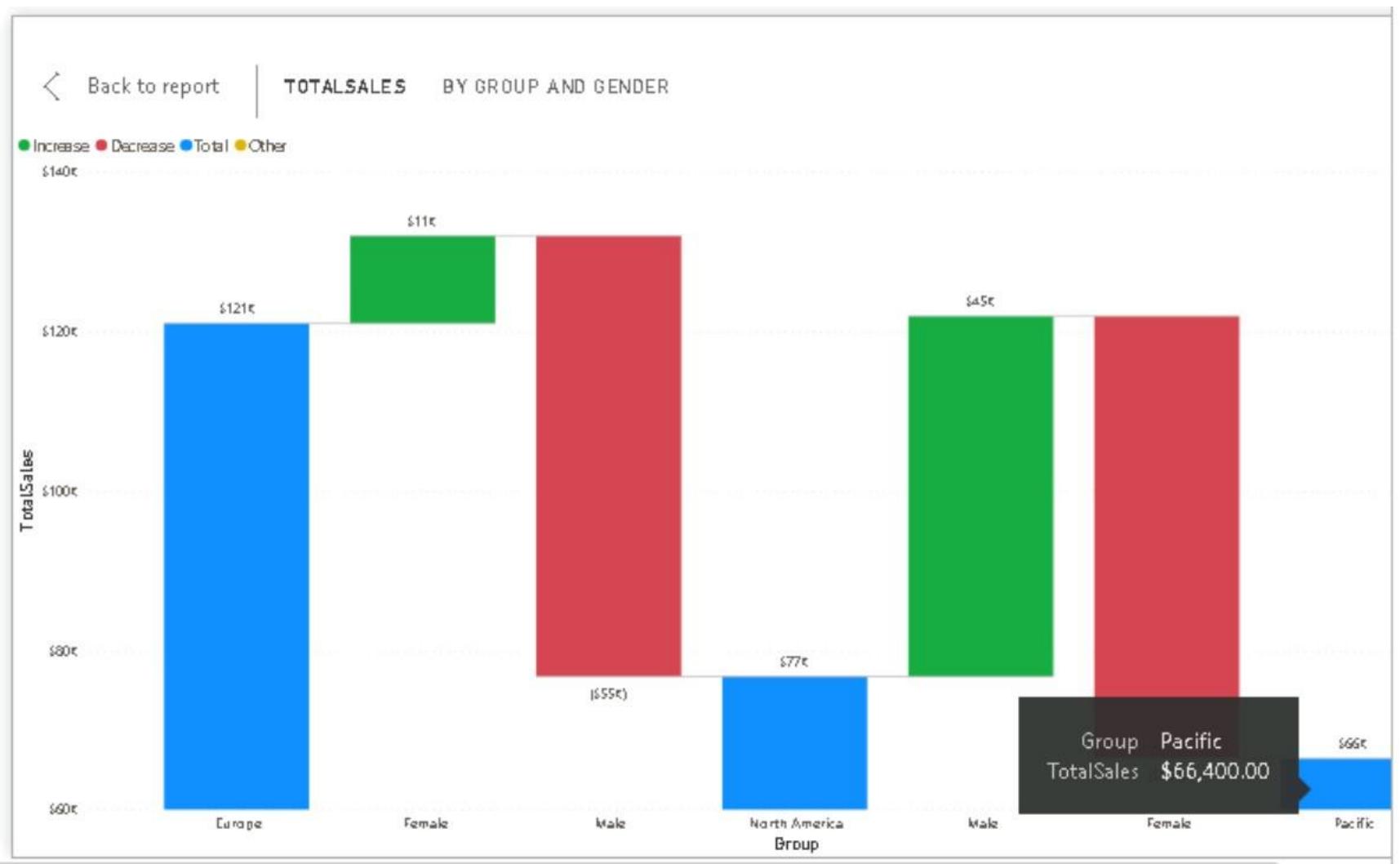
Values:

Add data fields here

Drill through

Cross-report

Keep all filters Off On



Visualizations | Fields

Format visual | Search

Filters

Visual General ...

Y-axis On

Legend On

Gridlines

Columns

Breakdown

Data labels On

Plot area background

UserTable

Search

CustomerName

CustomerName...

Gender

Maritalstatus

\sum PhoneNo

SalesInfo1

\sum Age

CustomerID

\sum SalesAmount

TerritoryKey

TotalSales

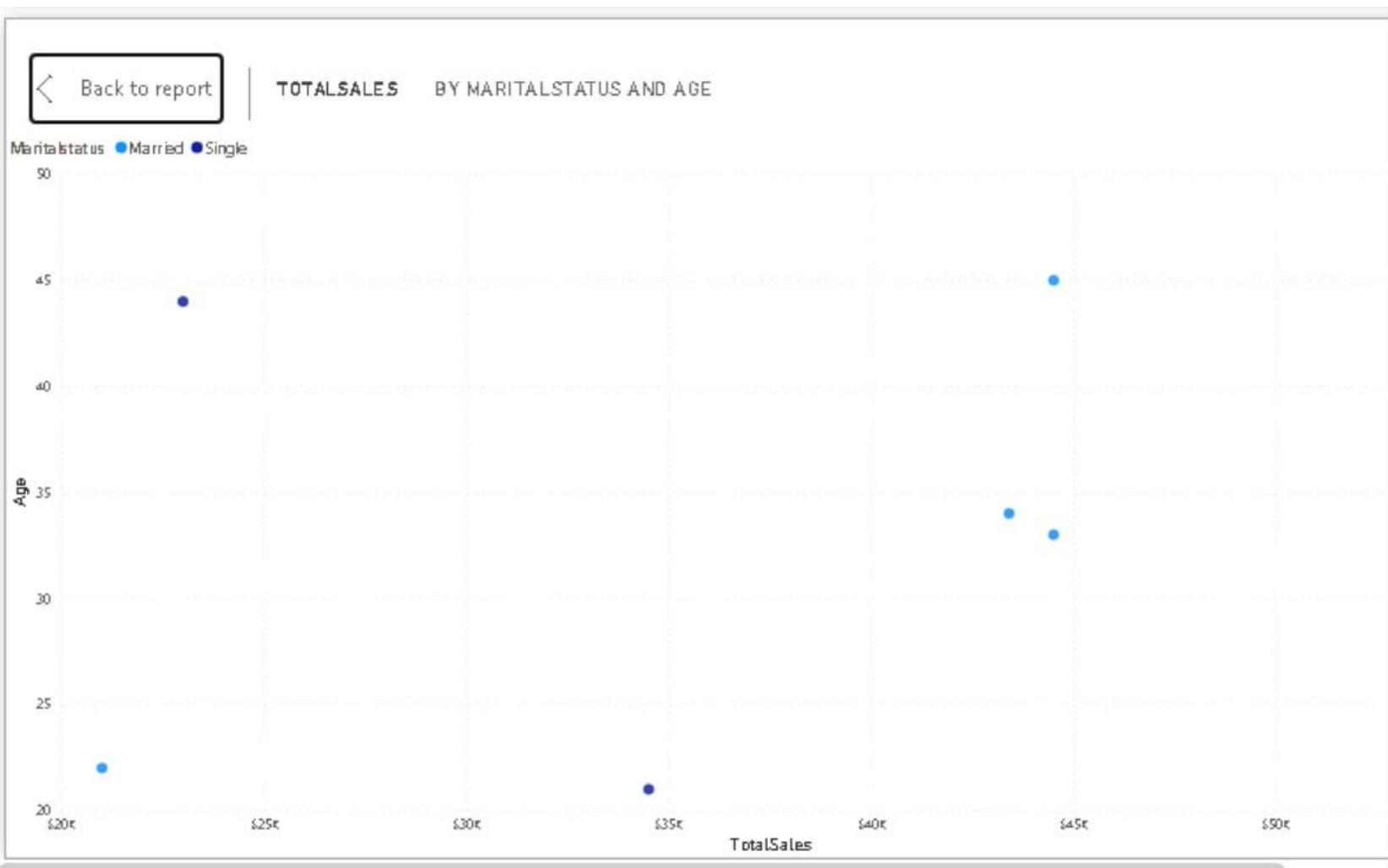
\sum TotalSales runn...

Territory

Country

Group

TerritoryId



< Filters >

Visualizations

Build visual

Filters

Y Axis

Legend

Size

Add data fields here

Fields

Search

- CustomerName
- CustomerName...
- Gender
- Maritalstatus
- ∑ PhoneNo
- SalesInfo1
- ∑ Age
- CustomerID
- ∑ SalesAmount
- TerritoryKey
- TotalSales
- TotalSales runn...
- Territory
- Country
- Group
- TerritoryId
- UserTable

