Week 4 - Deployment on Flask

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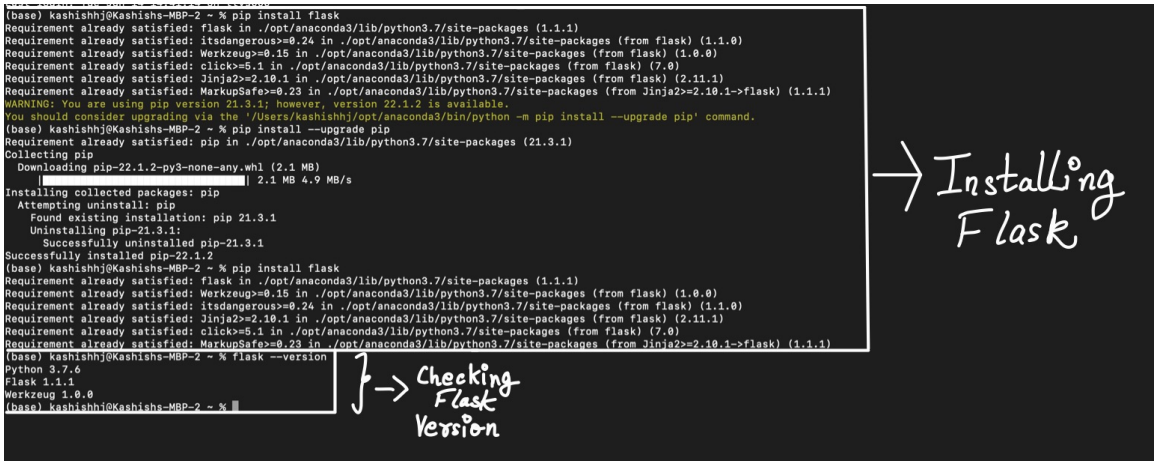
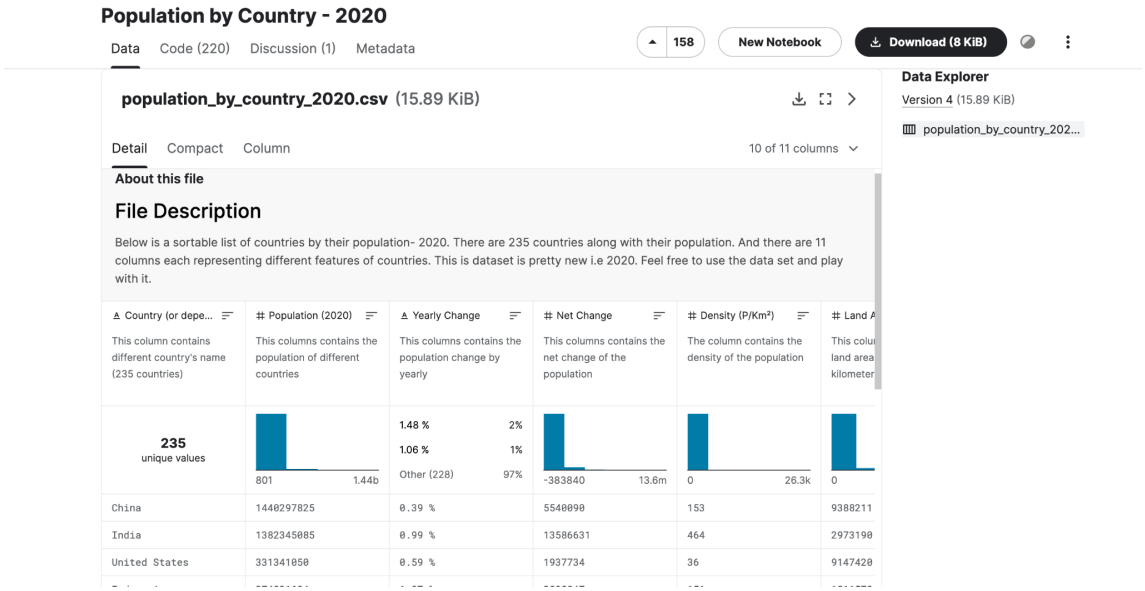
STEP 1 : Installation



STEP 2 : Download the dataset from Kaggle



STEP 3 : app.py

```python
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
"""
Created on Tue Jun 28 15:59:19 2022

@author: kashishhj
"""


import numpy as np
from flask import Flask, request,render_template
import pickle

app = Flask(__name__)
model = pickle.load(open('model.pkl', 'rb'))

@app.route('/')
def home():
    return render_template('index.html')

@app.route('/predict',methods=['POST'])
def predict():
    '''
    For rendering results on HTML GUI
    '''
    int_features = [int(x) for x in request.form.values()]
    final_features = [np.array(int_features)]
    prediction = model.predict(final_features)

    output = round(prediction[0], 2)

    return render_template('index.html', prediction_text='House price should be $ {}'.format(output))

if __name__ == "__main__":
    app.run(debug=True)
```

STEP 4 : model.py

```python
#!/usr/bin/env python3
# -*- coding: utf-8 -*-
"""
Created on Tue Jun 28 16:10:09 2022

@author: kashishhj
"""

# Importing the libraries
import numpy as np
import pandas as pd
import pickle

dataset = pd.read_csv('population.csv')

dataset['Population (2020)'].fillna(0, inplace=True)

dataset['Net Change'].fillna(dataset['Net Change'].mean(), inplace=True)

X = dataset.iloc[:, :3]

#Converting words to integer values
'''def convert_to_int(word):
    word_dict = {'one':1, 'two':2, 'three':3, 'four':4, 'five':5, 'six':6, 'seven':7, 'eight':8,
                 'nine':9, 'ten':10, 'eleven':11, 'twelve':12, 'zero':0, 0: 0}
    return word_dict[word]'''

#X['Population (2020)'] = X['Population (2020)'].apply(lambda x : convert_to_int(x))

y = dataset.iloc[:, -1]

from sklearn.linear_model import LinearRegression
regressor = LinearRegression()

#Fitting model with trainig data
regressor.fit(X, y)

# Saving model to disk
pickle.dump(regressor, open('model.pkl','wb'))

# Loading model to compare the results
model = pickle.load(open('model.pkl','rb'))
print(model.predict([[2, 2200, 5]]))
```

STEP 5 : run in terminal using “python app.py”

```
(base) kashishhj@Kashishs-MBP-2 Desktop % python app.py
 * Serving Flask app "app" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployme
nt.
   Use a production WSGI server instead.
 * Debug mode: on
 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
 * Restarting with fsevents reloader
 * Debugger is active!
 * Debugger PIN: 170-514-534
127.0.0.1 - - [28/Jun/2022 21:00:57] "GET / HTTP/1.1" 500 -
```

STEP 6 : use “http://127.0.0.1:5000/” to open the web server on the local device