

Part 2 : Installing and Configuring TabPy Server and Client

The primary objective of this section is to **Install and Configure TabPy** Server and Client. This module is required to deploy the predictive model to be used later by Tableau. It provides an REST api which can also be used outside of Tableau.

Official documentation for installing TabPy can be found [here](#).

The steps involved are as follows,

1. Create a conda virtual environment for TabPy

```
AJAYs-MacBook-Pro:~ ajayklyara$ conda create --name Tableau-Python-Server python=3.5 anaconda
Fetching package metadata .....
Solving package specifications: ..
Package plan for installation in environment /Users/ajayklyara/anaconda_py3/anaconda/envs/Tableau-Python-Server:

The following NEW packages will be INSTALLED:

  _license: 1.1-py35_1
  alabaster: 0.7.10-py35_0
  anaconda: 4.4.0-np112py35_0
  anaconda-client: 1.6.3-py35_0
  anaconda-navigator: 1.6.2-py35_0
  anaconda-project: 0.6.0-py35_0
  appnope: 0.1.0-py35_0
```

2. Activate the virtual environment

```
AJAYs-MacBook-Pro:~ ajayklyara$ source activate Tableau-Python-Server
(Tableau-Python-Server) AJAYs-MacBook-Pro:~ ajayklyara$
```

3. Install TabPy Server

```
(Tableau-Python-Server) AJAYs-MacBook-Pro:~ ajayklyara$ pip install tabpy-server
Collecting tabpy-server
  Downloading tabpy_server-0.2-py3-none-any.whl (44kB)
    100% |#####| 51kB 1.0MB/s
Collecting simplejson (from tabpy-server)
  Downloading simplejson-3.13.2-cp35m-macosx_10_11_x86_64.whl (69kB)
    100% |#####| 71kB 2.1MB/s
Requirement already satisfied: decorator in ./anaconda_py3/anaconda/envs/Tableau-Python-Server/lib/python3.5/site-packages (from tabpy-server)
Requirement already satisfied: numpy in ./anaconda_py3/anaconda/envs/Tableau-Python-Server/lib/python3.5/site-packages (from tabpy-server)
```

4. In the installation log the path to 'site-packages' can be found.

```
Collecting Tornado-JSON (from tabpy-server)
  Downloading Tornado_JSON-1.3.2-py3-none-any.whl
Requirement already satisfied: six>=1.5 in ./anaconda_py3/anaconda/envs/Tableau-Python-Server/lib/python3.5/site-packages (from python-dateutil->tabpy-server)
Building wheels for collected packages: futures, genson, future
  Running setup.py bdist_wheel for futures ... done
  Stored in directory: /Users/ajayklyara/Library/Caches/pip/wheels/ad/79/48/b32521764d59b16fd1bc0ffd5862f6d3bf770c7d73ea1fb12a
  Running setup.py bdist_wheel for genson ... done
  Stored in directory: /Users/ajayklyara/Library/Caches/pip/wheels/cf/1b/96/7b7cf6dacf8786020aabfc3cc0a600bebef2c38df2467c5e03
```

5. Now go into the site-package folder and followed by tabpy folder

```
(Tableau-Python-Server) AJAYs-MacBook-Pro:~ ajayklyara$ cd ./anaconda_py3/anaconda/envs/Tableau-Python-Server/lib/python3.5/site-packages
-bash: cd: ./anaconda_py3/anaconda/envs/Tableau-Python-Server/lib/python3.5/site-packages/tabpy_server: No such file or directory
(Tableau-Python-Server) AJAYs-MacBook-Pro:site-packages ajayklyara$ cd tabpy_server
(Tableau-Python-Server) AJAYs-MacBook-Pro:tabpy_server ajayklyara$ ls
__pycache__  management  startup.bat  startup.sh  static
common       psws       startup.py   state.ini.template  tabpy.py
```