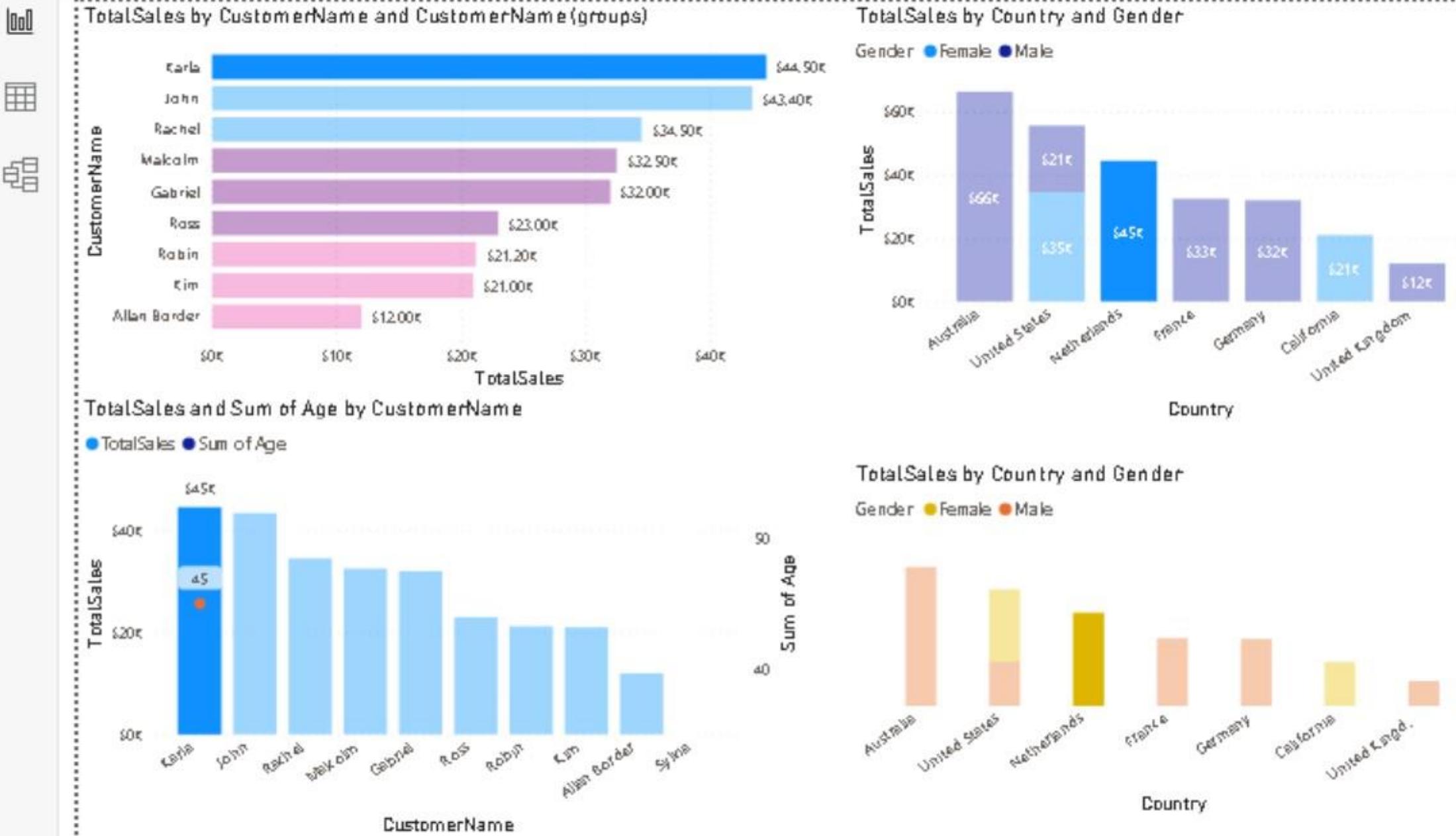


[Back to report](#)

TOTALSALES BY GENDER, MARITALSTATUS AND CUSTOMERNAME

Filters

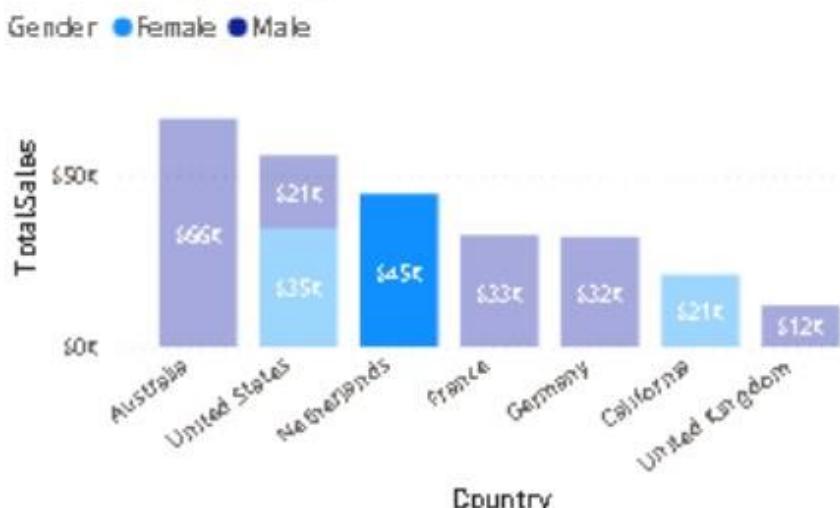




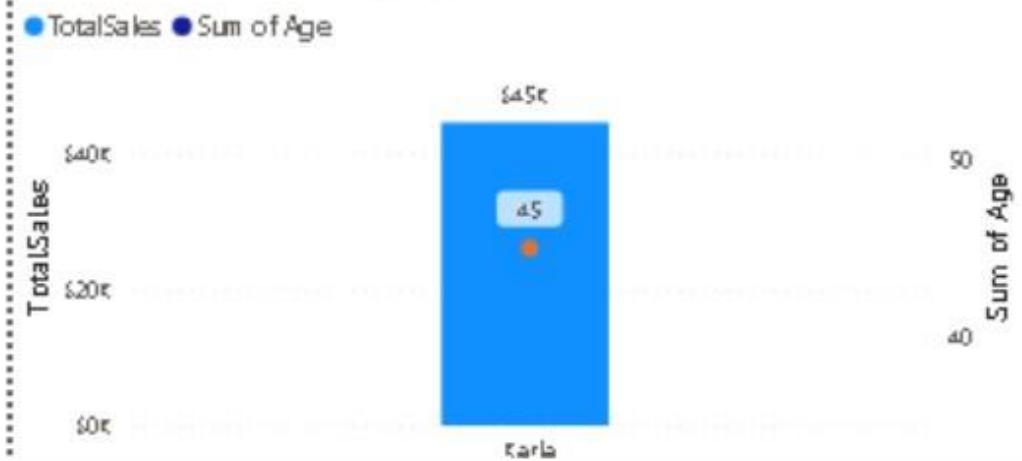
TotalSales by CustomerName and CustomerName (groups)



