Weather Map Application

Report document prepared by Antonio Mosquera

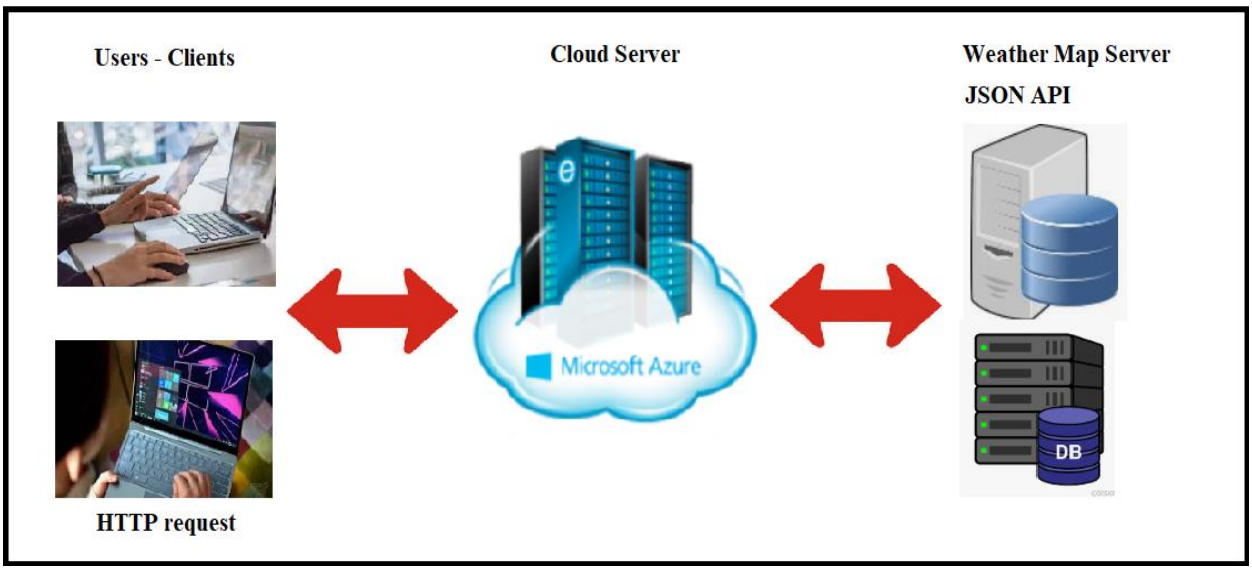
This project used python as a programming language. It was used the PyCharm IDE Professional, then, it was created the Weather API using Django Framework. The Application inputs http request then go to the Weather Map API server. It respond back in JSON format that is processes in Microsoft azure cloud and back to the client-user in human readable output. This application was implemented using Html, Css, JavaScript. Bootstrap, etc.

https://openweathermap.org

Where, Username: amosquer@students.kennesw.edu
Password: new123_am

After the registration process:

my ID(username): amosquera
APIID: **24735cf456ba551db2bb2c22a796590d**



Schema of the Weather Map Application's performance

The site OpenWeatherMap provides a simple REST API to get weather data, that will get the current weather data for a particular zip code, city's name, etc. and then print out some of that data in a table. The program code starts importing json, requests, and datatime libraries, after that it was set the method of requesting the module and the corresponding return respond object, then it was set the json method of respond object. Finally, the information about the weather should be displaying according to the city's Name. For example:

For the city's name, the output would look like this:

Date & Time: Sat Nov 06, 2021, 18:19:16 GMT-0400 (Eastern Daylight Time)

