

**PROJECT DEVELOPMENT PHASE**  
**SPRINT – 2 (USN-3)**

<b>DATE</b>	<b>05 – NOVEMBER-2022</b>
<b>TEAM ID</b>	<b>PNT2022TMID24018</b>
<b>PROJECT NAME</b>	<b>SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY</b>

**PYTHON CODE :**

#OPENWEATHER MAP(SPRINT 2)

import wiotp.sdk.device #importing library files for connecting with  
CLOUD,sdk=software development kit

import requests #for API request import json

#converting it to json(key:values) myConfig

= {

    "identity": {

        "orgId": "7f5hee",

        "typeId": "testdevicetype", #configuration wit CLOUD,finding identity

    "deviceId":"12345"

    },

    "auth": {

        "token": "AQCLi6rYJrcoiDpW6?" #authenticating with cloud device

    }

} client = wiotp.sdk.device.DeviceClient(config=myConfig,

logHandlers=None)

#initialising device client with above myconfig detail

client.connect() while True:

    print("=====")

    weatherData =

    requests.get('https://api.openweathermap.org/data/2.5/weather?q=Chennai,%20I

```

N&appid=b966927276060e981c650a5ca4409f8b&units=metric')
a=weatherData.text    b=json.loads(a)    temp = b["main"]["temp"]
humi = b["main"]["humidity"]    main = b["weather"][0]["main"]
#0th index is taken from the object    description =
b["weather"][0]["description"]    visibility = b["visibility"]

```

```

TemperatureRecommendation = ""

```

```

SpeedRecommendation = ""

```

```

RecommendationForVisibilty= ""

```

```

#print("Temperature(celcius) :",b["main"]["temp"])

```

```

if (temp>33):

```

```

    TemperatureRecommendation="Temperature is higher than ideal value"

```

```

    #print("Temperature is higher than ideal value")

```

```

elif (temp<19):

```

```

    TemperatureRecommendation="Temperature is lower than ideal value"

```

```

    #print("Temperature is lower than ideal value")

```

```

else:

```

```

    TemperatureRecommendation="Temperature is ideal"

```

```

    #print("Temperature is ideal ")

```

```

#print("Humidity :",b["main"]["humidity"])

```

```

#print("WeatherCondition",(b["weather"][0]["main"]))

```

```

if (main == "Rain"):

```

```

    rain = b["rain"]["1h"]

```

```

    SpeedRecommendation = "30KM/HR ,ROAD WILL BE SLIPPERY"

```

```

    #print("Rain:",b["rain"]["1h"])

    #print("SPEED RECOMMENDATION : 30KM/HR ,ROAD WILL BE
SLIPPERY")

    elif (main == "Drizzle"):

        SpeedRecommendation = "30KM/HR"

        #print("SPEED RECOMMENDATION : 30KM/HR")

    elif (main == "Mist"):

        SpeedRecommendation = "30KM/HR and switch on the headlight"

        #print("SPEED RECOMMENDATION : 30KM/HR and switch on the
Headlight")


    #print("Description of weather :", (b["weather"][0]["description"]))

    #print("visibility", (b["visibility"]))

    if (visibility<1000):

        RecommendationForVisibilty = "SPEED RECOMMENDATION :
30KM/HR and SWITCH ON THE HEAD LIGHT"

    else:

        RecommendationForVisibilty = "visibility range is ideal for vechicles"


    #print("SPEED RECOMMENDATION : 30KM/HR and SWITCH ON
THE HEAD LIGHT")

    mydata={"temperature":temp,
"TemperatureRecommendation":TemperatureRecommendation,"humidity":hum
i,"WeatherCondition":main,"SpeedRecommendation":SpeedRecommendation
,"DescriptionOfWeather":description,"visibility":visibility,"RecommendationFo
rVisibilty":RecommendationForVisibilty}    print(mydata)
    client.publishEvent("12345","json",mydata)