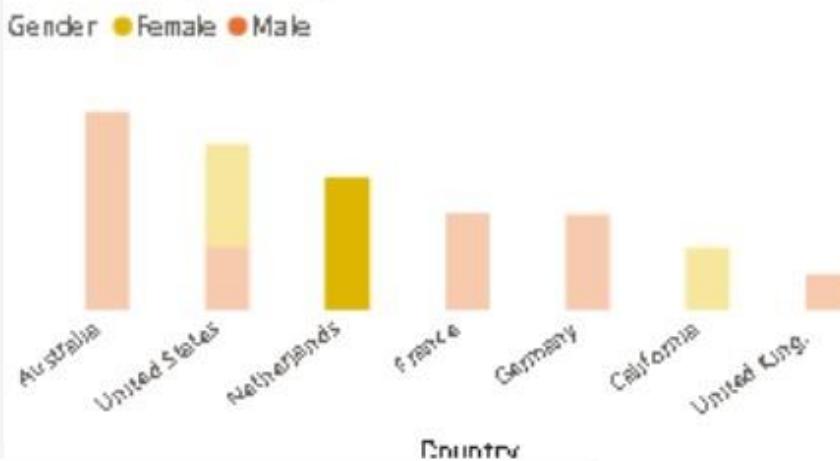
TotalSales by Country and Gender



TotalSales and Sum of Age by CustomerName



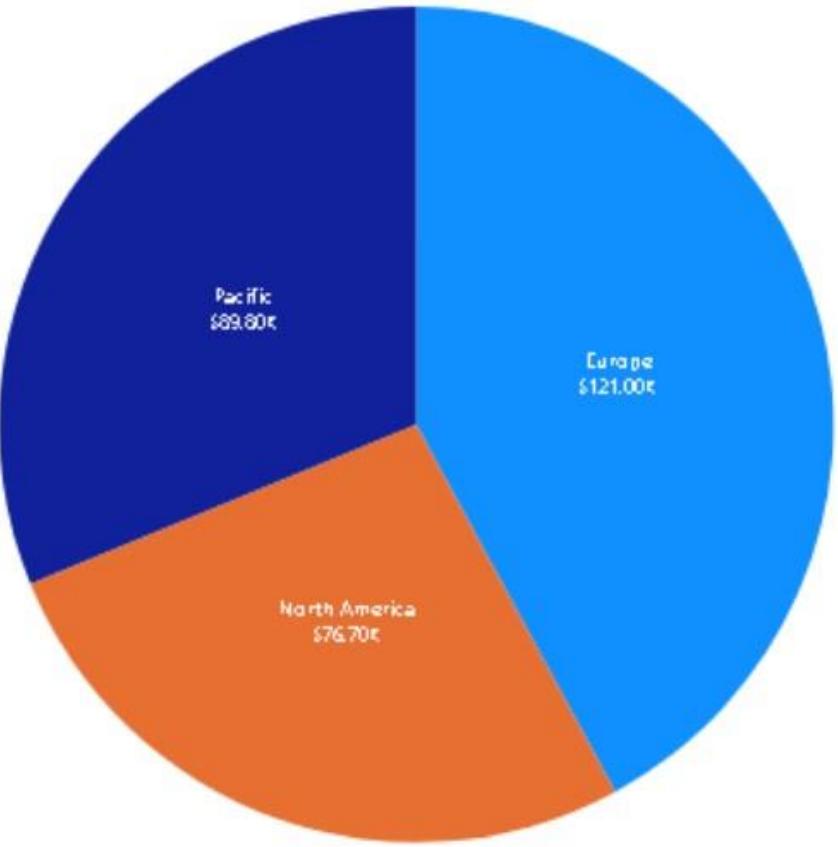
TotalSales by Country and Gender





Back to report

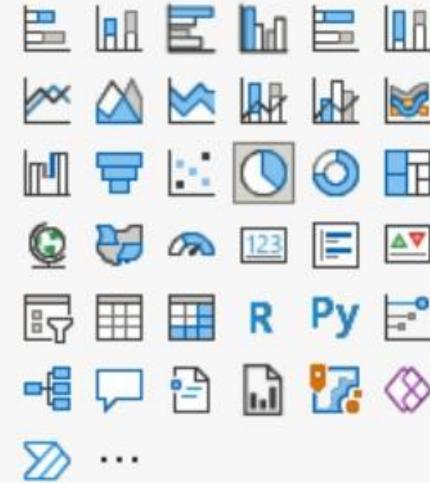
TOTALSALES BY GROUP



◀ ▷ Filters

Visualizations

Build visual



Add data fields here

Values

TotalSales

×

Details

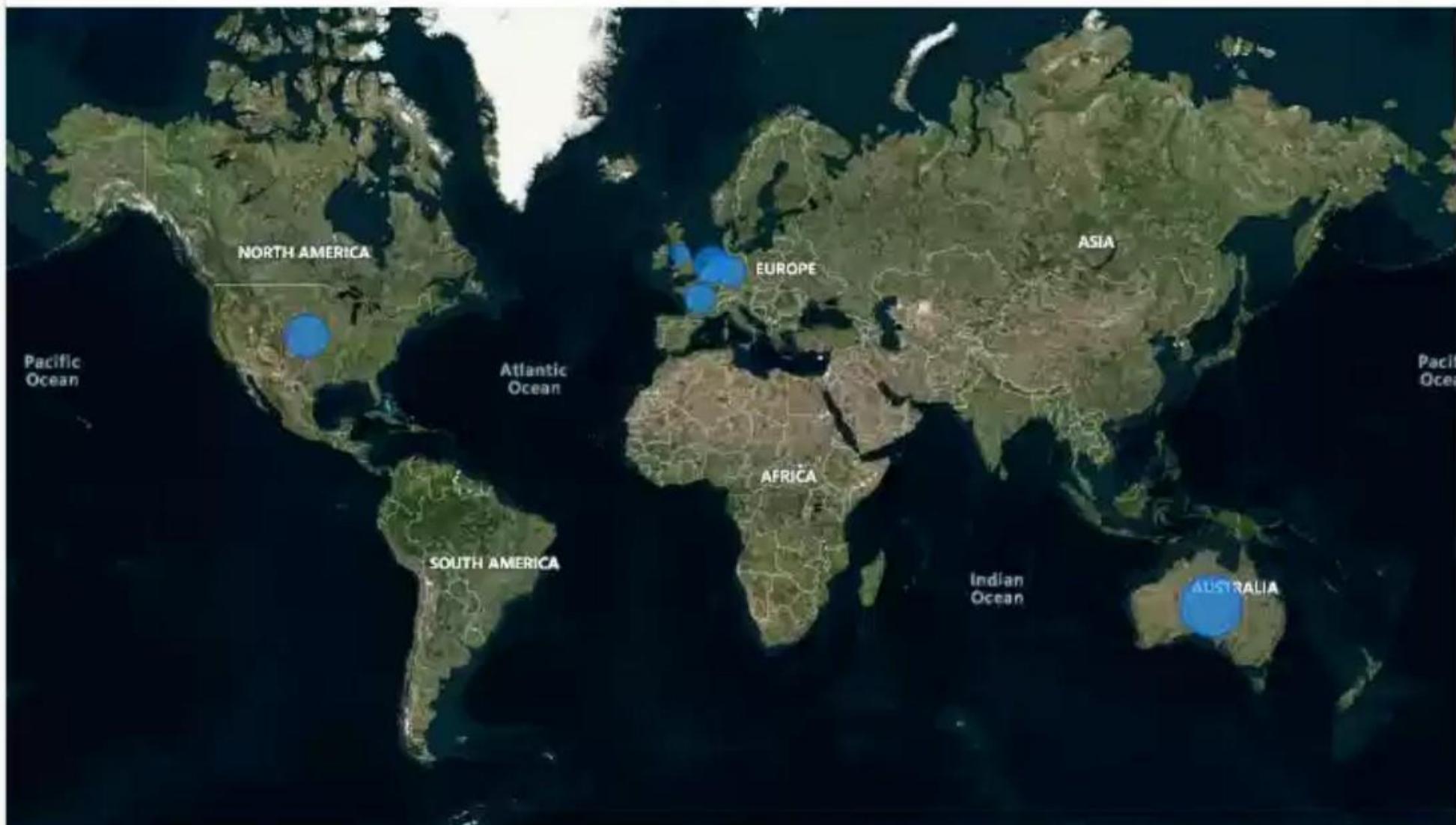
Group

×

Tooltips

Back to report

TOTALSALES BY COUNTRY



Visualizations



Format visual



Filters

Search

Visual General ...

Map settings

> Style

> Controls

↻ Reset to default

> Legend Off

> Bubbles Off

> Category labels Off

< Back to report

TOTALSALES BY COUNTRY



Visualizations

Format visual



Filters

Search

Visual General ...

France



Germany



Netherlands



United Kingdom

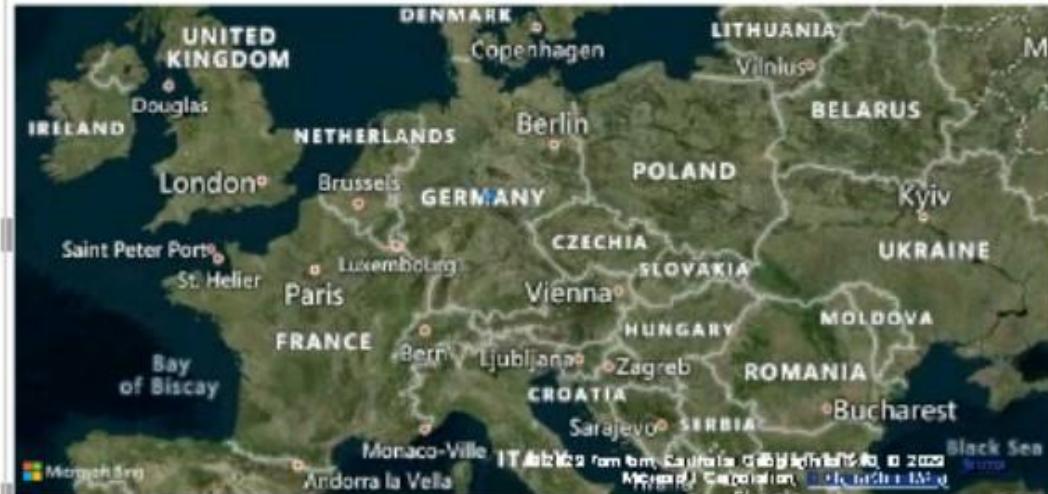


United States



Reset to default

TotalSales by Country



\$287.50K

TotalSales

\$32.00K

TotalSales by Country



Country

- Australia
- California
- France
- Germany
- Netherlands
- United Kingdom
- United States



...



<



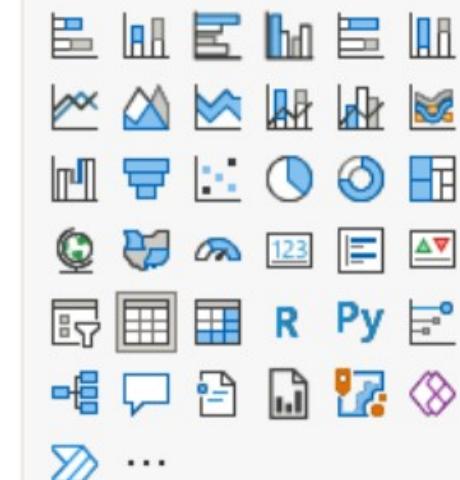
Back to report

Visualizations

Build visual



Filters



Columns

Country	▼	X
Name	▼	X
Age	▼	X

Drill through

Country Name Age

Australia	John	34
Australia	Ross	44
Australia	Sylvia	46
California	Kim	22
France	Malcolm	33
Germany	Gabriel	32
Netherlands	Karla	45
United Kingdom	Allan Border	33
United States	Rachel	21
United States	Robin	32
Total		342



Font color - TotalSales

Format style

Gradient

Apply to

Values only

What field should we base this on?

TotalSales

How should we format empty values?

As zero

Minimum

Lowest value



Maximum

Highest value

Enter a value

Enter a value

Add a middle color



[Learn more about conditional formatting](#)

OK

Cancel

Background color - SalesAmount

Format style

Rules

Apply to

Values only

What field should we base this on?

Sum of SalesAmount

Summarization

Sum

Rules

↑↓ Reverse color order

+ New rule

- | | | | | | | | | | | | | |
|----------|--------|-------|--------|-----|-----|-------|--------|------|--------|---|---|---|
| If value | \geq | 10000 | Number | and | $<$ | 23000 | Number | then | Red | ↑ | ↓ | X |
| If value | \geq | 23001 | Number | and | $<$ | 35000 | Number | then | Orange | ↑ | ↓ | X |
| If value | $>$ | 35000 | Number | and | $<$ | 50000 | Number | then | Green | ↑ | ↓ | X |

[Learn more about conditional formatting](#)

OK

Cancel



...



Back to report

Visualizations

Build visual



Filters



Name	<input type="button" value="▼ X"/>
SalesAmount	<input type="button" value="▼ X"/>

Drill through



Cross-report



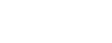
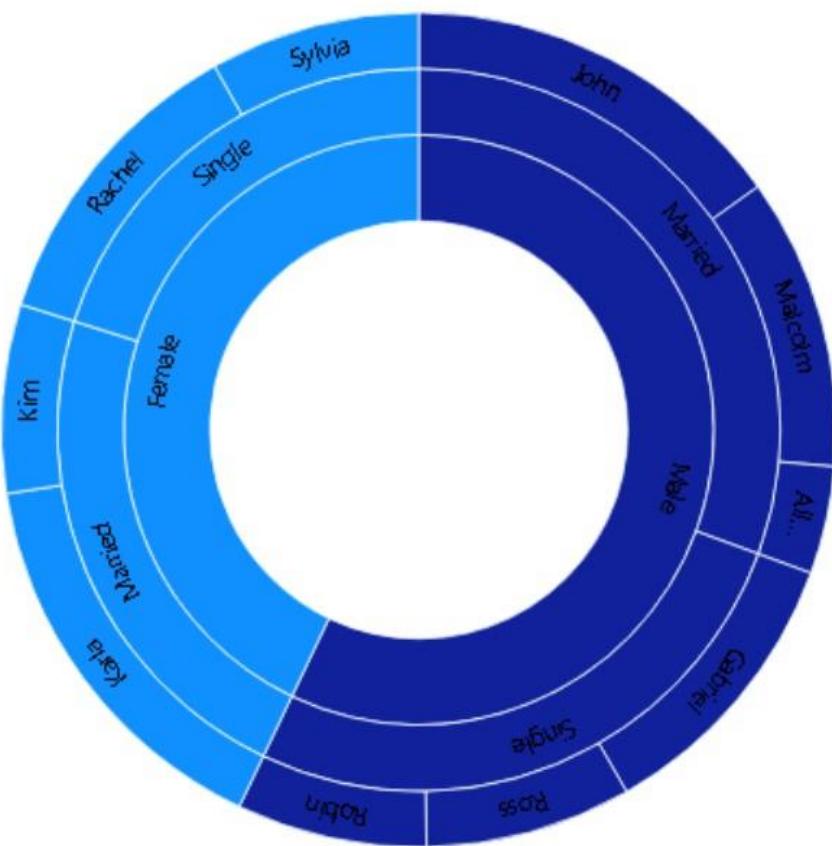
Keep all filters

Country Name SalesAmount

Australia	John	\$43,400
Australia	Ross	\$23,000
Australia	Sylvia	\$23,400
California	Kim	\$21,000
France	Malcolm	\$32,500
Germany	Gabriel	\$32,000
Netherlands	Karla	\$44,500
United Kingdom	Allan Border	\$12,000
United States	Rachel	\$34,500
United States	Robin	\$21,200
Total		\$287,500

[Back to report](#)

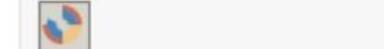
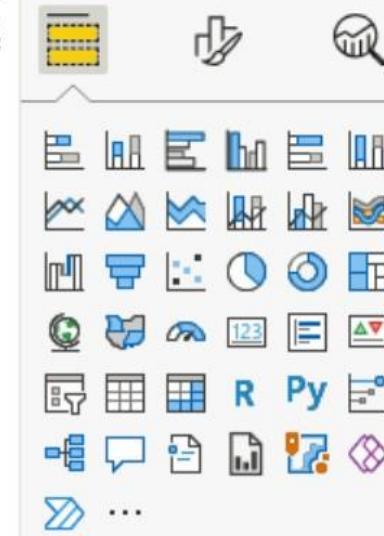
TOTALSALES BY GENDER, MARITALSTATUS AND CUSTOMERNAME



Filters

Visualizations

Build visual



CustomerH	▼ X
Gender	X
Maritalstatus	X
CustomerName	X
...	