Country Code: US

City's Name: Atlanta

Coordinates [X, Y]: -84.388, 33.749

Temperature in Fahrenheit: 55.6 °F

Pressure: 1020

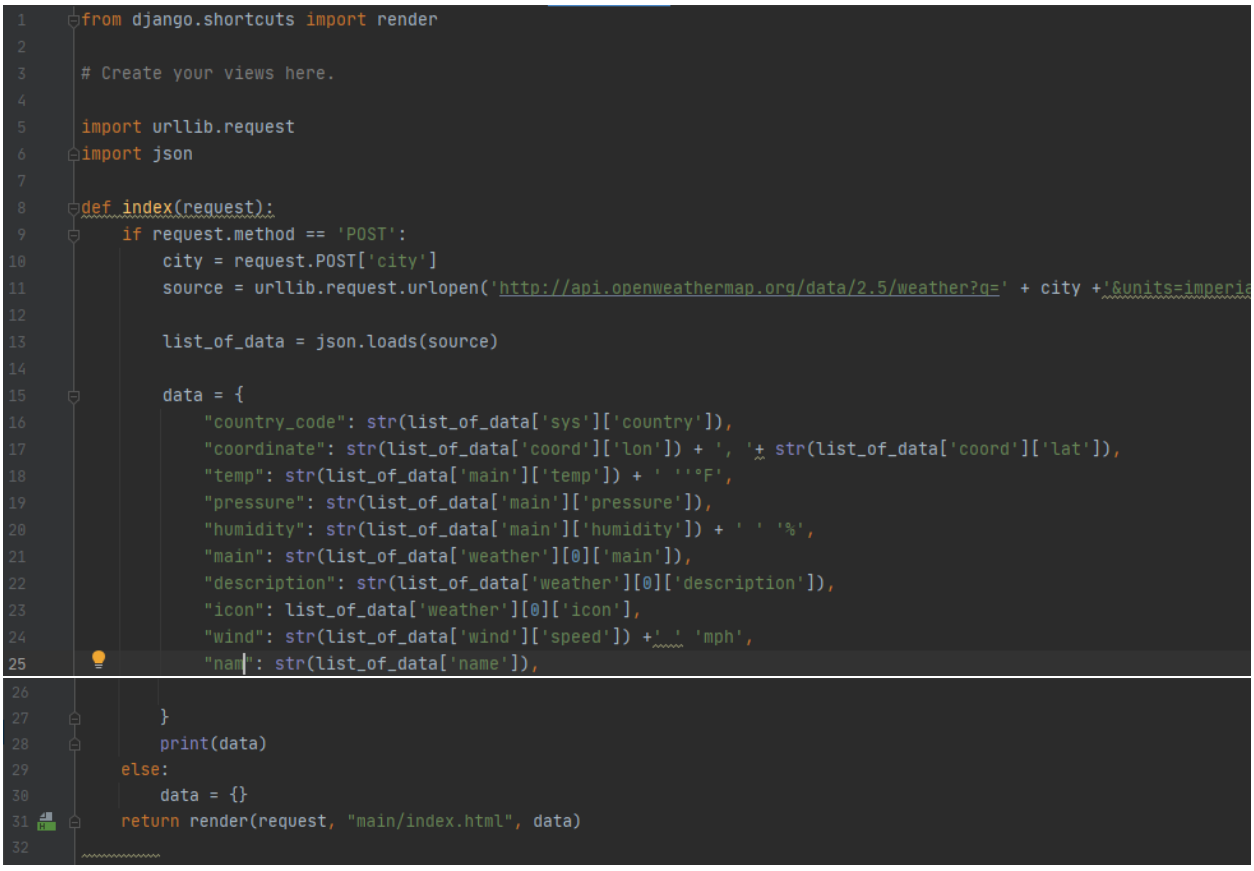
Humidity: 59 %

Forecast: Clear Image

Description: clear sky

Wind: 1.01 mph

Below is the code of the program, the features of the program are the request http, set of the key for accessing the JSON data, the processing of the data into human readable format.



```
from django.shortcuts import render

# Create your views here.

import urllib.request
import json

def index(request):
    if request.method == 'POST':
        city = request.POST['city']
        source = urllib.request.urlopen('http://api.openweathermap.org/data/2.5/weather?q=' + city +'&units=imperia

        list_of_data = json.loads(source)

        data = {
            "country_code": str(list_of_data['sys']['country']),
            "coordinate": str(list_of_data['coord']['lon']) + ', '+ str(list_of_data['coord']['lat']),
            "temp": str(list_of_data['main']['temp']) + ' ''°F',
            "pressure": str(list_of_data['main']['pressure']),
            "humidity": str(list_of_data['main']['humidity']) + ' ' '%',
            "main": str(list_of_data['weather'][0]['main']),
            "description": str(list_of_data['weather'][0]['description']),
            "icon": list_of_data['weather'][0]['icon'],
            "wind": str(list_of_data['wind']['speed']) +' ' 'mph',
            "nam": str(list_of_data['name']),

        }
        print(data)
    else:
        data = {}
    return render(request, "main/index.html", data)
```