6. Install TabPy client

```
AJAYs-MacBook-Pro:final_project ajayklyara$ pip install tabpy-client
Collecting tabpy-client
  Using cached tabpy_client-0.2-py3-none-any.whl
Requirement already satisfied: jsonschema in /Users/ajayklyara/anaconda_py3/anaconda/lib/python3.5/site-packages (from tabpy-client)
Requirement already satisfied: python-dateutil in /Users/ajayklyara/anaconda_py3/anaconda/lib/python3.5/site-packages (from tabpy-client)
Collecting genson (from tabpy-client)
Requirement already satisfied: cloudpickle in /Users/ajayklyara/anaconda_py3/anaconda/lib/python3.5/site-packages (from tabpy-client)
Requirement already satisfied: decorator in /Users/ajayklyara/anaconda_py3/anaconda/lib/python3.5/site-packages (from tabpy-client)
Requirement already satisfied: requests in /Users/ajayklyara/anaconda_py3/anaconda/lib/python3.5/site-packages (from tabpy-client)
Requirement already satisfied: six>=1.5 in /Users/ajayklyara/anaconda_py3/anaconda/lib/python3.5/site-packages (from python-dateutil->tabpy-client)
Installing collected packages: genson, tabpy-client
Successfully installed genson-0.2.3 tabpy-client-0.2
AJAYs-MacBook-Pro:final_project ajayklyara$
```

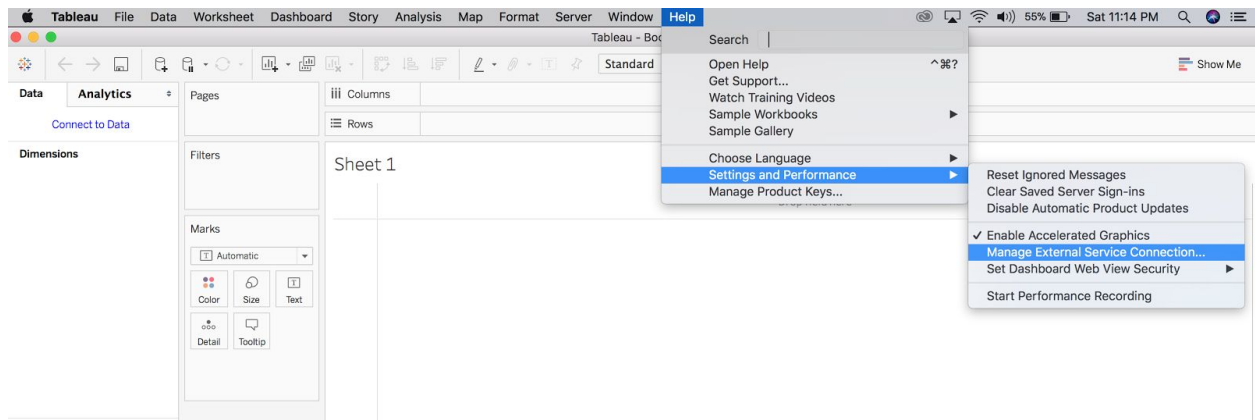
7. Now run shell script startup.sh to start the server

```
(Tableau-Python-Server) AJAYs-MacBook-Pro:tabpy_server ajayklyara$ sh startup.sh
Using initial state.ini
Initializing TabPy...
Done initializing TabPy.
Web service listening on port 9004
```

8. TabPy Server run on port 9004 and can be accessed through <http://localhost/9004>

Testing Tableau Connection with TabPy Server

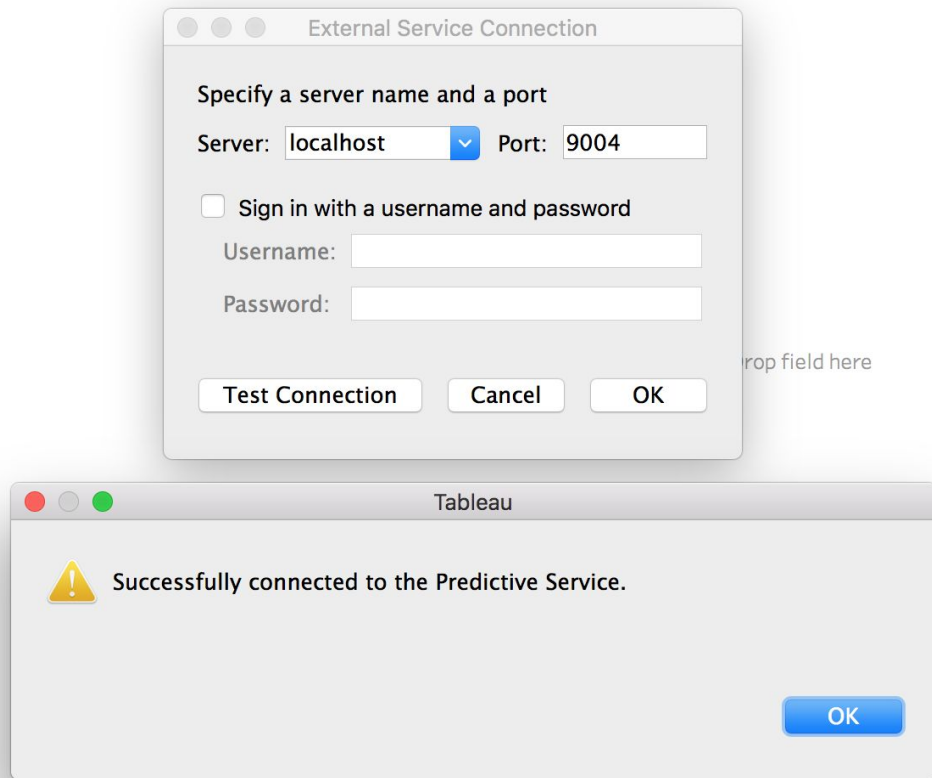
1. Install [Tableau Desktop](#). Installing tableau is straightforward. Please note it involves license costs. But has a trial period of 15 days.
2. Open up tableau and connect to TabPy Server



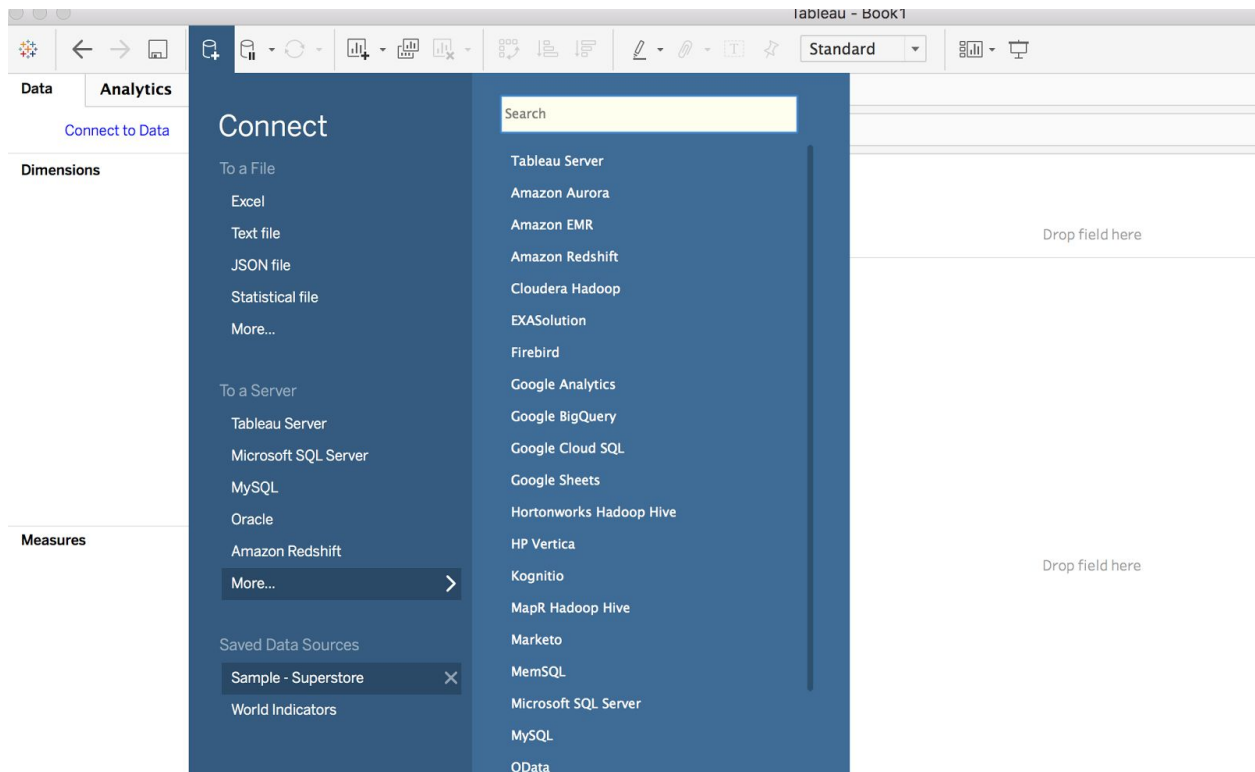
3. Given in connection details and test connection.