Fields

Search

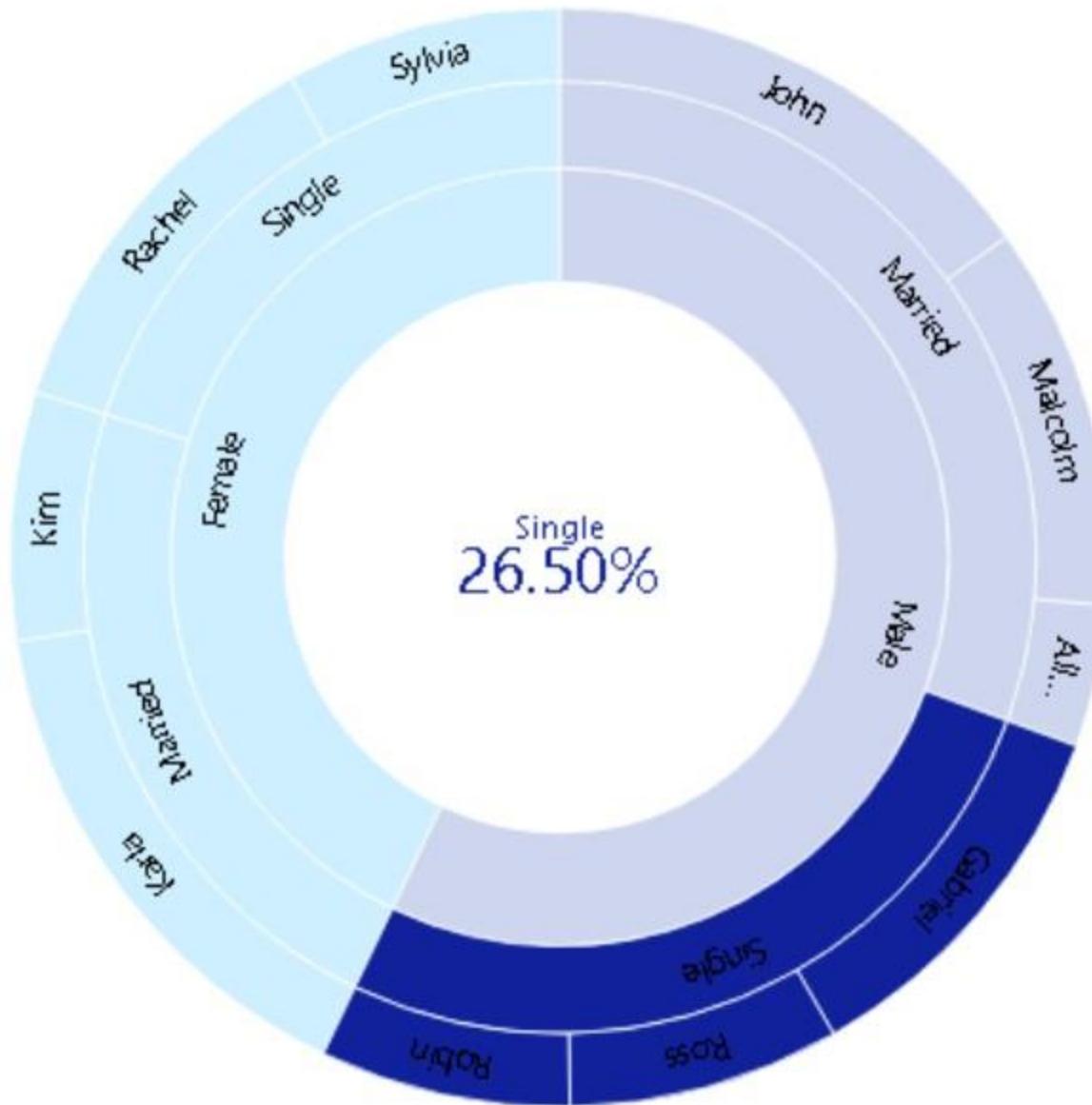
Customer	▼
CustomerH	> <input checked="" type="checkbox"/>
CustomerID	<input type="checkbox"/>
CustomerName	<input type="checkbox"/>
CustomerNam...	<input type="checkbox"/>
Gender	<input type="checkbox"/>
Maritalstatus	<input type="checkbox"/>
Sum PhoneNo	<input type="checkbox"/>
Selected Gender	<input type="checkbox"/>
SalesInfo	▼
Sum Age	<input type="checkbox"/>
CustomerID	<input type="checkbox"/>
Sum SalesAmount	<input type="checkbox"/>
TerritoryKey	<input type="checkbox"/>
TotalSales	<input checked="" type="checkbox"/>

[Back to report](#)

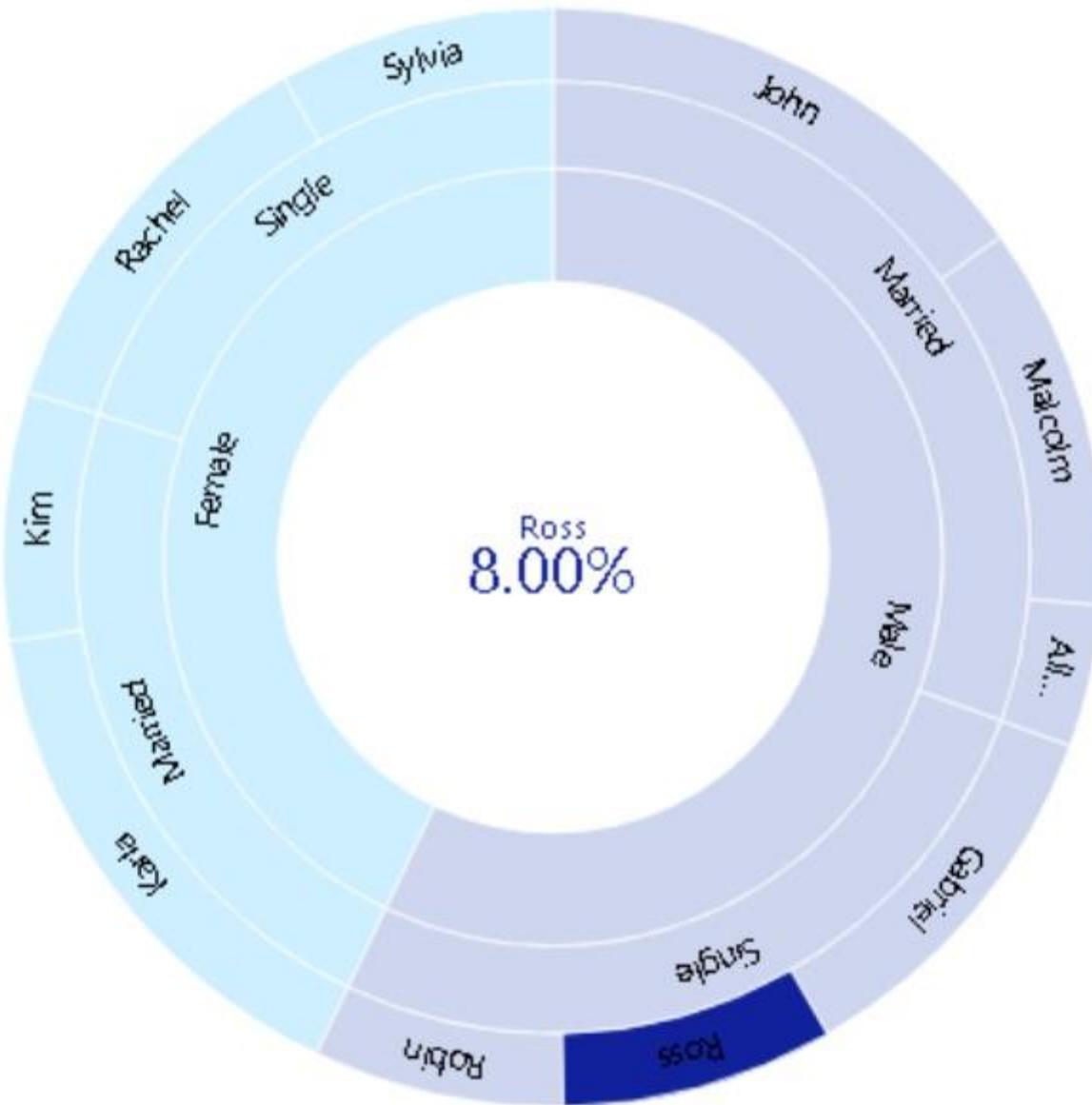
report.