Part of the code in python where I request the Api in json using the method post, then it is necessary to type the Api key, then request the information in imperial units.

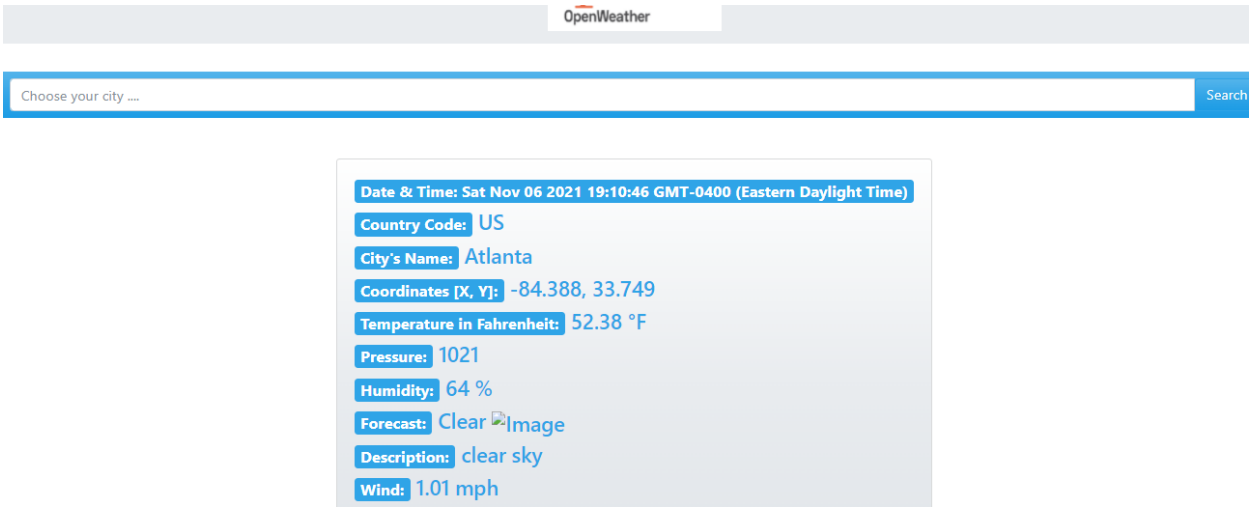
```
<div class="row">
    {%  if country_code and coordinate and temp and pressure and humidity %}
    <div class="col d-flex justify-content-center">
        <div class="card text-white bg-light mb-6">
            <div class="card-body">

                <h4><span class="badge badge-primary">Date & Time:
                <script> (function() {var fecha = new Date();
                document.write(fecha);}())
                </script>
                </span> </h4>

                <h4><span class="badge badge-primary">Country Code: </span> {{country_code}}</h4>
                <h4><span class="badge badge-primary">City's Name: </span> {{nam}}</h4>
                <h4><span class="badge badge-primary">Coordinates [X, Y]: </span> {{coordinate}}</h4>
                <h4><span class="badge badge-primary">Temperature in Fahrenheit: </span> {{temp}}</h4>
                <h4><span class="badge badge-primary">Pressure: </span> {{pressure}}</h4>
                <h4><span class="badge badge-primary">Humidity: </span> {{humidity}}</h4>
                <h4><span class="badge badge-primary">Forecast: </span> {{main}} <img src="http//openweathermap.org/img/w/{{ico
                <h4><span class="badge badge-primary">Description: </span> {{description}}</h4>
                <h4><span class="badge badge-primary">Wind: </span> {{wind}}</h4>

            </div>
        </div>
```

Code in html that represent the front end and the render information or how the information would be displaying.

