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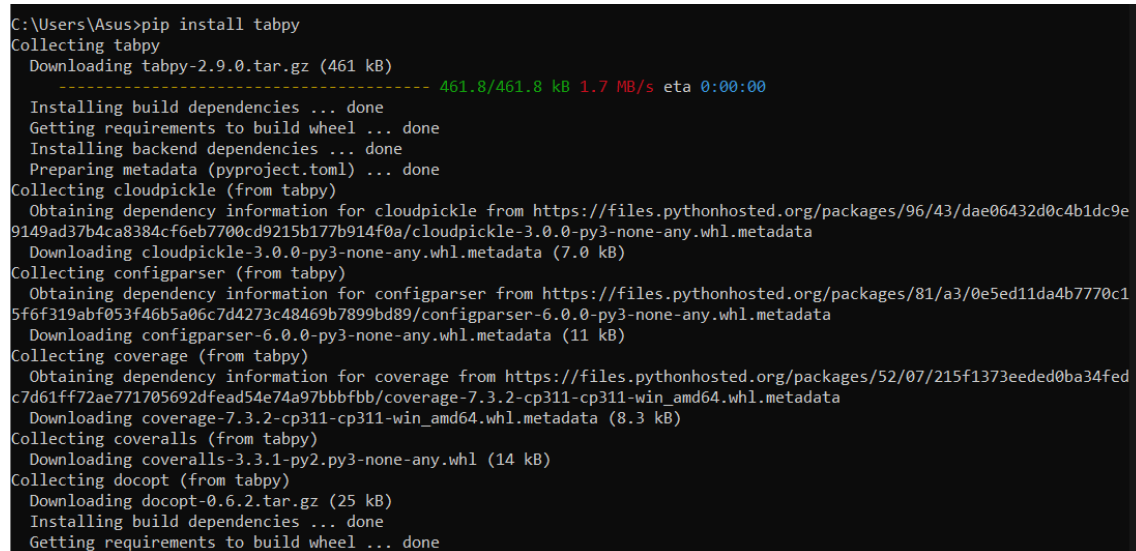
Kelas : II

Analisis dan Visualisasi Data (Teori)

Tugas Visualisasi Metode Klasifikasi dan Clustering

Pelajari materi pada Chapter 7 tentang membuat perhitungan di Tableau dengan skrip Python untuk perhitungan coefficient correlation antara Profit and Sales (Alexander Loth, 2019, Visual Analytics with Tableau®, John Wiley & Sons).

1. Melakukan instalasi tabpy di command prompt



```
C:\Users\Asus>pip install tabpy
Collecting tabpy
  Downloading tabpy-2.9.0.tar.gz (461 kB)
    ----- 461.8/461.8 kB 1.7 MB/s eta 0:00:00
  Installing build dependencies ... done
  Getting requirements to build wheel ... done
  Installing backend dependencies ... done
  Preparing metadata (pyproject.toml) ... done
Collecting cloudpickle (from tabpy)
  Obtaining dependency information for cloudpickle from https://files.pythonhosted.org/packages/96/43/dae06432d0c4b1dc9e9149ad37b4ca8384cf6eb7700cd9215b177b914f0a/cloudpickle-3.0.0-py3-none-any.whl.metadata
  Downloading cloudpickle-3.0.0-py3-none-any.whl.metadata (7.0 kB)
Collecting configparser (from tabpy)
  Obtaining dependency information for configparser from https://files.pythonhosted.org/packages/81/a3/0e5ed11da4b7770c15f6f319abf053f46b5a06c7d4273c48469b7899bd89/configparser-6.0.0-py3-none-any.whl.metadata
  Downloading configparser-6.0.0-py3-none-any.whl.metadata (11 kB)
Collecting coverage (from tabpy)
  Obtaining dependency information for coverage from https://files.pythonhosted.org/packages/52/07/215f1373eeded0ba34fedc7d61ff72ae771705692dfead54e74a97bbbfb/coverage-7.3.2-cp311-cp311-win_amd64.whl.metadata
  Downloading coverage-7.3.2-cp311-cp311-win_amd64.whl.metadata (8.3 kB)
Collecting coveralls (from tabpy)
  Downloading coveralls-3.3.1-py2.py3-none-any.whl (14 kB)
Collecting docopt (from tabpy)
  Downloading docopt-0.6.2.tar.gz (25 kB)
  Installing build dependencies ... done
  Getting requirements to build wheel ... done
```

Keterangan :

Hasil dari menjalankan command `pip install tabpy` terlihat seperti gambar karena sebelumnya sudah pernah dilakukan instalasi dan menunjukkan bahwa tabpy sudah ada di dalam sistem.