TOTALSALES

BY GENDER, MARITALSTATUS AND CUSTOMERNAME



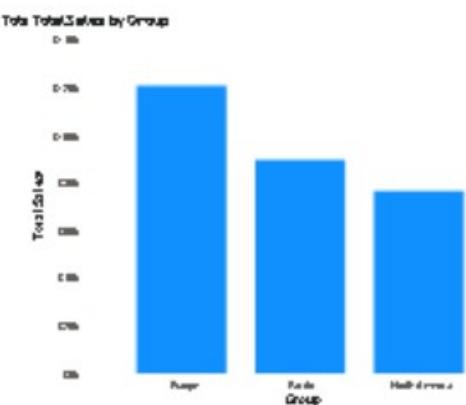
TOTALSALES BY GENDER, MARITALSTATUS AND CUSTOMERNAME



Sales By Country

Sales By Gender

Sales By Group



Bookmark 1 of 3

Sales By Country

< > X

Selection

Layer order



» X

Tab order



Show Hide

TotalSales by Group



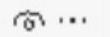
TotalSales by Gender



TotalSales by Country



Group 1



Bookmarks



Add



» X

Sales By Country

Sales By Gender

Sales By Group

Format

Search

Button General

Style

Action



Action

Type

Bookmark

Bookmark

Sales By Group

Destination

None

Web URL

fx

[Learn how to create and edit
bookmarks](#)



Insert Modeling



Get data



Excel

ainter

Options

GLOBAL

Data Load
Power Query Editor
DirectQuery
R scripting

Python scripting

Security

Privacy

Regional Settings

Updates

Usage Data

Diagnostics

Preview features

Auto recovery

Report settings

CURRENT FILE

Data Load

Regional Settings

Privacy

Auto recovery

e 1

Page 2

Page

Python script options

To choose a home directory for Python, select a detected Python installation from the drop-down list, or select Other and browse to the location you want.

Detected Python home directories:

Other

Set a Python home directory:

[How to install Python](#)

To choose which Python integrated development environment (IDE) you want Power BI Desktop to launch, select a detected IDE from the drop-down list, or select Other to browse to another IDE on your machine.

Detected Python IDEs:

Default OS program for .PY files

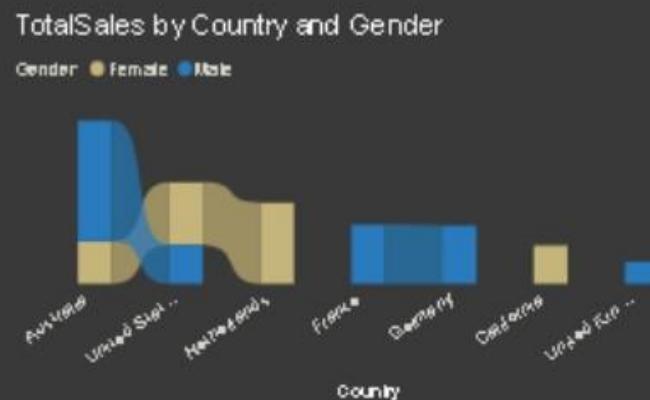
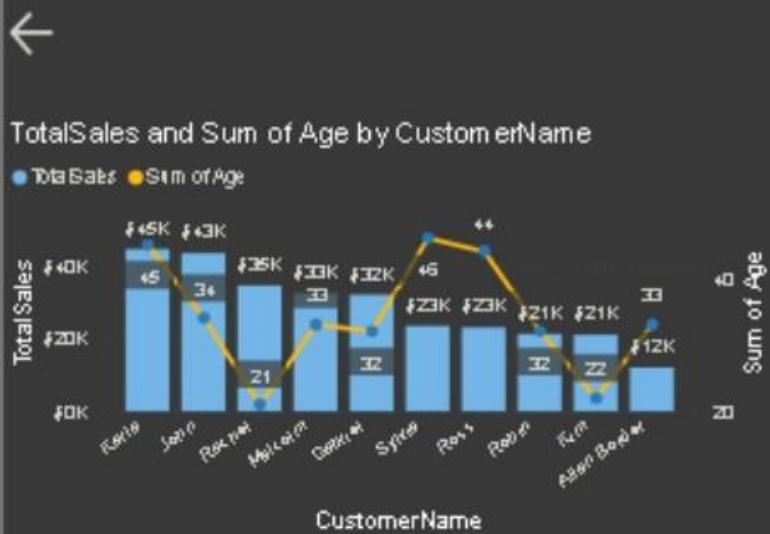
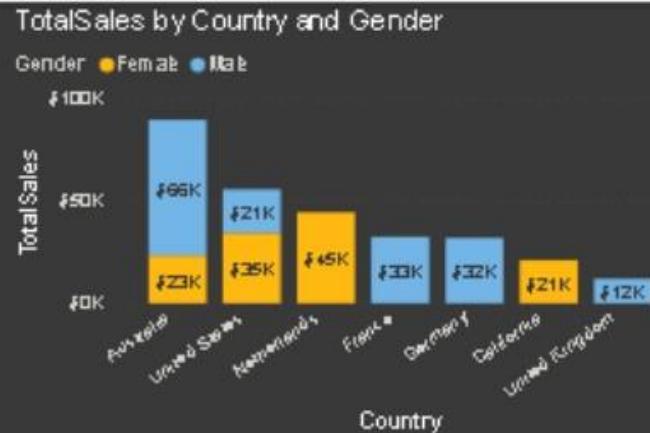
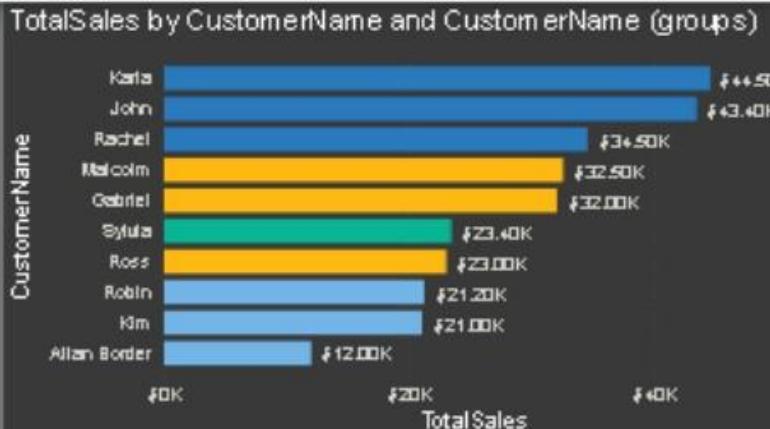
[Learn more about Python IDEs](#)

[Change temporary storage location](#)

Note: Sometimes, Python custom visuals automatically install additional packages. For those to work, the temporary storage folder name must be written in Latin characters (letters in the English alphabet).

57%

Update a



Visualizations

Build visual



Values

Add data fields here

Drill through

```
 X  ✓ J1 CustomTable =  
J2 DATESBETWEEN(FiscalCalendar[Date], "1-1-2023", "5-1-2023")
```

✓ CustomTable

✓ Date

✓ Date Hierarchy ...

Year

Quarter

Month

Day

✓ Date

✓ Date

✓ Date Hierarchy

Year

Quarter

Month

Data

Date

Date
4/1/2023 12:00:00 AM
4/2/2023 12:00:00 AM
4/3/2023 12:00:00 AM
4/4/2023 12:00:00 AM
4/5/2023 12:00:00 AM
4/6/2023 12:00:00 AM
4/7/2023 12:00:00 AM
4/8/2023 12:00:00 AM
4/9/2023 12:00:00 AM
4/10/2023 12:00:00 AM
4/11/2023 12:00:00 AM
4/12/2023 12:00:00 AM
4/13/2023 12:00:00 AM
4/14/2023 12:00:00 AM
4/15/2023 12:00:00 AM

Fields

Search

- > Customer
- > Customer (2)
- > CustomTable
- > Date
- > Drilling_Dataset
- ✓ FiscalCalendar
- > Date
- > DateRange
- > SalesInfo1
- > Sheet1
- > Table1
- > Territory

Day 13 – PowerBI Hands-on and Python

- ▶ Sales Performance Analysis with Power BI Case Scenario
- ▶ Creating data sources, including customer, product, store and sales transactions
- ▶ Loading the data from SQL server to PowerBI
- ▶ Applying data transformations
- ▶ Merging all the tables using common fields in the Transactions table
- ▶ Cleaning the data and creating a new calculated column
- ▶ Filtering data based on some conditions
- ▶ Modelling data by creating relationships and hierarchies
- ▶ Defining types of relationships and date format/hierarchy

Day 13 continued...

- ▶ Using power query editor and visuals to respond to business queries and requirements
- ▶ Identifying patterns and trends in data
- ▶ Generating insights based on the analysis
- ▶ Creating dashboards to report findings
- ▶ Python Introduction
- ▶ Implementing a Sales Management System case scenario using Python

Fields

»

🔍 Search

⌄ 📄 Customers

- \sum CustomerID
- CustomerName
- Email
- Phone

⌄ 📄 Products

- Category
- Price
- ProductID
- ProductName

⌄ 📄 SalesTransactions

- ProductID
- \sum QuantitySold
- \sum Revenue
- StoreID

File Edit View Query Project Debug Tools Window Help



Object Explorer

Connect

- EC2AMAZ-OIIIOOMA\SQLEXPRESS (SQL Server)
 - Databases
 - System Databases
 - master
 - model
 - msdb
 - tempdb
 - ReportServer\$SQLEXPRESS
 - ReportServer\$SQLEXPRESSTemp
 - SQLServer
 - Security
 - Server Objects
 - Replication
 - Management

SQLQuery1.sql - EC2AMAZ-OIIIOOMA\SQLEXPRESS.SQLServer (EC2AMAZ-OIIIOOMA\Administrator (52))

```
-- Create the Sales Transactions Data table
CREATE TABLE SalesTransactions (
    TransactionID INT PRIMARY KEY,
    ProductID INT,
    StoreID INT,
    TransactionDate DATE,
    QuantitySold INT,
    Revenue DECIMAL(10, 2)
);

-- Insert sample data into Sales Transactions Data
INSERT INTO SalesTransactions (TransactionID, ProductID, StoreID, TransactionDate, QuantitySold, Revenue)
VALUES
    (1, 101, 1, '2023-01-05', 50, 500.00),
    (2, 102, 2, '2023-01-10', 40, 600.00),
    (3, 103, 1, '2023-02-15', 30, 300.00),
    (4, 104, 3, '2023-03-20', 60, 900.00),
    (5, 101, 2, '2023-04-25', 70, 700.00),
    (6, 102, 3, '2023-05-30', 45, 675.00),
    (7, 105, 1, '2023-06-05', 55, 550.00)
```

100 %

Messages

(10 row(s) affected)

(7 row(s) affected)

(3 row(s) affected)

100 %

Query executed suc... | EC2AMAZ-OIIIOOMA\SQLEXPRESS... | EC2AMAZ-OIIIOOMA\Administr... | SQLServer | 00:00:00 | 0 rows

Properties

Current connection parameters



Aggregate Status

Connection failure
Elapsed time 00:00:00.197
Finish time 9/15/2023 9:30:43 AM
Name EC2AMAZ-OIIIOOMA
Rows returned 0
StartTime 9/15/2023 9:30:43 AM
State Open

Connection

Connection name EC2AMAZ-OIIIOOMA

Connection Details

Connection elapsi 00:00:00.197
Connection finish 9/15/2023 9:30:43 AM
Connection rows 0
Connection start 9/15/2023 9:30:43 AM
Connection state Open

Display name EC2AMAZ-OIIIOOMA

Login name EC2AMAZ-OIIIOOMA

Server name EC2AMAZ-OIIIOOMA

Serverversion 12.0.2000

Name

The name of the connection.

