Practice #4: Data collection (2/2): API

Example:

The goal is to predict the stock price using past stock prices and other information available online.

In this practice, you will retrieve stock market prices from the polygon website's API.

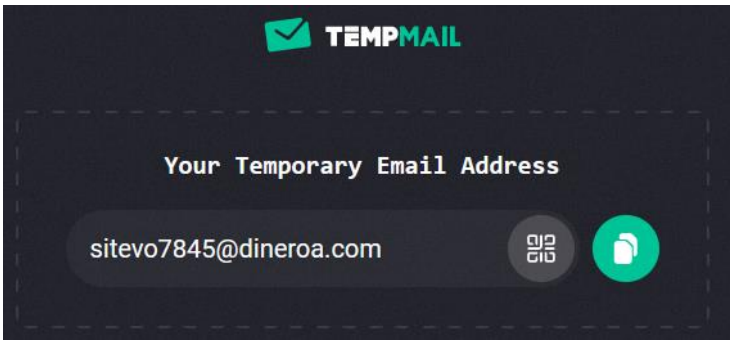
The practice can be done with any interpreter (VSCode, Jupyter, Spyder, Pycharm, …).

Steps:

1. **Create an account on polygon.io**

The goal of this first step is to have access to the polygon website's API.

- Sign up on polygon.io
- If you don't want to give your personal e-mail, you can use a temporary e-mail:
  - Go to https://temp-mail.org/
  - Wait to get a temporary e-mail address
  - Copy this e-mail address and use it to sign up on poygon.io



2. **Get the URL to download prices**

The goal of this step is to get the URL to request data.

- Sign in on polygon.io with your new account
- Go to the documentation (stock) tab
- Scroll until the "Aggregates (Bars)" section
- Modify the parameters to get the price of your stock in August 2022 only with a one-minute timespan (adjusted = ""; sort = "asc"; limit= "50000")
- Copy the produced URL

3. **Make the request**

The goal of this step is to make the request to get the data in python.

- Install requests package with ‘pip install requests”
- Make a request to get the data in python with the URL from step 2 (done in lecture #4)
- Print the data of the response with the “.json()” method.

4. Create a dataframe from your data

The goal of this step is to create the dataframe and display the price.

- Create a DataFrame the ‘results’ part of your response:
    - The “.json()” method produce a dictionary with a key which is “results”. This key is a list of dictionaries, you can easily create a DataFrame from it.
- The ‘t’ column is time in milliseconds (called epoch time). Use the function “datetime.datetime.fromtimestamp(time_in_ms/1000.0)” where time_in_ms is the time in milliseconds to get a datetime object instead.
- Use the plot method of the dataframe to display a graph of the opening price every minute. (Remember, you need matplotlib installed: ‘pip install matplotlib’)