POWER BI – CALL REST API

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Iuliana Tuhasu

- ✓ Senior Data Engineer 

- ✓ 8+ years of experience in the industry
- ✓ Founder at Softentity
- ✓ Passionate about Data ☺

Connect with me:

LinkedIn: https://www.linkedin.com/in/iulianatuhasu/

Email: tuhasu.Iuliana@gmail.com

Prerequisites

Python installation

- Version: Python 3.11.2

Python Lib installation

- Python -m pip install pandas
- Python -m pip install matplotlib
- Python -m pip install requests

Power BI Desktop

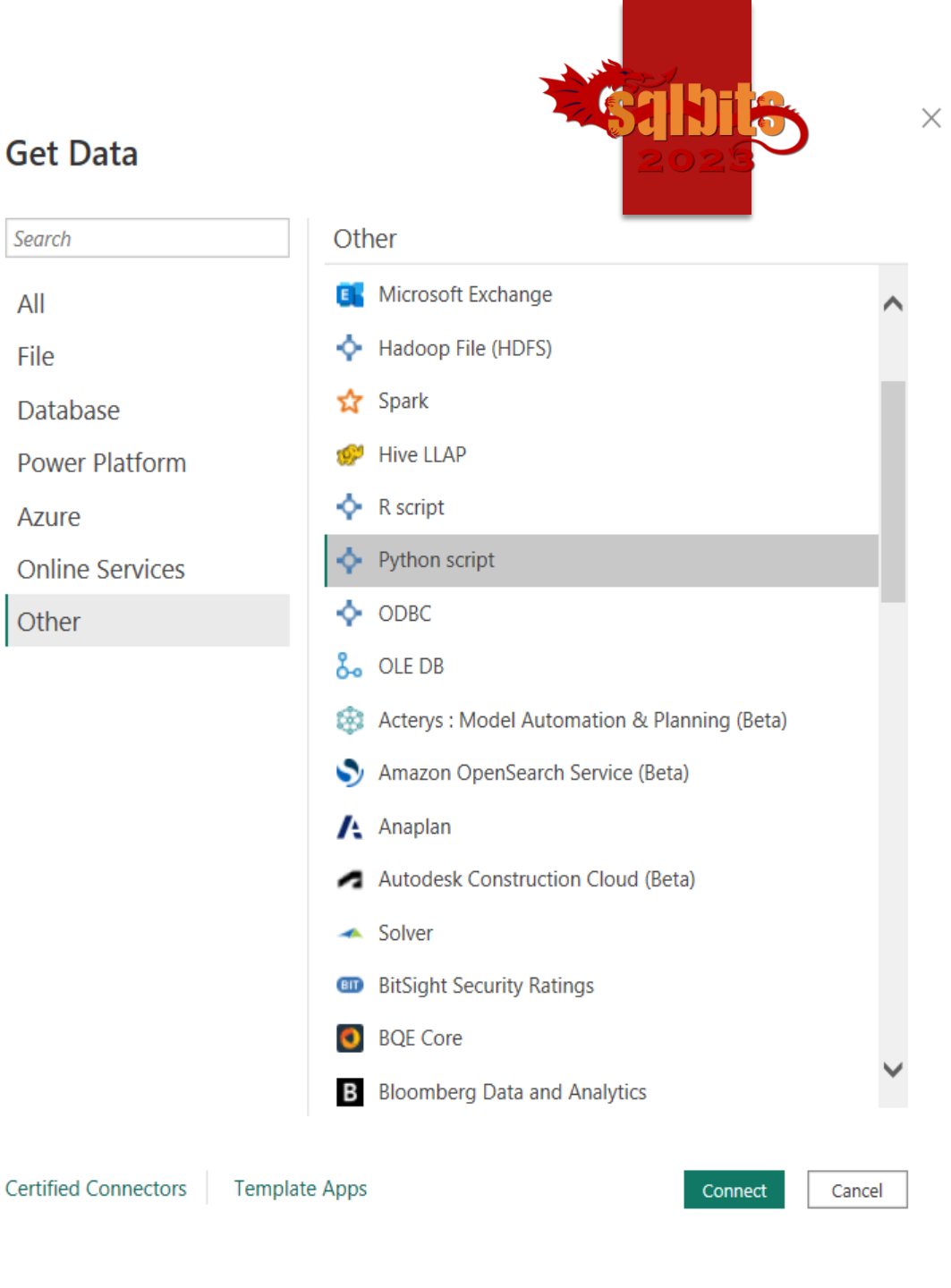
- Version: 2.112.1161.0 64-bit (December 2022)

