

## Develop a Python script

Team ID	PNT2022TMID09316
Project Name	SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITIAN CITIES
Maximum Marks	4 Marks

### SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITIAN CITIES

Create a code snippet using python to

1. Extract weather data from OpenWeatherMap using APIs
2. Send the extracted data to the cloud
3. Receive data from the cloud and view it in the python compiler

The screenshot shows the OpenWeatherMap website in a web browser. The address bar displays 'home.openweathermap.org'. A green notification box at the top center says 'Signed in successfully.' Below it, a pink banner states: 'You have to verify your email to use OpenWeatherMap services. Please [click here](#) to get an email with the confirmation link.' The main navigation bar includes links like 'Weather in your city', 'Guide', 'API', 'Dashboard', 'Marketplace', 'Pricing', 'Maps', 'Our Initiatives', 'Partners', 'Blog', 'For Business', 'Jerin', and 'Support'. Below the navigation bar, there's a section titled 'Historical weather for any location' with a description: 'Our new technology, Time Machine, has allowed us to enhance the data in the Historical Weather Collection.' It lists two bullet points: 'Historical weather data available for ANY coordinate' and 'The depth of historical data have been extended to 40 YEARS'. Below this, it says 'You can download data from [Personal account](#) or [contact us](#) to order it.' There are two orange buttons: 'Learn more' and 'Go to purchase'. The browser's taskbar at the bottom shows the Windows logo, a search bar, and various application icons. The system tray on the right shows the date and time as '12:11 08-11-2022'.

Find - OpenWeatherMap

openweathermap.org/find?utf8=✓&q=Madurai

Easy to use Online...

OpenWeather

Weather in your city Guide API Dashboard Marketplace Pricing Maps Our Initiatives Partners Blog For Business Jerin Support

## Weather in your city

Madurai Search

**Madurai, IN** haze

**30°C** temperature from 30 to 30 °C, wind 3.6 m/s, clouds 40 %, 1013 hpa

Geo coords [9.9333, 78.1167]

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Type here to search

30°C Cloudy 12:13 08-11-2022

Members

home.openweathermap.org

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## Historical weather for any location

Our new technology, Time Machine, has allowed us to enhance the data in the **Historical Weather Collection**.

- Historical weather data available for **ANY** coordinate
- The depth of historical data have been extended to **40 YEARS**

You can download data from **Personal account** or **contact us** to order it.

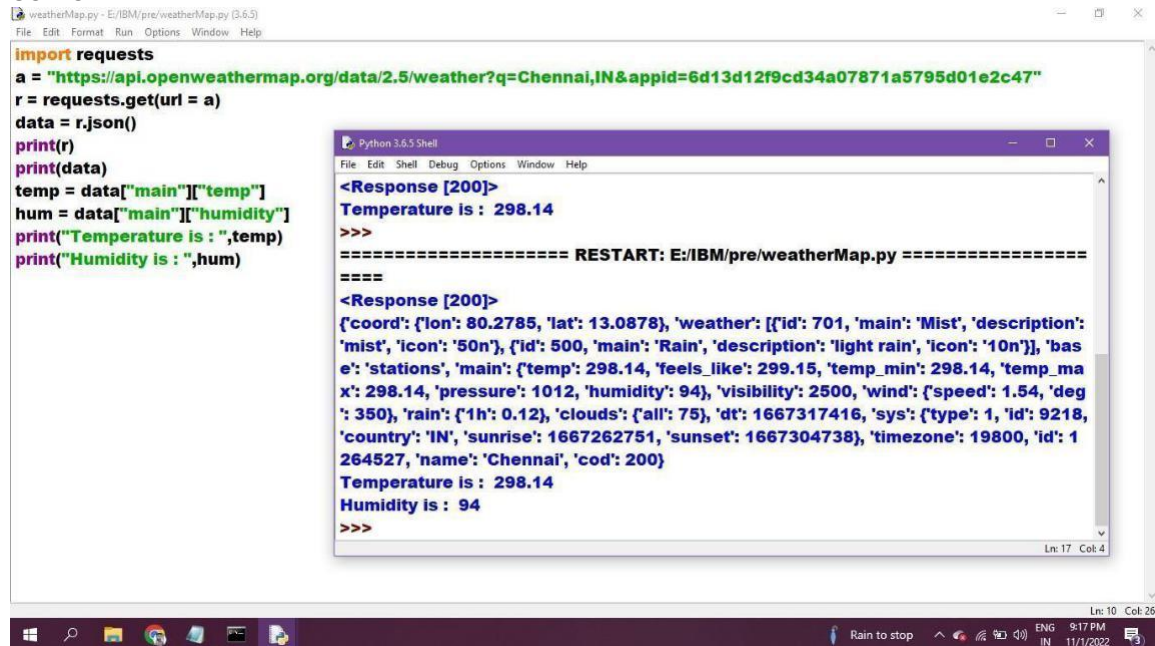
Learn more Go to purchase

## Weather Dashboard

Type here to search

30°C Cloudy 12:16 08-11-2022

## OUTPUT:



The image shows a screenshot of a Windows desktop environment. On the left, a text editor window titled 'weatherMap.py - E:/IBM/pre/weatherMap.py (3,6,5)' contains the following Python code:

```
import requests
a = "https://api.openweathermap.org/data/2.5/weather?q=Chennai,IN&appid=6d13d12f9cd34a07871a5795d01e2c47"
r = requests.get(url = a)
data = r.json()
print(r)
print(data)
temp = data["main"]["temp"]
hum = data["main"]["humidity"]
print("Temperature is : ",temp)
print("Humidity is : ",hum)
```

On the right, a 'Python 3.6.5 Shell' window displays the output of the script. It shows the raw JSON response from the OpenWeatherMap API for Chennai, India, followed by the temperature and humidity values extracted from the JSON.

```
<Response [200]>
Temperature is : 298.14
>>>
===== RESTART: E:/IBM/pre/weatherMap.py =====
=====
<Response [200]>
{'coord': {'lon': 80.2785, 'lat': 13.0878}, 'weather': [{'id': 701, 'main': 'Mist', 'description': 'mist', 'icon': '50n'}, {'id': 500, 'main': 'Rain', 'description': 'light rain', 'icon': '10n'}], 'base': 'stations', 'main': {'temp': 298.14, 'feels_like': 299.15, 'temp_min': 298.14, 'temp_max': 298.14, 'pressure': 1012, 'humidity': 94}, 'visibility': 2500, 'wind': {'speed': 1.54, 'deg': 350}, 'rain': {'1h': 0.12}, 'clouds': {'all': 75}, 'dt': 1667317416, 'sys': {'type': 1, 'id': 9218, 'country': 'IN', 'sunrise': 1667262751, 'sunset': 1667304738}, 'timezone': 19800, 'id': 1264527, 'name': 'Chennai', 'cod': 200}
Temperature is : 298.14
Humidity is : 94
>>>
```

The Windows taskbar at the bottom shows the system clock as 9:17 PM on 11/1/2022, with the language set to ENG IN.