X ✓

Fields »

CustomerID	CustomerName	Email	Phone
101	Customer A	customerA@email.com	(123) 456-7890
102	Customer B	customerB@email.com	(234) 567-8901
103	Customer C	customerC@email.com	(345) 678-9012
104	Customer D	customerD@email.com	(456) 789-0123
105	Customer E	customerE@email.com	(567) 890-1234
106	Customer F	customerF@email.com	(678) 901-2345
107	Customer G	customerG@email.com	(789) 012-3456

Search

Customers

Products

SalesTransactions

Stores

Queries [7]

SalesTransactions
Products
Customers
Stores
SalesTransactions1
Products1
Stores1

= Table.NestedJoin(dbo_Products, {"ProductID"}, SalesTransactions, {"ProductID"},

tID	ProductName	Category	Price	SalesTransactions
1	101 Laptop XYZ	Electronics		800 Table
2	102 T-Shirt Blue	Clothing		15 Table
3	103 Smartphone ABC	Electronics		400 Table
4	104 Sofa Set	Furniture		1200 Table
5	105 Tablet PQR	Electronics		300 Table
6	106 Jeans Black	Clothing		40 Table
7	107 Chair	Furniture		80 Table

Query Settings X

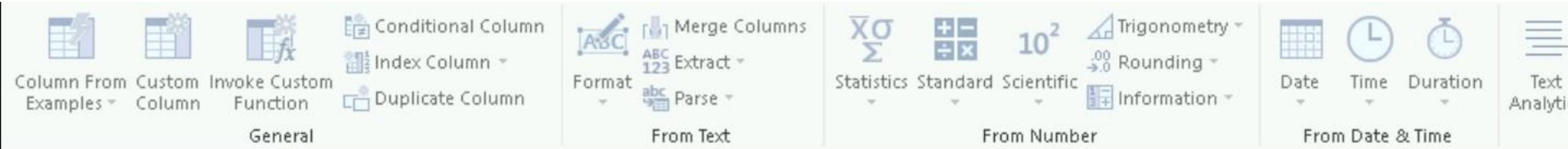
◀ PROPERTIES

Name
Products1

All Properties

◀ APPLIED STEPS

Source *
Navigation *
Merged Queries *
SalesTransactions2



Queries [7] < ?

Add Column From Examples

Enter sample values to create a new column (Ctrl+Enter to apply).

Transform: [ProductID]

OK Cancel

	TransactionID	ProductID	StoreID	CustomerID
1	1	101	1	101
2	2	102	2	102
3	3	103	1	103
4	4	104	3	104
5	5	101	2	101
6	6	102	3	102
7	7	105	1	105
8	8	106	2	106
9	9	107	3	107
10	10	105	1	105

Query Settings

```
= Table.AddColumn(#"Reordered Columns", "UnitPrice", each [Revenue]/[QuantitySold])
```

PROPERTIES

Name
SalesTransactions

[All Properties](#)

APPLIED STEPS

- Source
- Navigation
- Duplicated Column
- Reordered Columns
- Added Custom**

Table

	OrderID	TransactionDate	QuantitySold	Revenue	UnitPrice
1	101	1/5/2023	50	500	10
2	102	1/10/2023	40	600	15
3	103	2/15/2023	30	300	10
4	104	3/20/2023	60	900	15
5	101	4/25/2023	70	700	10
6	102	5/30/2023	45	675	15
7	105	6/5/2023	55	550	10
8	106	7/10/2023	38	570	15
9	107	8/15/2023	42	630	15
10	105	9/20/2023	68	680	10



Create relationship

Select tables and columns that are related.

Customers

CustomerID	CustomerName	Email	Phone
101	Customer A	customerA@email.com	(123) 456-7890
102	Customer B	customerB@email.com	(234) 567-8901
103	Customer C	customerC@email.com	(345) 678-9012

SalesTransactions

TransactionID	ProductID	StoreID	TransactionDate	QuantitySold	Revenue	CustomerID	⋮
1	101	1	Thursday, January 5, 2023	50	500	101	⋮
2	102	2	Tuesday, January 10, 2023	40	600	102	⋮
3	103	1	Wednesday, February 15, 2023	30	300	103	⋮

Cardinality

One to many (1:*)

Cross filter direction

Single

Make this relationship active

Apply security filter in both directions

Assume referential integrity

OK

Cancel

X
✓

TransactionID	ProductID	StoreID	TransactionDate	QuantitySold	Revenue	CustomerID	UnitPrice
1	101	1	January 5, 2023	50	500	101	10
2	102	2	January 10, 2023	40	600	102	15
3	103	1	February 15, 2023	30	300	103	10
4	104	3	March 20, 2023	60	900	104	15
5	101	2	April 25, 2023	70	700	101	10
6	102	3	May 30, 2023	45	675	102	15
7	105	1	June 5, 2023	55	550	105	10
8	106	2	July 10, 2023	38	570	106	15
9	107	3	August 15, 2023	42	630	107	15
10	105	1	September 20, 2023	68	680	105	10

Queries [11]

SalesTransactions

Products

Customers

Stores

SalesTransactions1

Products1

Stores1

Query1

Customers1

Merge1

Merge_C_ST

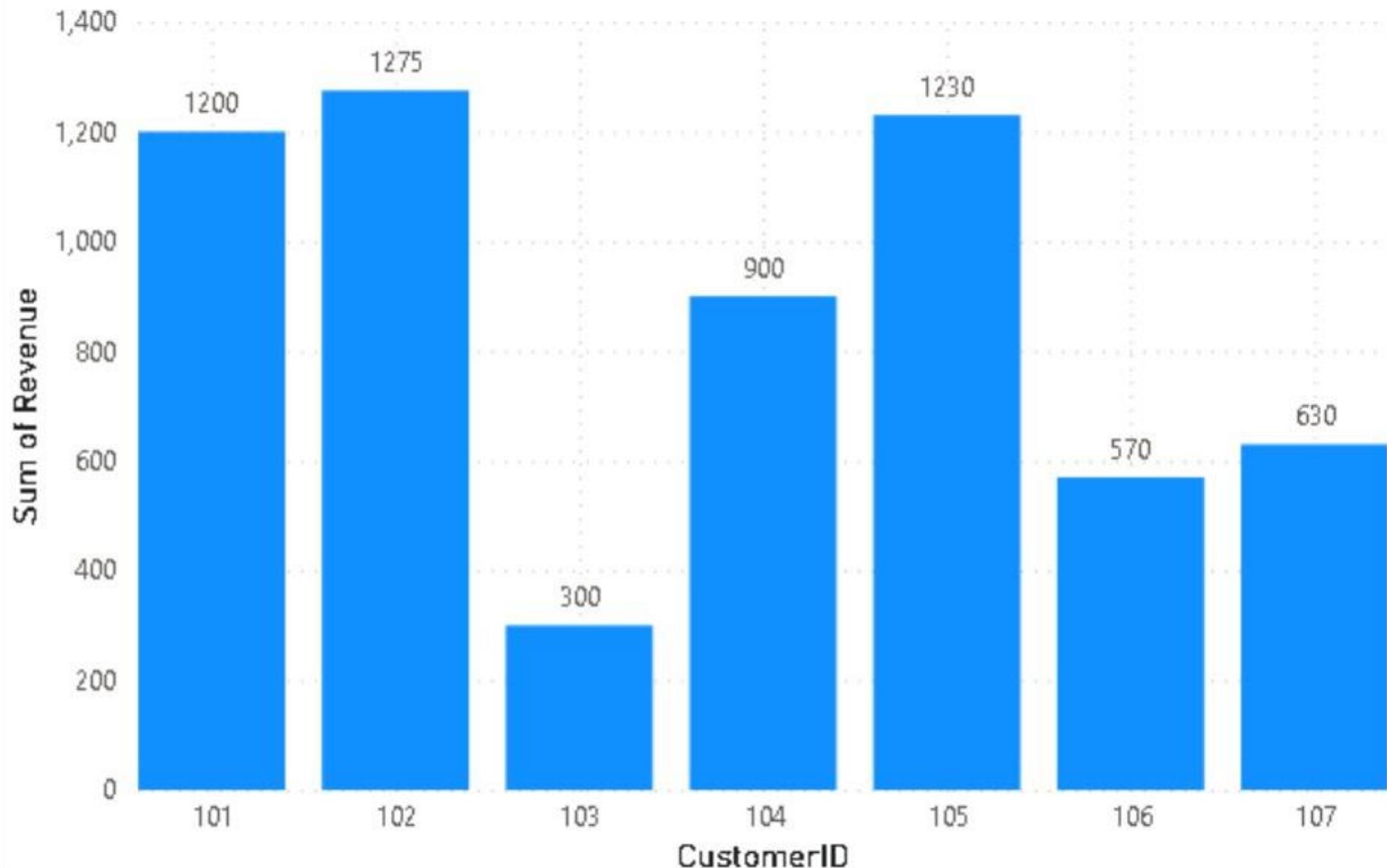


```
= Table.Sort(#"Aggregated SalesTransactions",{{"Sum of SalesTransactions.Revenue", Order.Descending}})
```