Power BI Settings

- Ensure Power BI Desktop is configured accordingly to run python scripts (File -> Options and settings -> Options -> Python scripting

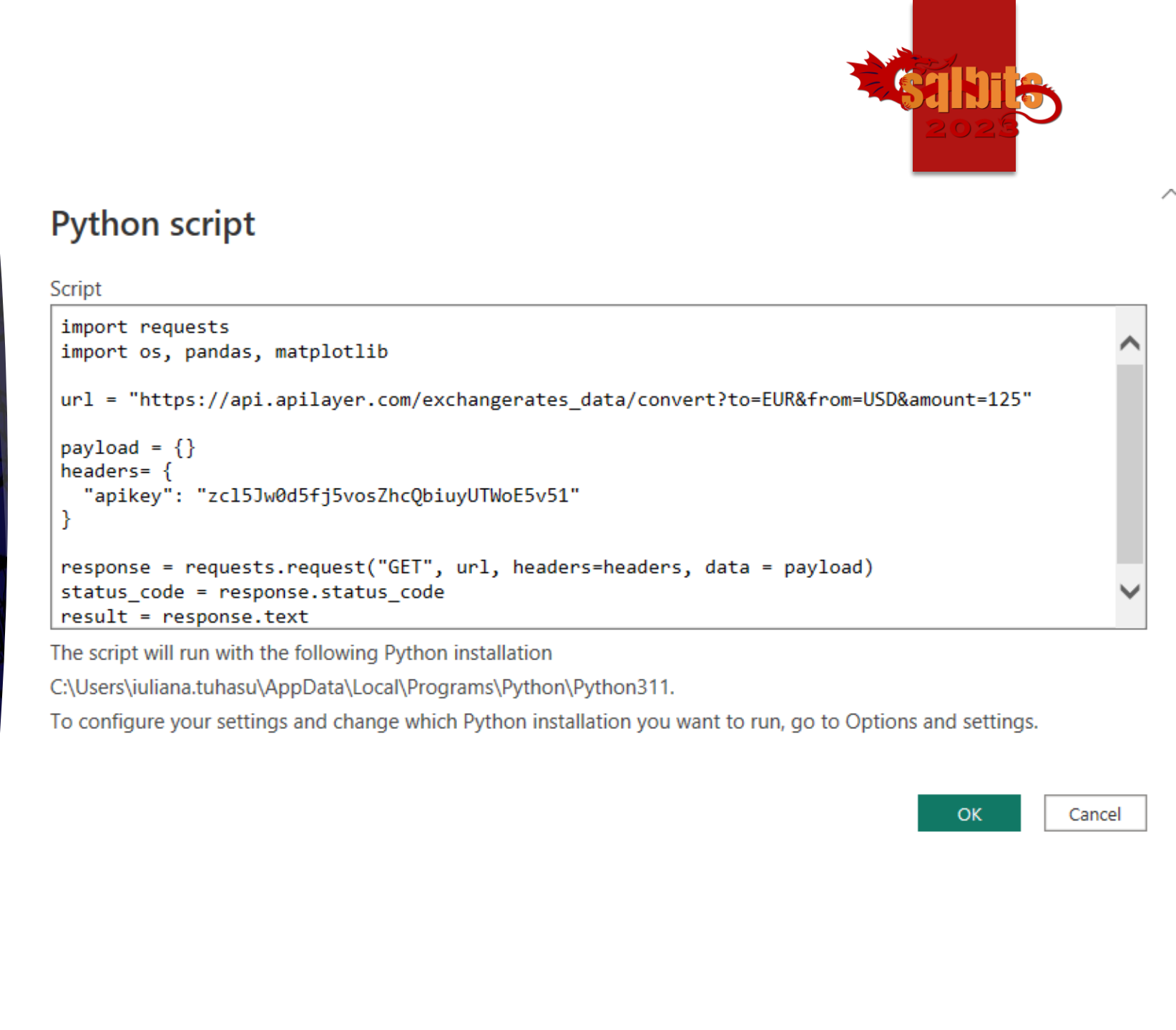
Call API using Python Script

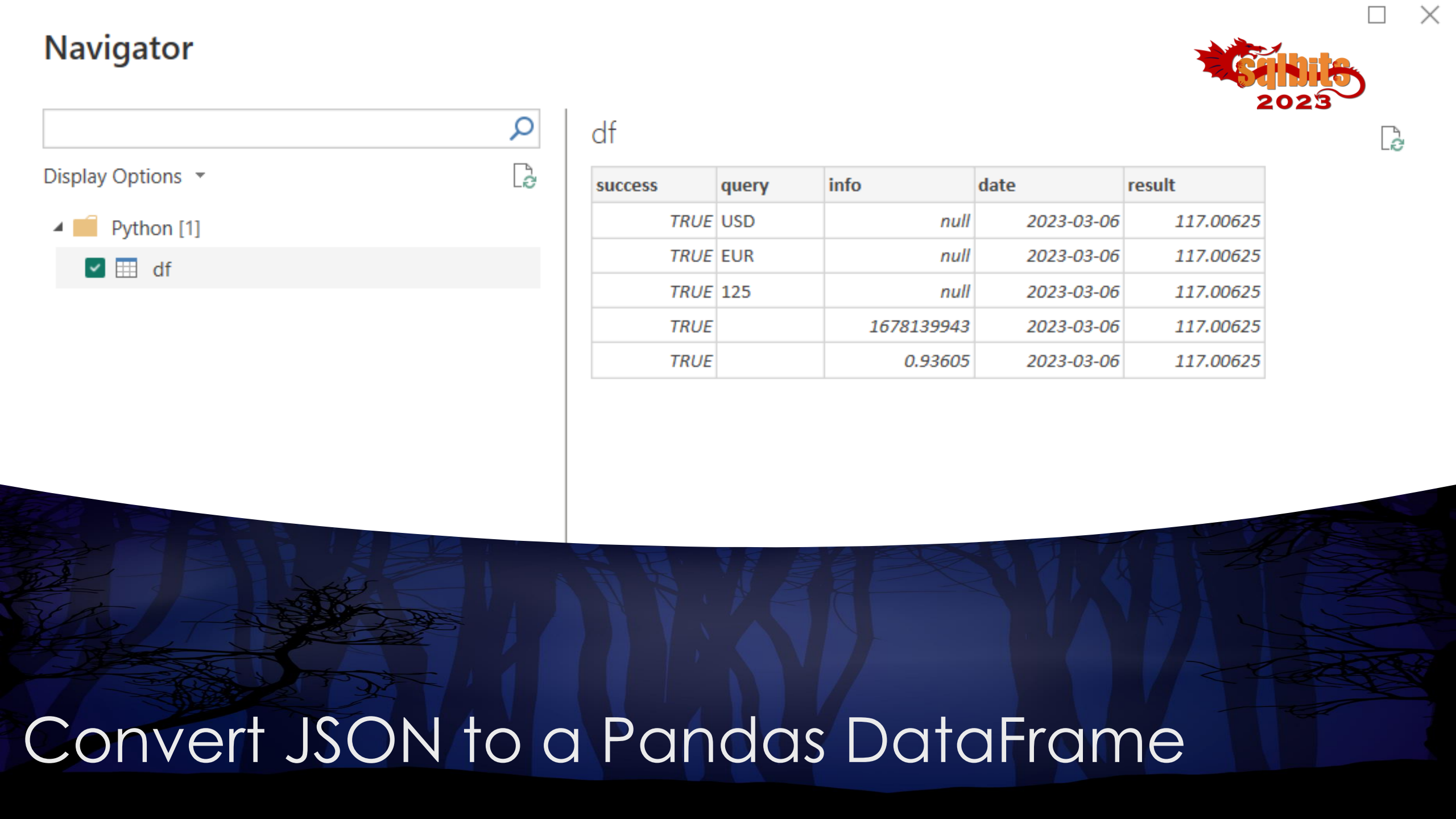
- For the purpose of this session, I used a currency conversion endpoint (https://apilayer.com)
- **Goal**: To display using a Table Visualization the following information:
  - Current currency
  - Conversion date
  - Value after conversion
  - Target currency
  - Sum of money to be exchanged
- Get Data -> Other -> Python script



Python script

```
import requests

import os, pandas as pd, matplotlib


url = "https://api.apilayer.com/exchangerates_data/convert?to=EUR&from=USD&amount=125"


payload = {}

headers= {

 "apikey": "zcl5Jw0d5fj5vosZhcQbiuyUTWoE5v51"

}


response = requests.request("GET", url, headers=headers, data = payload)


status_code = response.status_code

result = response.text

df = pd.read_json(result)
```