2. Melihat instalasi tabpy sudah berhasil



Keterangan :

Dengan menjalankan perintah `pip list`, kita dapat melihat dokumen-dokumen yang sudah pernah terpasang, terlihat pada gambar bahwa tabpy yang sudah terpasang adalah versi 2.9.0

3. Menjalankan tabpy

```
C:\Users\Asus>tabpy
2023-11-04,01:21:24 [INFO] (app.py:app:300): Parsing config file C:\Users\Asus\AppData\Local\Programs\Python\Python311\Lib\site-packages\tabpy\tabpy_server\app\...\common\default.conf
2023-11-04,01:21:24 [INFO] (app.py:app:363): Setting max request size to 104857600 bytes
2023-11-04,01:21:24 [INFO] (app.py:app:527): Loading state from state file C:\Users\Asus\AppData\Local\Programs\Python\Python311\Lib\site-packages\tabpy\tabpy_server\state.ini

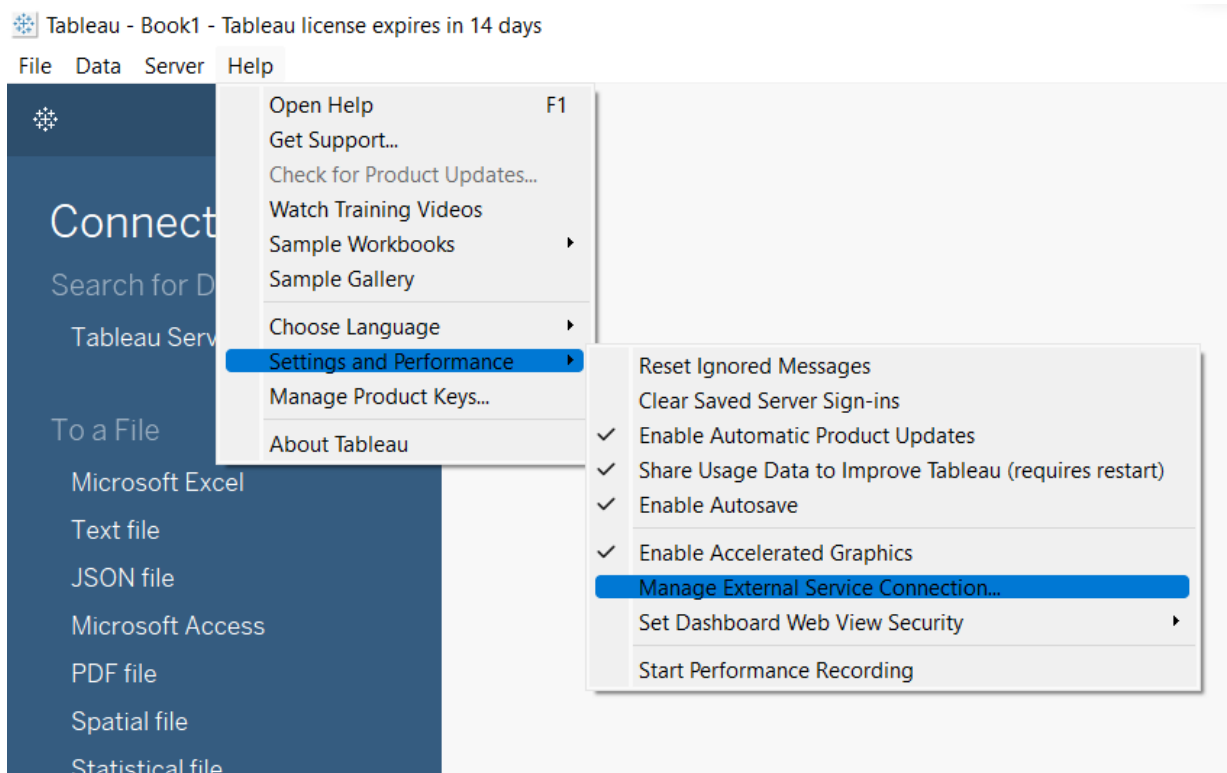
WARNING: This TabPy server is not currently configured for username/password authentication. This means that, because the TABPY_EVALUATE_ENABLE feature is enabled, there is the potential that unauthenticated individuals may be able to remotely execute code on this machine. We strongly advise against proceeding without authentication as it poses a significant security risk.

Do you wish to proceed without authentication? (y/N): y
2023-11-04,01:22:26 [INFO] (app.py:app:492): Password file is not specified: Authentication is not enabled
2023-11-04,01:22:26 [INFO] (app.py:app:411): Call context logging is disabled
2023-11-04,01:22:26 [INFO] (app.py:app:181): Initializing TabPy...
2023-11-04,01:22:26 [INFO] (callbacks.py:callbacks:43): Initializing TabPy Server...
2023-11-04,01:22:26 [INFO] (app.py:app:185): Done initializing TabPy.
2023-11-04,01:22:26 [INFO] (callbacks.py:callbacks:64): Initializing models...
2023-11-04,01:22:26 [INFO] (app.py:app:151): Web service listening on port 9004
```