		CustomerName	Email	Phone	Sum of SalesTransactions.Revenue
1	102	Customer B	customerB@email.com	(234) 567-8901	1275
2	105	Customer E	customerE@email.com	(567) 890-1234	1230
3	101	Customer A	customerA@email.com	(123) 456-7890	1200
4	104	Customer D	customerD@email.com	(456) 789-0123	900
5	107	Customer G	customerG@email.com	(789) 012-3456	630
6	106	Customer F	customerF@email.com	(678) 901-2345	570
7	103	Customer C	customerC@email.com	(345) 678-9012	300

[Back to report](#)

SUM OF REVENUE BY CUSTOMERID



Filters

 Search

Filters on this visual

CustomerID
is (All)

Sum of Revenue
is (All)

Add data fields here

Filters on this page

Add data fields here

Filters on all pages

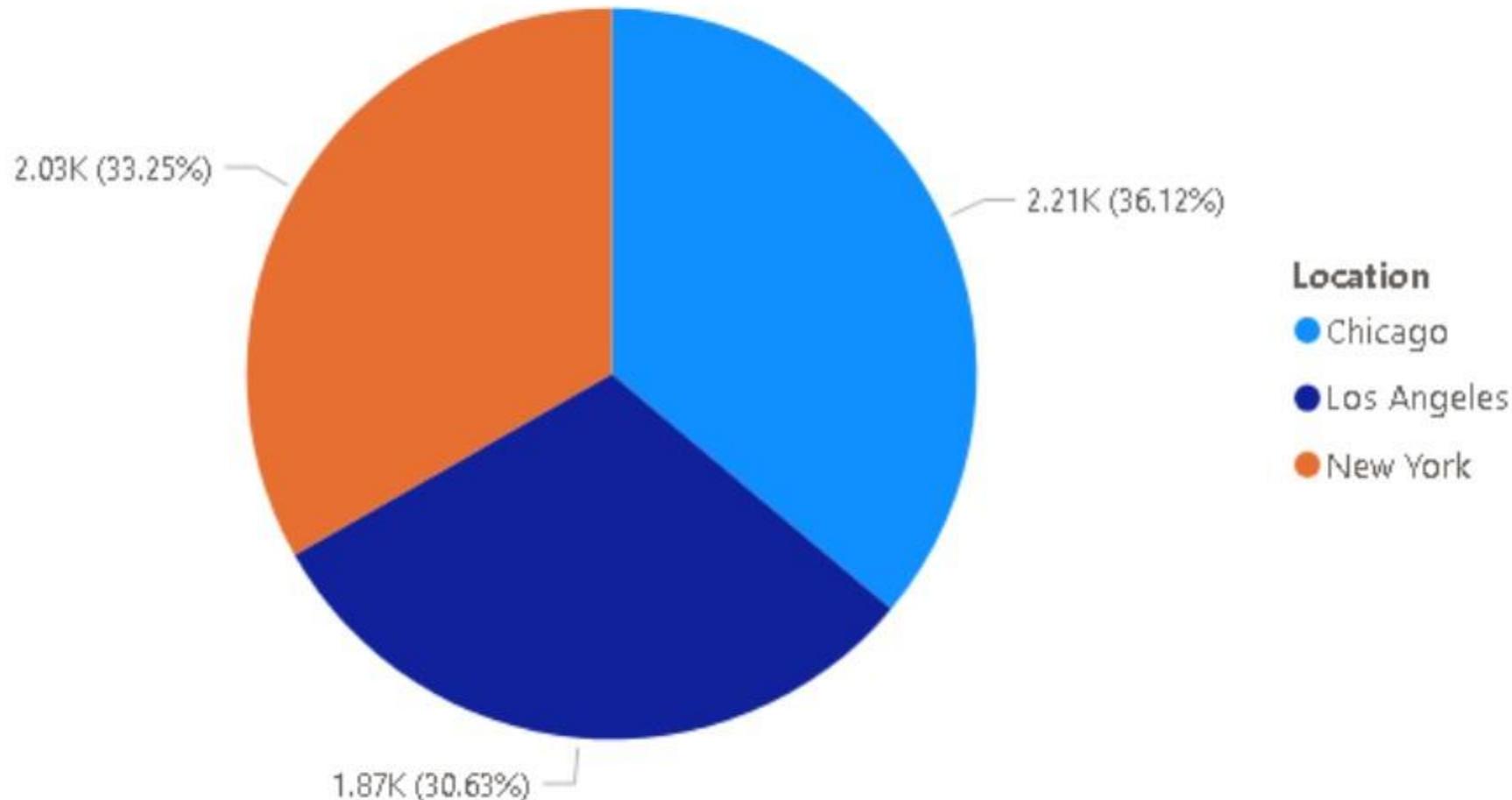
Add data fields here

[Back to report](#)

SUM OF REVENUE BY LOCATION

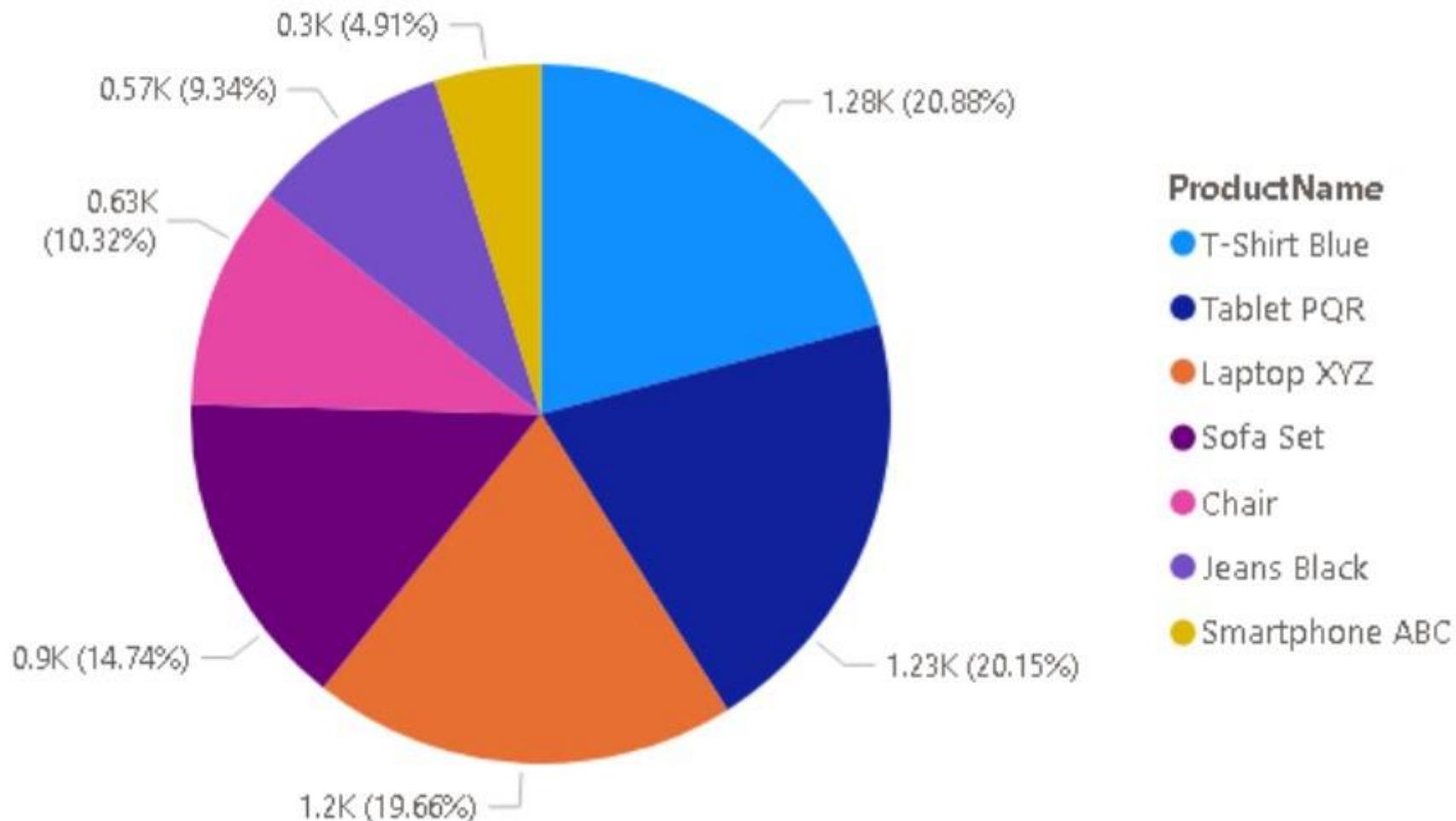


...



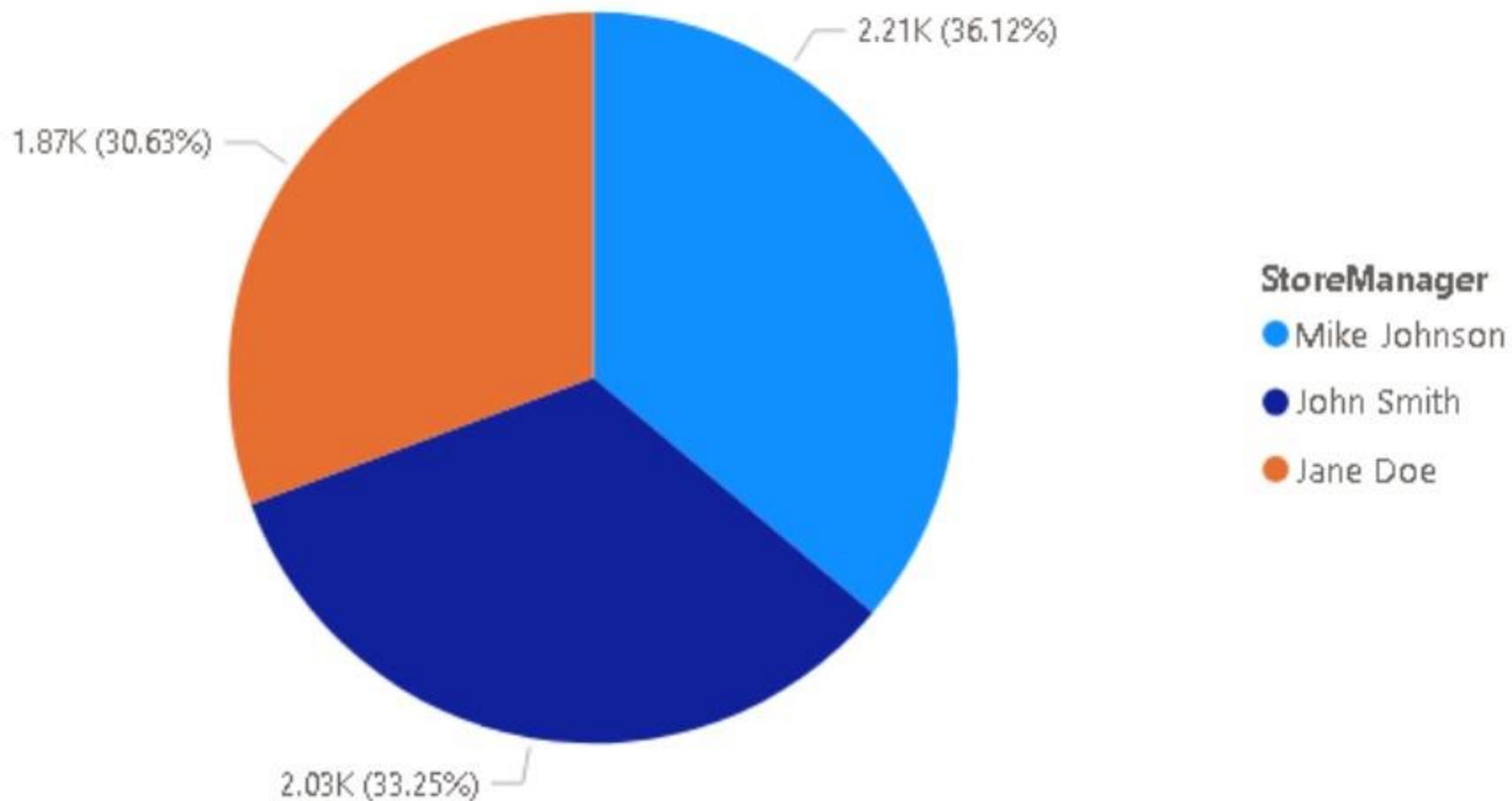
[Back to report](#)