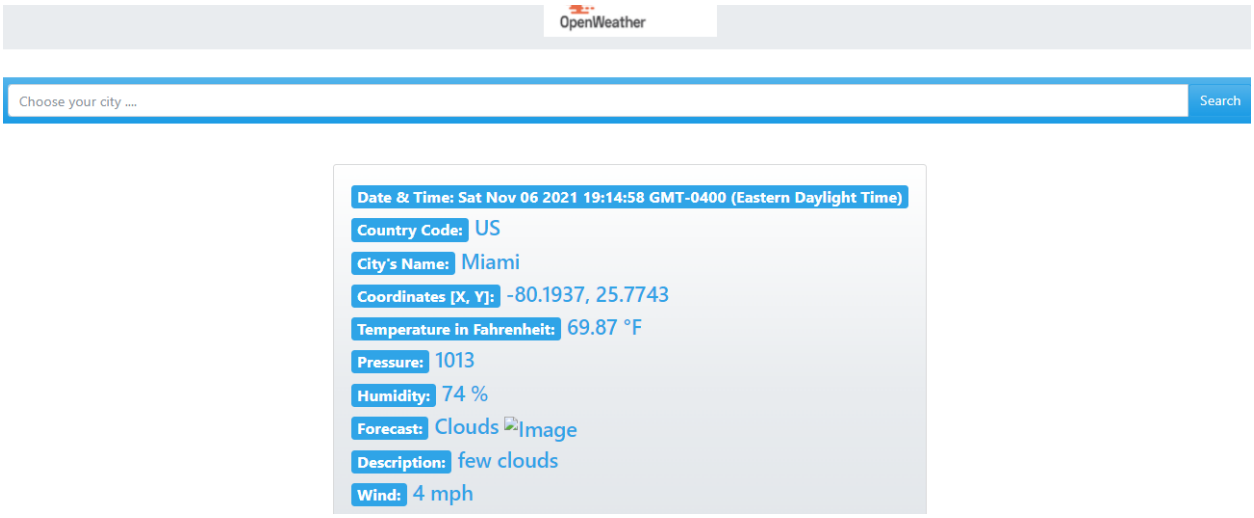
Front end or client side where the website let the client to enter the city's name (The program is running in local: 127.0.0.1:8000)