Keterangan :

Untuk menjalankan tabpy, hanya perlu dilakukan perintah tabpy di dalam command prompt. Apabila hasil yang didapatkan sesuai gambar, maka tabpy sudah berjalan.

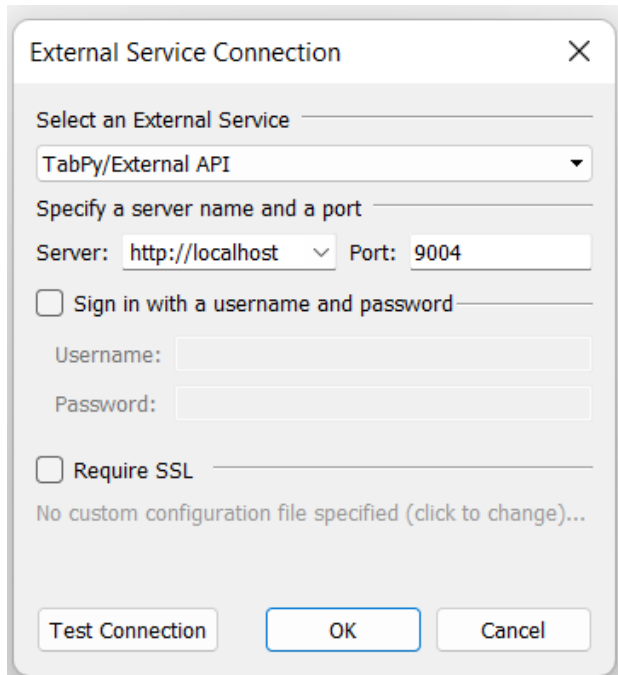
4. Mengintegrasikan tabpy



Keterangan :

Untuk mengintegrasikan tabpy, kita harus memilih settings and performance pada help yang ada di tableau, selanjutnya memilih Manage Analytics Extension Connection.

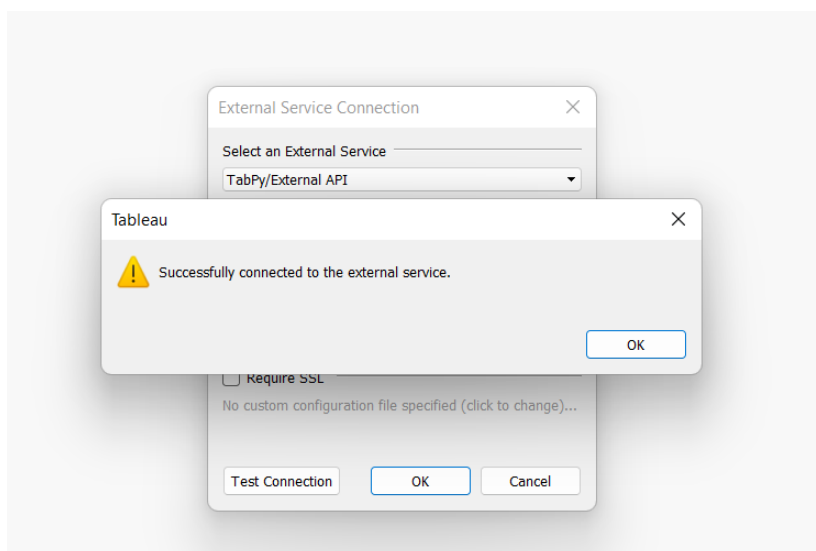
5. Memilih nama dan port yang akan digunakan untuk tabpy



Keterangan :

Setelah melakukan langkah sebelumnya, akan muncul popup yang meminta user untuk mengisi Hostname dan memilih Port yang sesuai. Berdasarkan buku referensi, user diminta untuk memberi nama localhost dan memilih port 9004.

6. Menguji koneksi



Keterangan :

Setelah semua kolom yang diperlukan terisi, dilakukan pengujian koneksi. Apabila hasil pengujian koneksi terlihat seperti gambar, maka koneksi sudah berhasil.

7. Memilih data yang akan digunakan

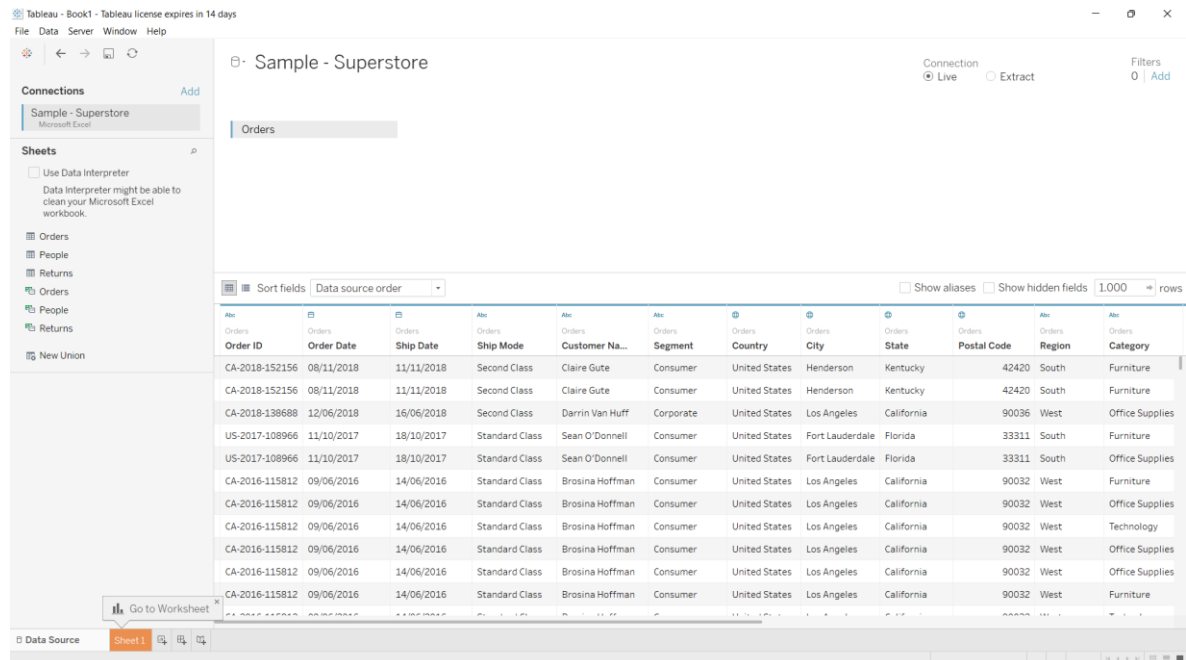


Tableau - Book1 - Tableau license expires in 14 days

File Data Server Window Help

Connections Add

Sample - Superstore
Microsoft Excel

Sheets

Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.

Orders
People
Returns
Orders
People
Returns
New Union

Sort fields Data source order

Show aliases Show hidden fields 1,000 rows

Order ID	Order Date	Ship Date	Ship Mode	Customer Name	Segment	Country	City	State	Postal Code	Region	Category
CA-2018-152156	08/11/2018	11/11/2018	Second Class	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	Furniture
CA-2018-152156	08/11/2018	11/11/2018	Second Class	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	Furniture
CA-2018-138688	12/06/2018	16/06/2018	Second Class	Darrin Van Huff	Corporate	United States	Los Angeles	California	90036	West	Office Supplies
US-2017-108966	11/10/2017	18/10/2017	Standard Class	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture
US-2017-108966	11/10/2017	18/10/2017	Standard Class	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	Office Supplies
CA-2016-115812	09/06/2016	14/06/2016	Standard Class	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	Furniture
CA-2016-115812	09/06/2016	14/06/2016	Standard Class	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
CA-2016-115812	09/06/2016	14/06/2016	Standard Class	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	Technology
CA-2016-115812	09/06/2016	14/06/2016	Standard Class	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
CA-2016-115812	09/06/2016	14/06/2016	Standard Class	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
CA-2016-115812	09/06/2016	14/06/2016	Standard Class	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	Furniture

Go to Worksheet

Data Source Sheet1

Keterangan :

Data yang dipilih, sesuai dengan referensi, adalah data yang telah disediakan oleh tableau, yaitu data Sample-Superstore.