SUM OF REVENUE BY PRODUCTNAME



[Back to report](#)

SUM OF REVENUE BY STOREMANAGER



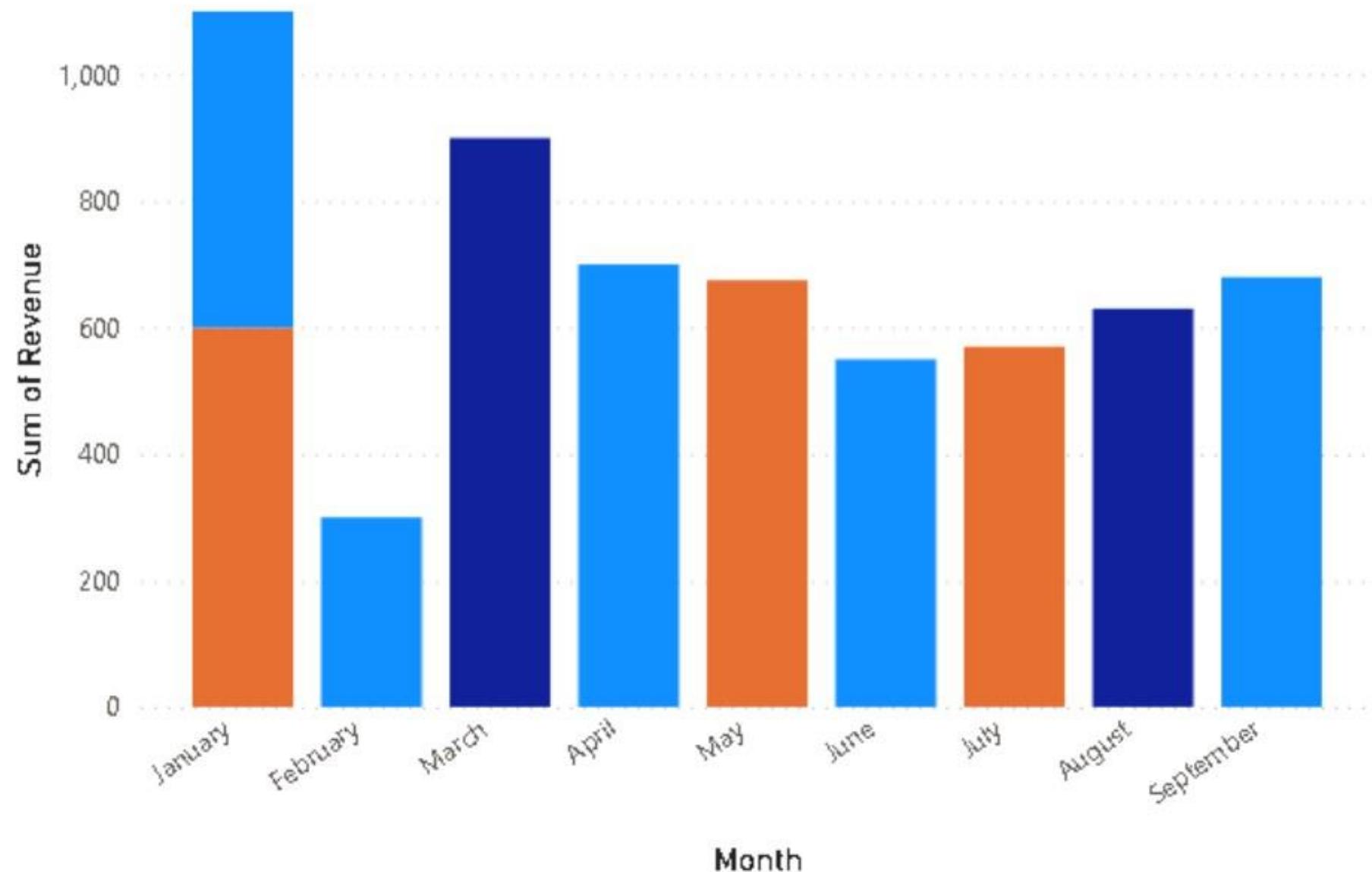


...

[Back to report](#)

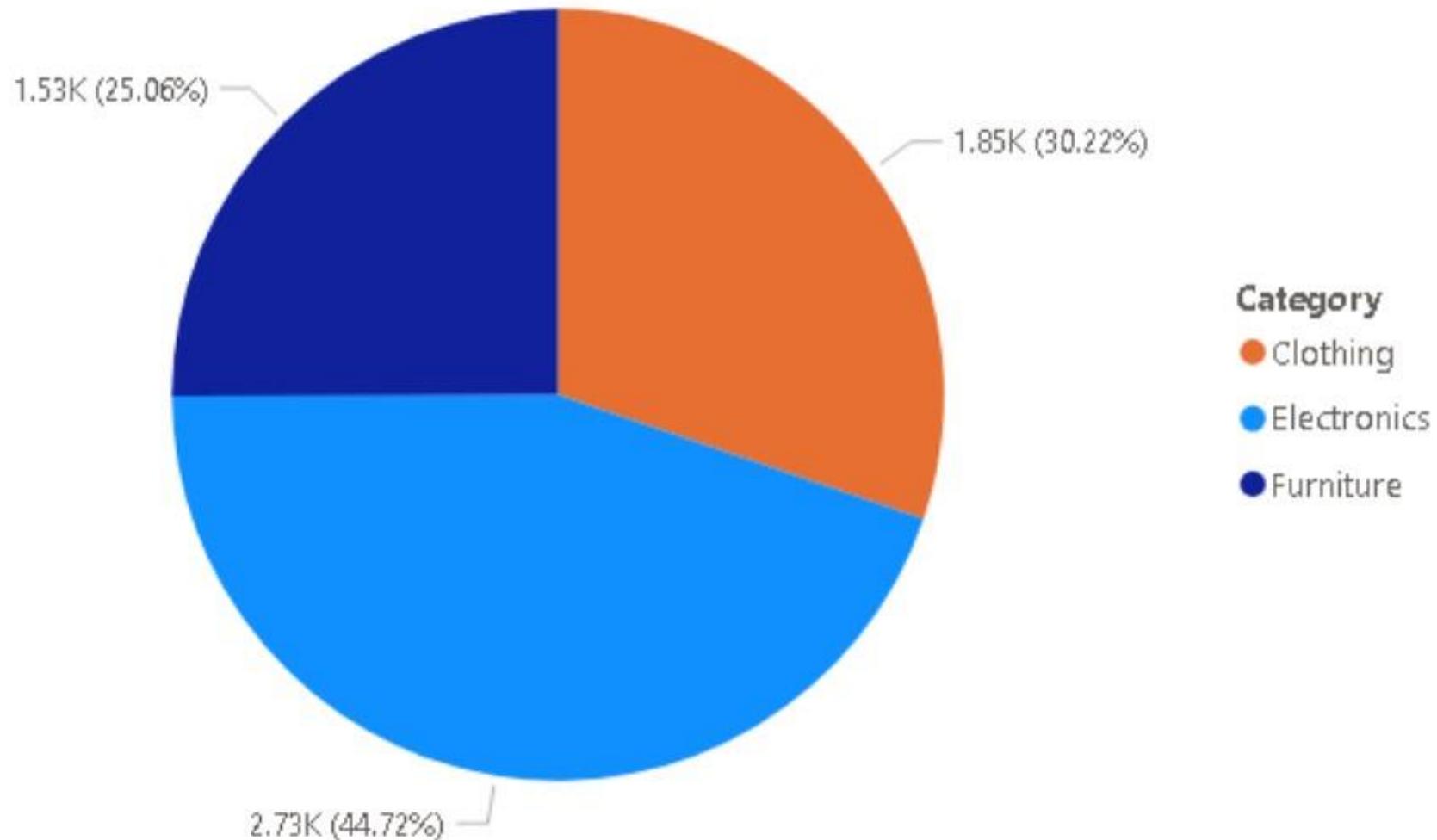
SUM OF REVENUE BY MONTH AND CATEGORY

Category ● Clothing ● Electronics ● Furniture



[Back to report](#)

SUM OF REVENUE BY CATEGORY



File Edit View Insert Cell Kernel Widgets Help

Trusted

Python 3 (ipykernel) 



In [1]: `print("Hello, World!")`

Hello, World!

In [2]: `#Using if statement to check condition
if 5 > 3:
#printing a message after checking condition
 print("Number 5 is greater than number 2.")
 print("Greater Smaller")`

Number 5 is greater than number 2.

In []: