In [2]:
```
# Json API (found here: https://www.programmableweb.com/api/covid2019-rest-api-v10)
#Functions to retrieve and store in Mongo DB Covid data per country
#Getting the Full  https://covid2019-api.herokuapp.com/v2/current
import pymongo
import requests


def get_countries_covid_data_json():
    res=requests.get('https://covid2019-api.herokuapp.com/v2/current');
    return res.json();

def store_in_db_countries_covid_data(result):
    print(type(result['data']))
    list_of_entries=result['data']
    print("inserting to MongoDB Covid Data")
    client = pymongo.MongoClient("mongodb+srv://m001-student:m001-mongodb-basics@cluster0.laxah.mongodb.net/myFirstDatabase?retryWrites=true&w=majority", serverSelect
    db=client.marcin
    coll=db.covid_data
    #coll=db.covid_data #dropping teh data before inserting.
    coll.drop()
    coll.insert_many(list_of_entries)
```

In [3]:
```
#scraping WordMeter Website for Countries Population Data
#based on https://towardsdatascience.com/how-to-web-scrape-in-8-minutes-4a100a672397

import pymongo
import requests
from bs4 import BeautifulSoup
import pandas as pd
 # Retrive and store in Atlas MongoDB instance Countries Populatoin data
def get_and_store_countries_population_data_scraping():
    url = 'https://www.worldometers.info/world-population/population-by-country/'
    requests.get(url)
    page = requests.get(url)
    #page
    soup = BeautifulSoup(page.text, 'lxml')
    #print(soup)
    table_data = soup.find('table', class_ = 'table table-striped table-bordered')
    #print(table_data)
    headers = []
    for i in table_data.find_all('th'):
        title = i.text
        headers.append(title)
    df = pd.DataFrame(columns = headers)
    for j in table_data.find_all('tr')[1:]:
            row_data = j.find_all('td')
            row = [tr.text for tr in row_data]
            length = len(df)
            df.loc[length] = row
    #df
    list_of_population_data=[]
    for index, row in df.iterrows():
        #print (row["Country (or dependency)"], int(row["Population (2020)"].replace(',','')))
        d={}
        d['Country']=row["Country (or dependency)"]
        d['Population']=int(row["Population (2020)"].replace(',',''))
        list_of_population_data.append(d)

    print("inserting to MongoDB Population Data")
    client = pymongo.MongoClient("mongodb+srv://m001-student:m001-mongodb-basics@cluster0.laxah.mongodb.net/myFirstDatabase?retryWrites=true&w=majority", serverSelect
    db=client.marcin
    coll=db.population_data
    #coll=db.covid_data #dropping teh data before inserting.
    coll.drop()
    coll.insert_many(list_of_population_data)
```

In [4]:
```
#Functions to retrieve and store in Mongo DB Obesity data per country
#DataSet Source - WHO website - note XML file is 11MB

import xml.etree.ElementTree as ET
import urllib.request
def get_and_store_countries_obesity_data_xml():
    headers = {
            'user-agent': 'Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_6) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/56.0.2924.87 Safari/537.36',
        }
    response = requests.get("https://apps.who.int/gho/athena/data/GHO/NCD_BMI_30C.xml?profile=simple&filter=AGEGROUP:*;COUNTRY:*;SEX:*:",headers=headers)
    with open("response.xml", "w", encoding="utf-8") as f:
        f.write(response.text)

    xmlFile = "response.xml"
    tree = ET.parse(xmlFile)
    root = tree.getroot()

    list_of_obesity_data=[]
    for element in root.findall('Fact'):
        if element.find('YEAR').text=='2016' and element.find('Display').text !='No data' and element.find('SEX').text=='Both sexes':
            d={}
            d['Country']=element.find('COUNTRY').text
            d['Obesity_percentage']=element.find('Numeric').text
            list_of_obesity_data.append(d)

    print("inserting to MongoDB Obesity Data")
    client = pymongo.MongoClient("mongodb+srv://m001-student:m001-mongodb-basics@cluster0.laxah.mongodb.net/myFirstDatabase?retryWrites=true&w=majority", serverSelect
    db=client.marcin
    coll=db.obesity_data
    #coll=db.covid_data #dropping teh data before inserting.
    coll.drop()
    coll.insert_many(list_of_obesity_data)
```

In [6]:
```
def main():
    # Retrive and store in Atlas MongoDB instance Countries Covid data (method: JSON API)
    try:
        w_data=get_countries_covid_data_json();
        store_in_db_countries_covid_data(w_data)
    except:
      print('API call failed...')
    # Retrive and store in Atlas MongoDB instance Countries Populatoin data (method: WEB Scaraping )
    get_and_store_countries_population_data_scraping()
    # Retrive and store in Atlas MongoDB instance Countries Obesity data (method: XML download andparsing )
    get_and_store_countries_obesity_data_xml()


if __name__=='__main__':
    main()
```

```
<class 'list'>
inserting to MongoDB Covid Data
inserting to MongoDB Population Data
inserting to MongoDB Obesity Data
```

In [ ]: