

# DEVELOP A WEB APPLICATION USING NODE-RED SERVICE

## Develop a Python script

Date	31 October 2022
Team ID	PNT2022TMID47905
Project Name	SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD
Maximum Marks	4 Marks

### Signs with smart connectivity for Better road safety

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 OpenWeather API keys management interface. At the top, there's a navigation bar with the OpenWeather logo, a search bar, and various links like Guide, API, Dashboard, Marketplace, Pricing, Maps, Our Initiatives, Partners, Blog, For Business, and user profile. Below the navigation bar, there's a sub-navigation bar with links like New Products, Services, API keys (selected), Billing plans, Payments, Block logs, My orders, My profile, and Ask a question. A message states: "You can generate as many API keys as needed for your subscription. We accumulate the total load from all of them." Below this, there's a table with columns: Key, Name, Status, and Actions. The table contains two entries: one with a default key and name, and another with a key for 'Madurai'. To the right of the table is a 'Create key' section with an input field for 'API key name' and a 'Generate' button. At the bottom, there's a footer with three columns: 'Product Collections' (Current and Forecast APIs, Historical Weather Data, Weather Maps, Weather Dashboard, Widgets), 'Subscription' (How to start, Pricing, Subscribe for free, FAQ), and 'Company' (OpenWeather is a team of IT experts and data scientists that has been practising deep weather data science since 2014. For each point on the globe, OpenWeather provides historical, current and forecasted weather data via light-speed APIs. Headquarters in London, UK).

## Weather in your city

Search



Madurai, IN

haze

27°C

temperature from 27 to 27 °C, wind 3.6 m/s, clouds 75 %, 1008 hpa

Geo coords [9.9333, 78.1167]

### Search engine is very flexible. How it works:

- To make it more precise put the city's name, comma, 2-letter country code (ISO3166). You will get all proper cities in chosen country. The order is important - the first is city name then comma then country. Example - London, GB or New York, US.

Product Collections	Subscription	Company
<a href="#">Current and Forecast APIs</a> <a href="#">Historical Weather Data</a> <a href="#">Weather Maps</a> <a href="#">Weather Dashboard</a> <a href="#">Widgets</a>	<a href="#">How to start</a> <a href="#">Pricing</a> <a href="#">Subscribe for free</a> <a href="#">FAQ</a>	OpenWeather is a team of IT experts and data scientists that has been practising deep weather data science. For each point on the globe, OpenWeather provides historical, current and forecasted weather data via light-speed APIs. Headquarters in London, UK.
Technologies	Terms & Conditions	

Find - OpenWeatherMap

Members

https://api.openweathermap.org

api.openweathermap.org/data/2.5/weather?lat=9.91&lon=78.13&appid=4eb64d209ed9a94700bb15ab4d80aabd

Apps

Jerome

Software

Recharge

Tickets

Shop

Social

IBM

Gmail

YouTube

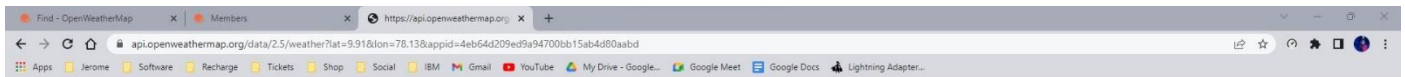
My Drive - Google...

Google Meet

Google Docs

Lightning Adapter...