Drop
field
here

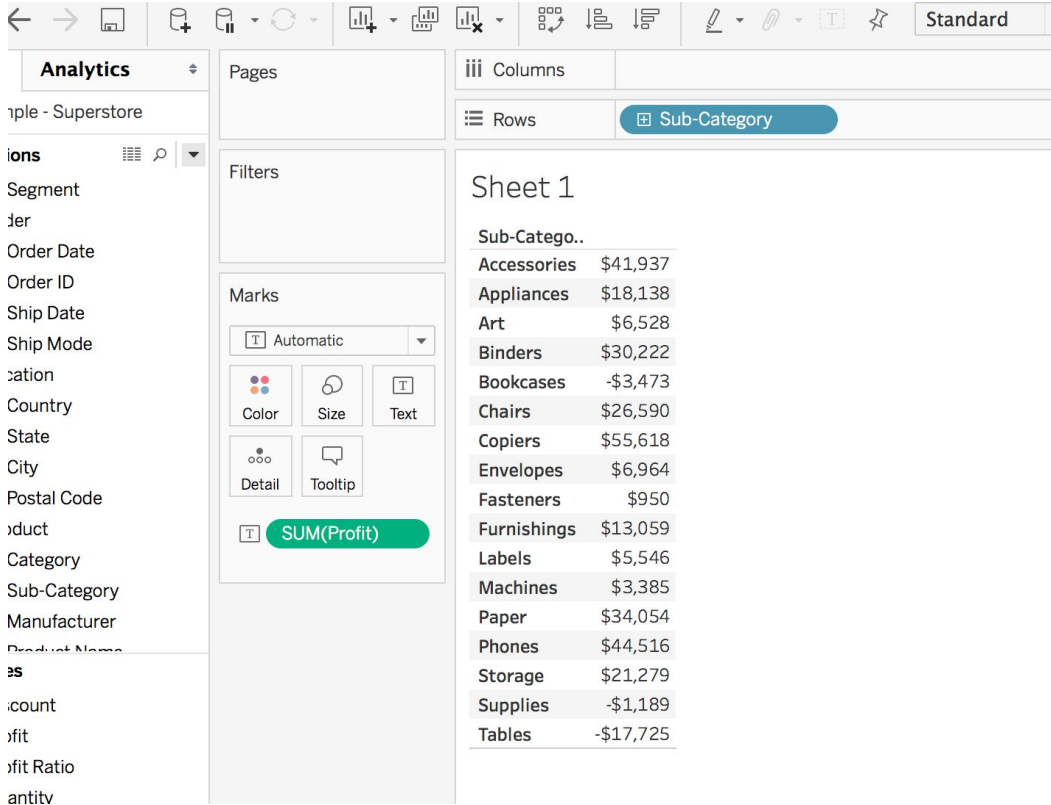
Drop field here



4. Connect to sample data source 'superstore' that comes with Tableau Desktop



5. Create a simple Report by dragging couple of attributes using sub-category, profit.



- Now create a calculated field, it basically check if profit is greater than 10K or not in python and returns list of boolean

PythonCheck>10000

×

Results are computed along Table (across).

SCRIPT_BOOL(
"
lst = []
for i in _arg1:
 lst.append(i>10000)

return lst

", SUM([Profit]))|

◀

Default Table Calculation

The calculation is valid.

Sheets Affected ▾

Apply

OK

- Now add this calculated field. It is clear that boolean value are calculated correctly.

Columns			
Rows	Sub-Category	SUM(Profit)	PythonCheck>100.. Δ

Sheet 1

Sub-Catego..	Profit	PythonCheck>10000	
Accessories	\$41,937	True	Abc
Appliances	\$18,138	True	Abc
Art	\$6,528	False	Abc
Binders	\$30,222	True	Abc
Bookcases	-\$3,473	False	Abc
Chairs	\$26,590	True	Abc
Copiers	\$55,618	True	Abc
Envelopes	\$6,964	False	Abc
Fasteners	\$950	False	Abc
Furnishings	\$13,059	True	Abc
Labels	\$5,546	False	Abc
Machines	\$3,385	False	Abc
Paper	\$34,054	True	Abc
Phones	\$44,516	True	Abc
Storage	\$21,279	True	Abc
Supplies	-\$1,189	False	Abc
Tables	-\$17,725	False	Abc

Thus it is verified that Tableau is able to connect to TabPy server.