8. Menghitung coefficient correlation

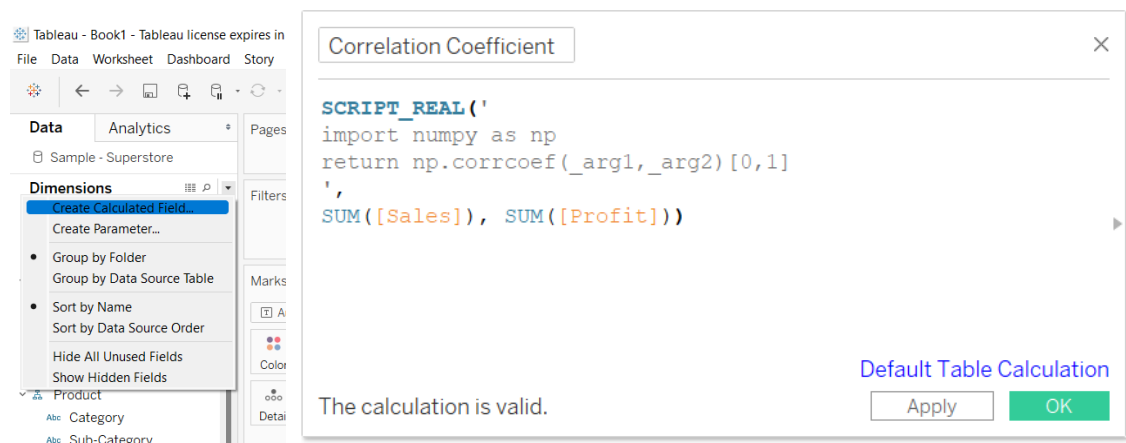


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File Data Worksheet Dashboard Story

Data Analytics Pages

Sample - Superstore

Dimensions

Create Calculated Field...

Create Parameter...

Group by Folder

Group by Data Source Table

Sort by Name

Sort by Data Source Order

Hide All Unused Fields

Show Hidden Fields

Product

Category

Sub-Category

Correlation Coefficient

```
SCRIPT_REAL('
import numpy as np
return np.corrcoef(_arg1,_arg2)[0,1]
',
SUM([Sales]), SUM([Profit]))
```

Default Table Calculation

The calculation is valid.

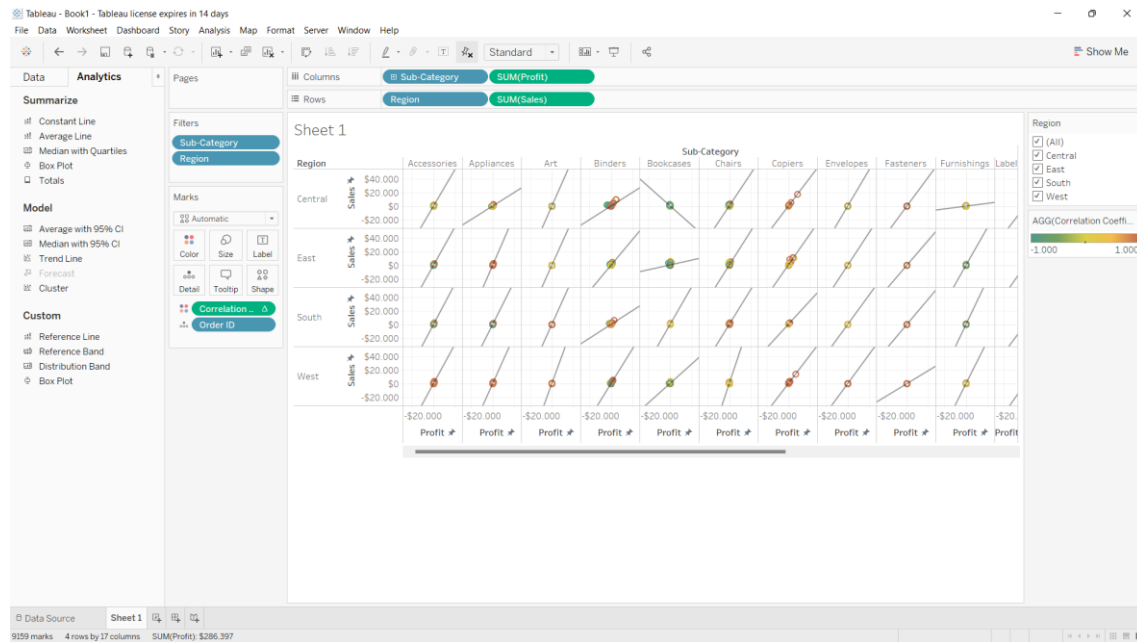
Apply OK

Keterangan :

Setelah melakukan pemilihan data, dilakukan penghitungan coefficient correlation.

Variabel Sales dan Profit dipilih untuk dihitung coefficient correlation.

9. Hasil



Keterangan :

Pada gambar, terlihat hasil dari pemilihan-pemilihan kolom dan variabel yang menunjukkan suatu diagram garis tren pembelian pembeli dan keuntungan yang didapatkan perusahaan.