Navigator
Display Options
Python [1]
df
df
success
query
info
date
result
TRUE
USD
null
2023-03-06
117.00625
TRUE
EUR
null
2023-03-06
117.00625
TRUE
125
null
2023-03-06
117.00625
TRUE
1678139943
2023-03-06
117.00625
TRUE
0.93605
2023-03-06
117.00625
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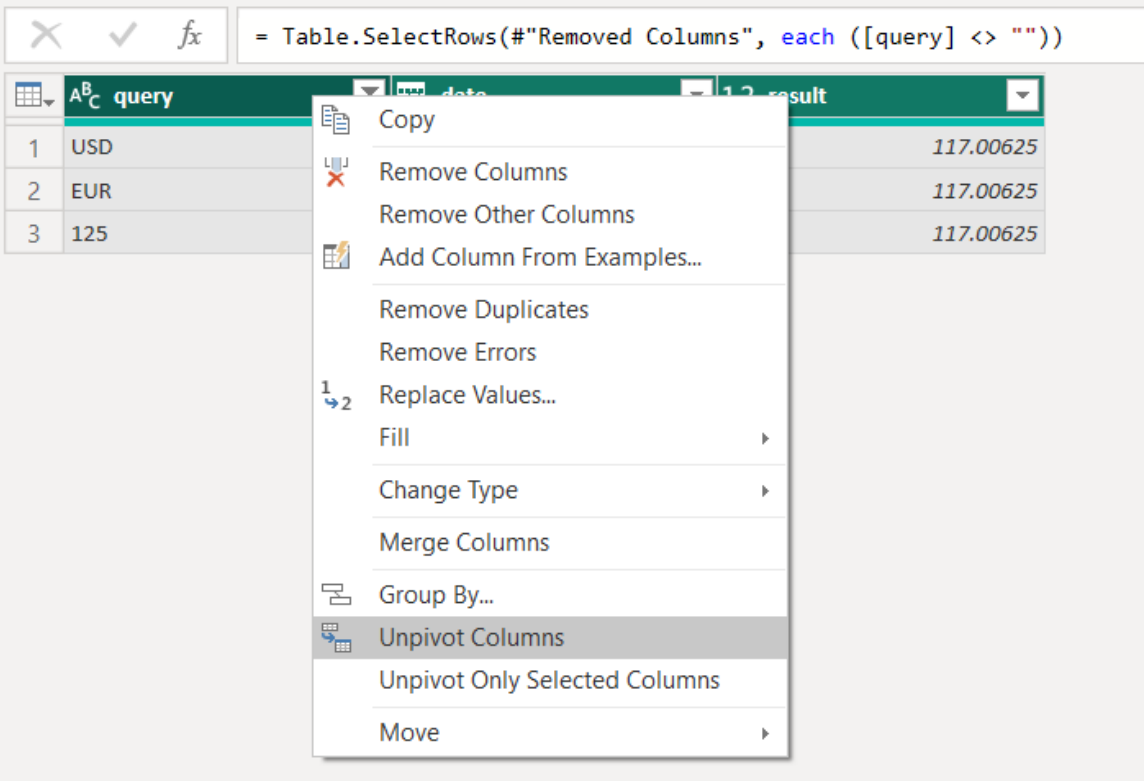
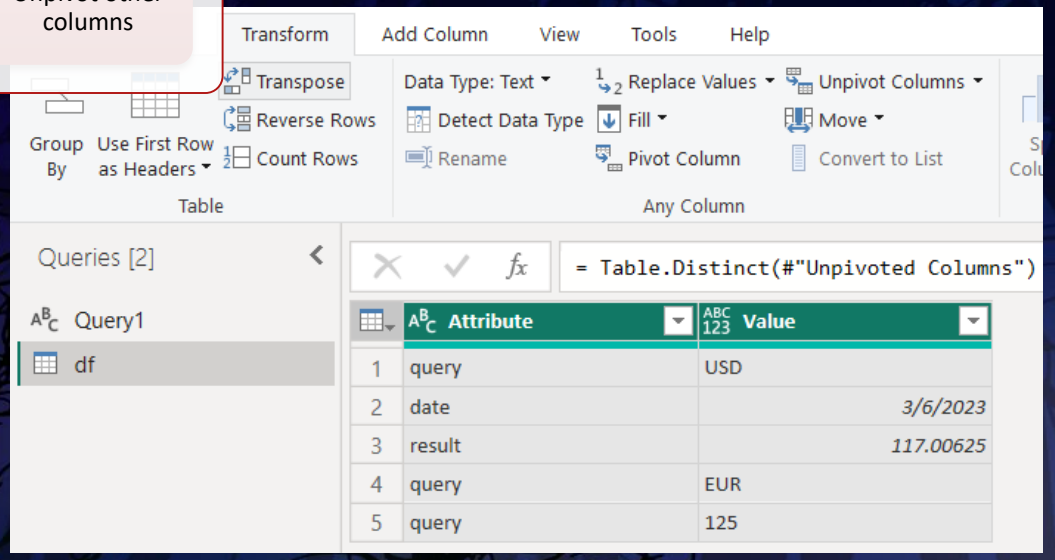
2023
Convert JSON to a Pandas DataFrame