```

**CODE IN PYTHON IDLE**

```

openweatherupdate.py - D:\BM\python\openweatherupdate.py (3.9.0)
File Edit Format Run Options Window Help
1 #OPENWEATHER MAP(SPRINT 1)
2 import wiotp.sdk.device #importing library files for connecting with CLOUD,sdk=software development kit
3 import requests #for API request
4 import json #converting it to json(key:values)
5 myConfig = {
6     "identity": {
7         "orgId": "7f5hee",
8         "typeId": "testdevicetype", #configuration wit CLOUD,finding identity
9         "deviceId": "12345"
10    },
11    "auth": {
12        "token": "AQCLi6rYUrcoidpW6?" #authenticating with cloud device
13    }
14 }
15 client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None) #initialising device client with above myconfig detail
16 client.connect()
17 while True:
18     print("=====")
19     weatherData = requests.get('https://api.openweathermap.org/data/2.5/weather?q=Chennai,%20IN&appid=b966927276060e981c650a5ca4409f8b&units=metric')
20     a=weatherData.text
21     b=json.loads(a)
22     temp = b["main"]["temp"]
23     humi = b["main"]["humidity"]
24     main = b["weather"][0]["main"] #0th index is taken from the object
25     description = b["weather"][0]["description"]
26     visibility = b["visibility"]
27
28
29
30     TemperatureRecommendation = ""
31     SpeedRecommendation = ""
32     RecommendationForVisibility= ""
33
34     #print("Temperature(cecius) :",b["main"]["temp"])
35     if (temp>33):
36         TemperatureRecommendation="Temperature is higher than ideal value"
37         #print("Temperature is higher than ideal value")
38     elif (temp<19):
39         TemperatureRecommendation="Temperature is lower than ideal value"
40         #print("Temperature is lower than ideal value")
41     else:
42         TemperatureRecommendation="Temperature is ideal"
43         #print("Temperature is ideal ")
44
45     #print("Humidity :",b["main"]["humidity"])
46     #print("WeatherCondition", (b["weather"][0]["main"]))
47     if (main == "Rain"):

```

```

openweatherupdate.py - D:\BM\python\openweatherupdate.py (3.9.0)
File Edit Format Run Options Window Help
29
30     TemperatureRecommendation = ""
31     SpeedRecommendation = ""
32     RecommendationForVisibility= ""
33
34     #print("Temperature(cecius) :",b["main"]["temp"])
35     if (temp>33):
36         TemperatureRecommendation="Temperature is higher than ideal value"
37         #print("Temperature is higher than ideal value")
38     elif (temp<19):
39         TemperatureRecommendation="Temperature is lower than ideal value"
40         #print("Temperature is lower than ideal value")
41     else:
42         TemperatureRecommendation="Temperature is ideal"
43         #print("Temperature is ideal ")
44
45     #print("Humidity :",b["main"]["humidity"])
46     #print("WeatherCondition", (b["weather"][0]["main"]))
47     if (main == "Rain"):
48         rain = b["rain"]["1h"]
49         SpeedRecommendation = "30KM/HR , ROAD WILL BE SLIPPERY"
50         #print("Rain:",b["rain"]["1h"])
51         #print("SPEED RECOMMENDATION : 30KM/HR , ROAD WILL BE SLIPPERY")
52     elif (main == "Drizzle"):
53         SpeedRecommendation = "30KM/HR"
54         #print("SPEED RECOMMENDATION : 30KM/HR")
55     elif (main == "Mist"):
56         SpeedRecommendation = "30KM/HR and switch on the headlight"
57         #print("SPEED RECOMMENDATION : 30KM/HR and switch on the Headlight")
58
59     #print("Description of weather :", (b["weather"][0]["description"]))
60     #print("visibility", (b["visibility"]))
61     if (visibility<1000):
62         RecommendationForVisibility = "SPEED RECOMMENDATION : 30KM/HR and SWITCH ON THE HEAD LIGHT"
63     else:
64         RecommendationForVisibility = "visibility range is ideal for vehcles"
65
66     #print("SPEED RECOMMENDATION : 30KM/HR and SWITCH ON THE HEAD LIGHT")
67     mydata={"temperature":temp, "TemperatureRecommendation":TemperatureRecommendation,"humidity":humi,"WeatherCondition":main,"SpeedRecommendation":SpeedRecommendation , "DescriptionOfWea":
68     print(mydata)
69     client.publishEvent("12345","json",mydata)
70
71
72
73
74
75

```

**OUTPUT (TAKEN IN PYTHON)**



Browser

Actions

Device Types

Interactions

Device ID

Status

12345

Connected

Identity

Device Information

The recent events listed show the last

Event	Value
12345	{ "temperature": 34.56 }
12345	{ "temperature": 34.56 }
12345	{ "temperature": 34.56 }
12345	{ "temperature": 34.56 }
12345	{ "temperature": 34.56 }

Event Payload

Event Name

12345

New Payload

Nov 12, 2022 12:15:45

```
[{"temperature": 34.56, "temperatureComment": "temperature is ideal", "humidity": 54, "weatherCondition": "Drizzle", "speedRecommendation": "2000-99", "descriptionWeather": "light intensity drizzle", "visibility": 9999, "recommendationForvisibility": "visibility range is ideal for vehicles"}]
```

Descriptive Location

2 Simulations running