Enter Atlanta

Project Weather APP In Azure Cloud using Python with Django framework



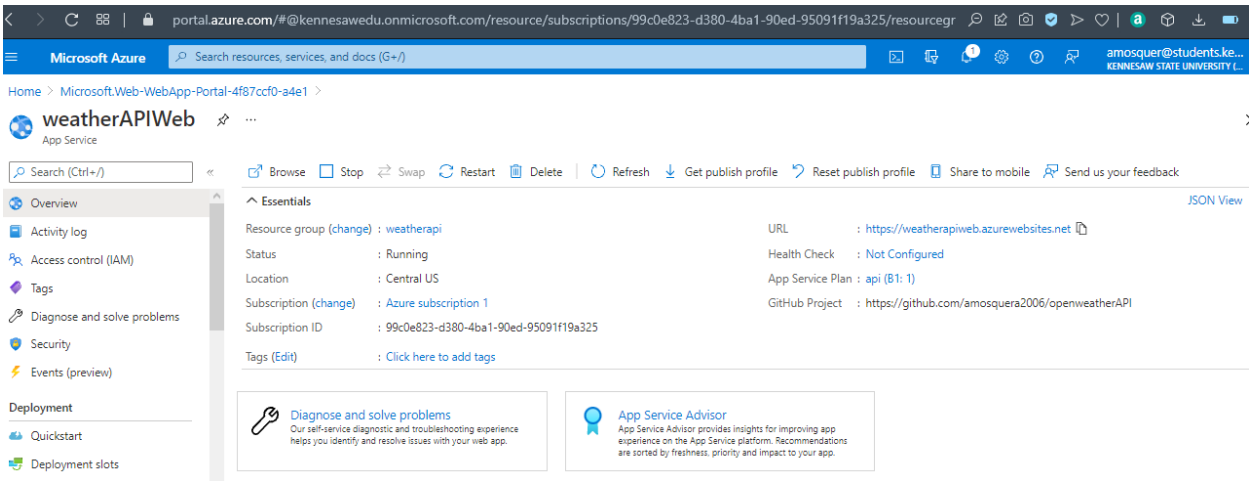
Enter Miami



The program is running Ok in the local.

Process of deploying the application in Azure Cloud Platform

The cloud provider selected was Azure cloud for deployment the weather API program



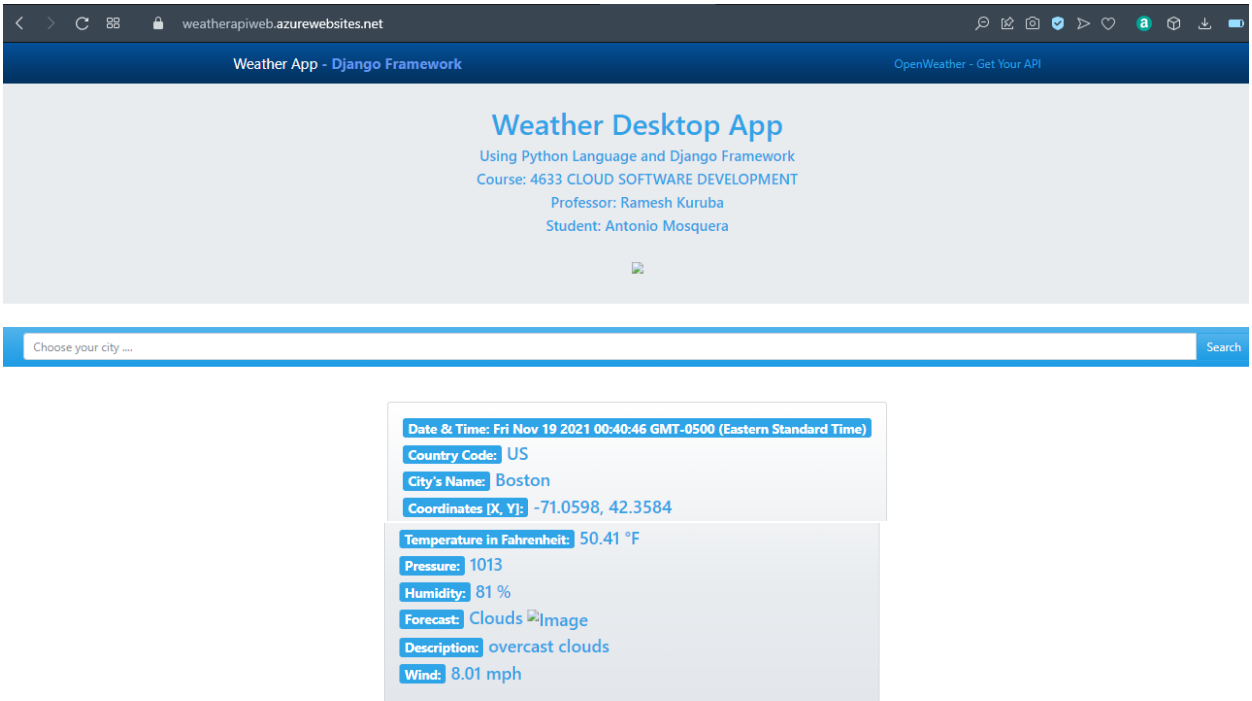
The Link used in GitHub:

https://github.com/amosquera2006/openweatherAPI

The link used for Azure to display the Weather API Application

https://weatherapiweb.azurewebsites.net

To enter the city: Boston



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To enter the city: Detroit