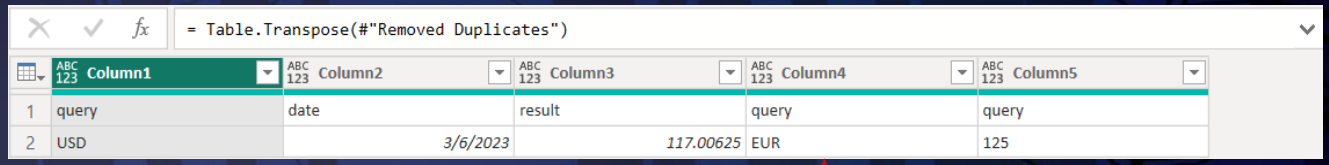
Edit DataFrame

- Right click on “success” and “info” columns -> Remove columns
- Right click on “query” column -> Filter by unchecking the empty values
- Select all three columns query, date and result -> Unpivot Columns



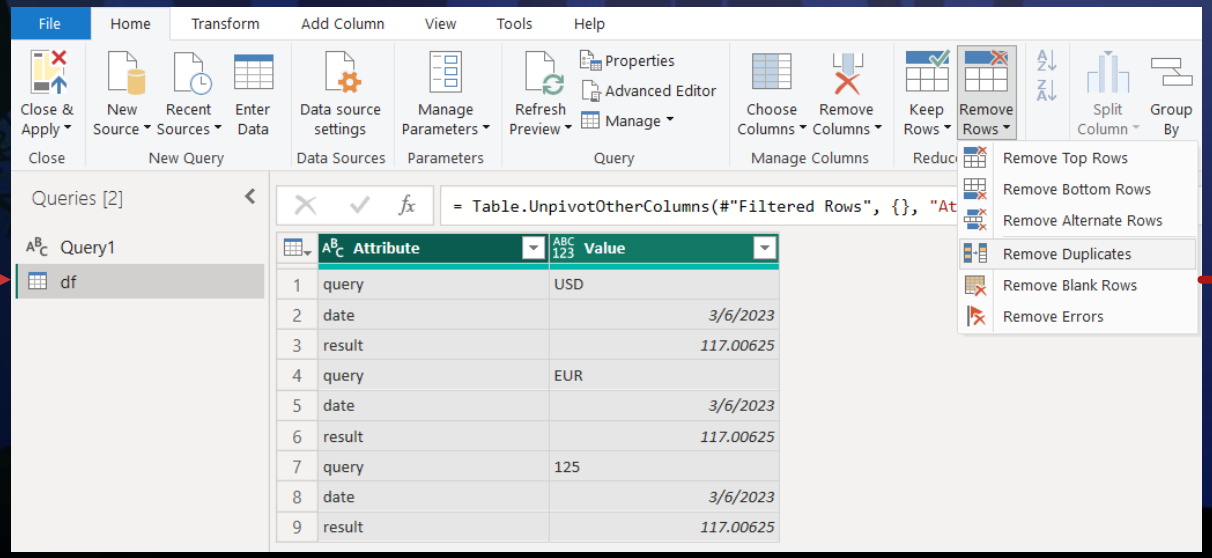
Unpivot other columns





Select Transpose (Transform tab)

Remove duplicates



1. Go to Column1 and filter out the “query” value

```
= Table.SelectRows(#"Transposed Table", each ([Column1] = "USD"))
```

	Column1	Column2	Column3	Column4	Column5
1	USD	3/6/2023	117.00625	EUR	125

2. Rename each column:

- Column1 -> Current currency
- Column2 -> Conversion date
- Column3 -> Value after conversion
- Column4 -> Target currency
- Column5 -> Sum of money to be exchanged

```
= Table.RenameColumns(#"Filtered Rows1",{{"Column1", "Current currency"}, {"Column2", "Conversion date"},
```

	Current currency	Conversion date	Value after conversion	Target currency	Sum of money to be exchanged
1	USD	2023-03-06	117.00625	EUR	125

Visualize data

- ✓ Choose a Table visualization and add all the columns

Conversion date	Current currency	Sum of money to be exchanged	Target currency	Value after conversion
2023-03-15	USD	125	EUR	118.41375

Q&A

- https://sqlb.it/?9899


Thank you!