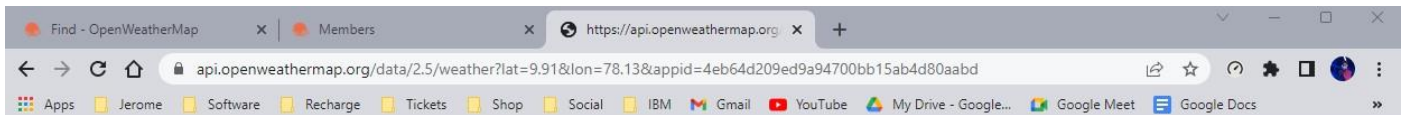
```
{"coord":{"lon":78.13,"lat":9.91},"weather":[{"id":721,"main":"Haze","description":"haze","icon":"50d"}],"base":"stations","main":{"temp":300.18,"feels_like":302.4,"temp_min":300.18,"temp_max":300.18,"pressure":1008,"humidity":74},"visibility":5000,"wind":{"speed":2.57,"deg":10},"clouds":{"all":75},"dt":1668164357,"sys":{"type":1,"id":9216,"country":"IN","sunrise":1668127230,"sunset":1668169353},"timezone":19800,"id":1264521,"name":"Madurai","cod":200}
```



```
{
  "coord": {
    "lon": 78.13,
    "lat": 9.91
  },
  "weather": [
    {
      "id": 721,
      "main": "Haze",
      "description": "haze",
      "icon": "50d"
    }
  ],
  "base": "stations",
  "main": {
    "temp": 300.18,
    "feels_like": 302.4,
    "temp_min": 300.18,
    "temp_max": 300.18,
    "pressure": 1008,
    "humidity": 74,
    "visibility": 5000,
    "wind": {
      "speed": 2.57,
      "deg": 10
    },
    "clouds": {
      "all": 75
    },
    "dt": 1668164452,
    "sys": {
      "type": 1,
      "id": 9216,
      "country": "IN",
      "sunrise": 1668127230,
      "sunset": 1668169353,
      "timezone": 19800,
      "id": 1264521,
      "name": "Madurai",
      "cod": 200
    }
  }
}
```

sample1.py - C:\Users\jero\Pictures\sample1.py (3.11.0)

```
File Edit Format Run Options Window Help
import requests
a="https://api.openweathermap.org/data/2.5/weather?lat=9.91&lon=78.13&appid=4eb64d209ed9a94700bb15ab4d80aabd"
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)
```



```
{
  "coord": {
    "lon": 78.13,
    "lat": 9.91
  },
  "weather": [
    {
      "id": 721,
      "main": "Haze",
      "description": "haze",
      "icon": "50d"
    }
  ],
  "base": "stations",
  "main": {
    "temp": 300.18,
    "feels_like": 302.4,
    "temp_min": 300.18,
    "temp_max": 300.18,
    "pressure": 1008,
    "humidity": 74,
    "visibility": 5000,
    "wind": {
      "speed": 2.57,
      "deg": 10
    },
    "clouds": {
      "all": 75
    },
    "dt": 1668164452,
    "sys": {
      "type": 1,
      "id": 9216,
      "country": "IN",
      "sunrise": 1668127230,
      "sunset": 1668169353,
      "timezone": 19800,
      "id": 1264521,
      "name": "Madurai",
      "cod": 200
    }
  }
}
```

```
Python 3.11 (64-bit)
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import requests
>>> a="https://api.openweathermap.org/data/2.5/weather?lat=9.91&lon=78.13&appid=4eb64d209ed9a94700bb15ab4d80aabd"
>>> r=requests.get(url = a)
>>> data = r.json()
>>> print(r)
<Response [200]>
>>> print(data)
{'coord': {'lon': 78.13, 'lat': 9.91}, 'weather': [{'id': 721, 'main': 'Haze', 'description': 'haze', 'icon': '50d'}], 'base': 'stations', 'main': {'temp': 300.18, 'feels_like': 302.4, 'temp_min': 300.18, 'temp_max': 300.18, 'pressure': 1008, 'humidity': 74, 'visibility': 5000, 'wind': {'speed': 2.57, 'deg': 10}, 'clouds': {'all': 75}, 'dt': 1668164452, 'sys': {'type': 1, 'id': 9216, 'country': 'IN', 'sunrise': 1668127230, 'sunset': 1668169353, 'timezone': 19800, 'id': 1264521, 'name': 'Madurai', 'cod': 200}}
>>>
```