Team ID	PNT2022TMID42266
Project Name	Signs with Smart Connectivity for better Road Safety

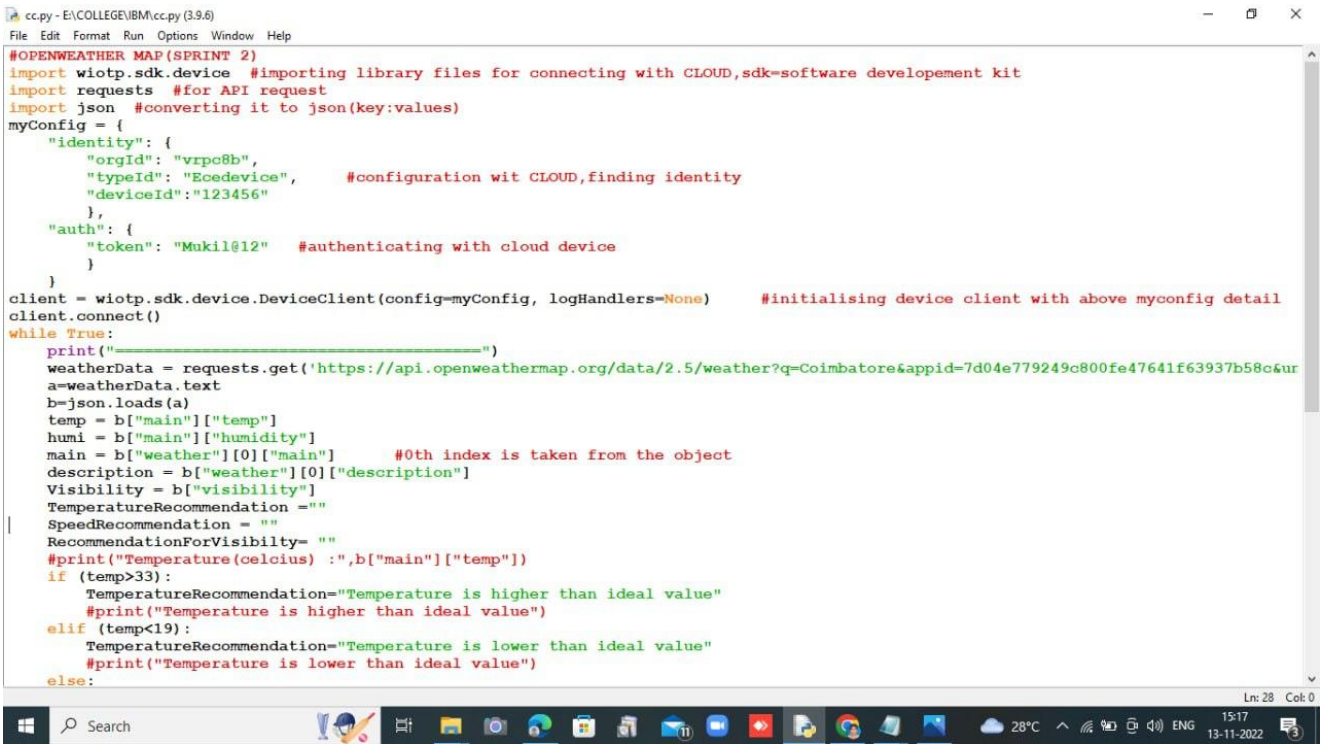
SPRINT 2

OPENWEATHER MAP CODE

```
#OPENWEATHER MAP(SPRINT 2)
import wiotp.sdk.device  #importing library files for connecting with
CLOUD,sdk=software developement kit
import requests  #for API request
import json  #converting it to json(key:values)
myConfig = {
    "identity": {
        "orgId": "vrpc8b",
        "typeId": "Ecedevice",     #configuration wit CLOUD,finding identity
        "deviceId":"123456"
        },
    "auth": {
        "token": "Mukil@12"   #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=Coimbatore
&appid=7d04e779249c800fe47641f63937b58c&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,"RecommendationForV
isibilty":RecommendationForVisibilty}
    print(mydata)
    client.publishEvent("12345","json",mydata)
```

CODE IN PYTHON IDLE



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        TemperatureRecommendation="Temperature is lower than ideal value"
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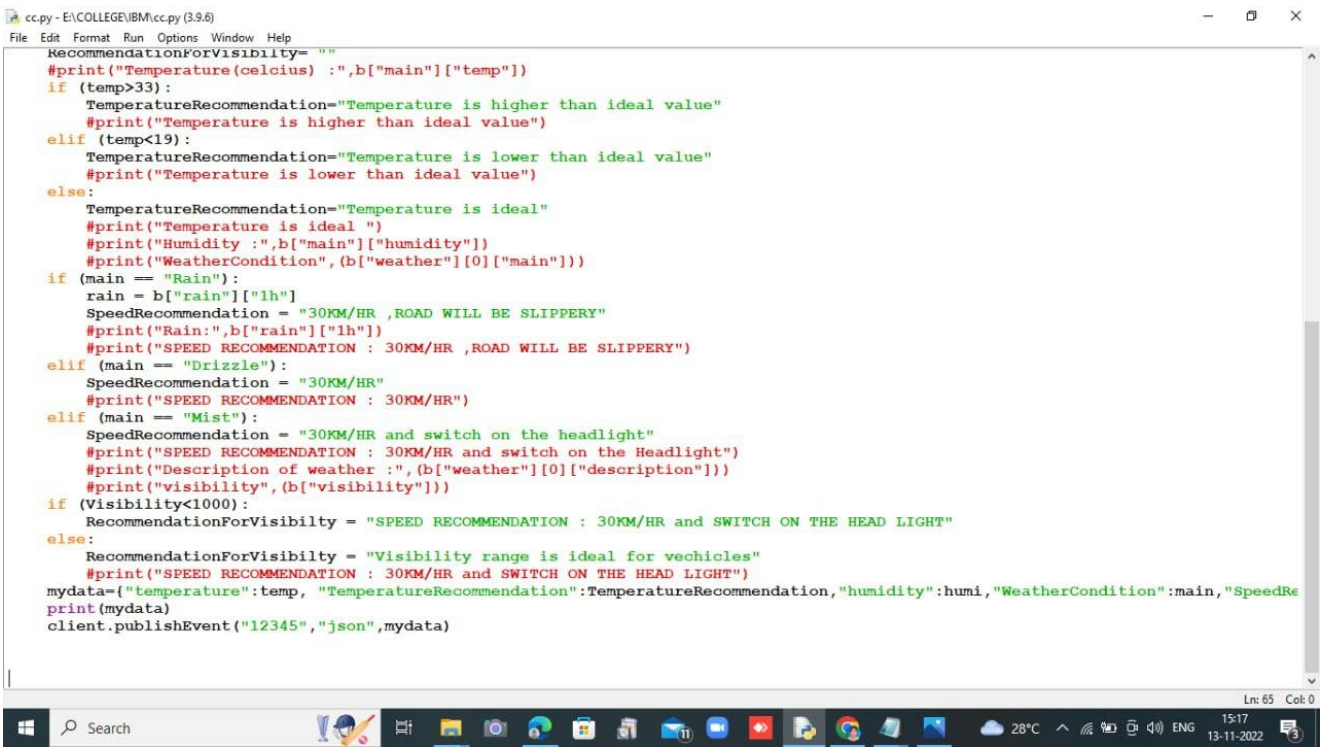
```



```
    RecommendationForVisibilty= ""
    #print("Temperature(celcius) :",b["main"]["temp"])
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        #print("Temperature is higher than ideal value")
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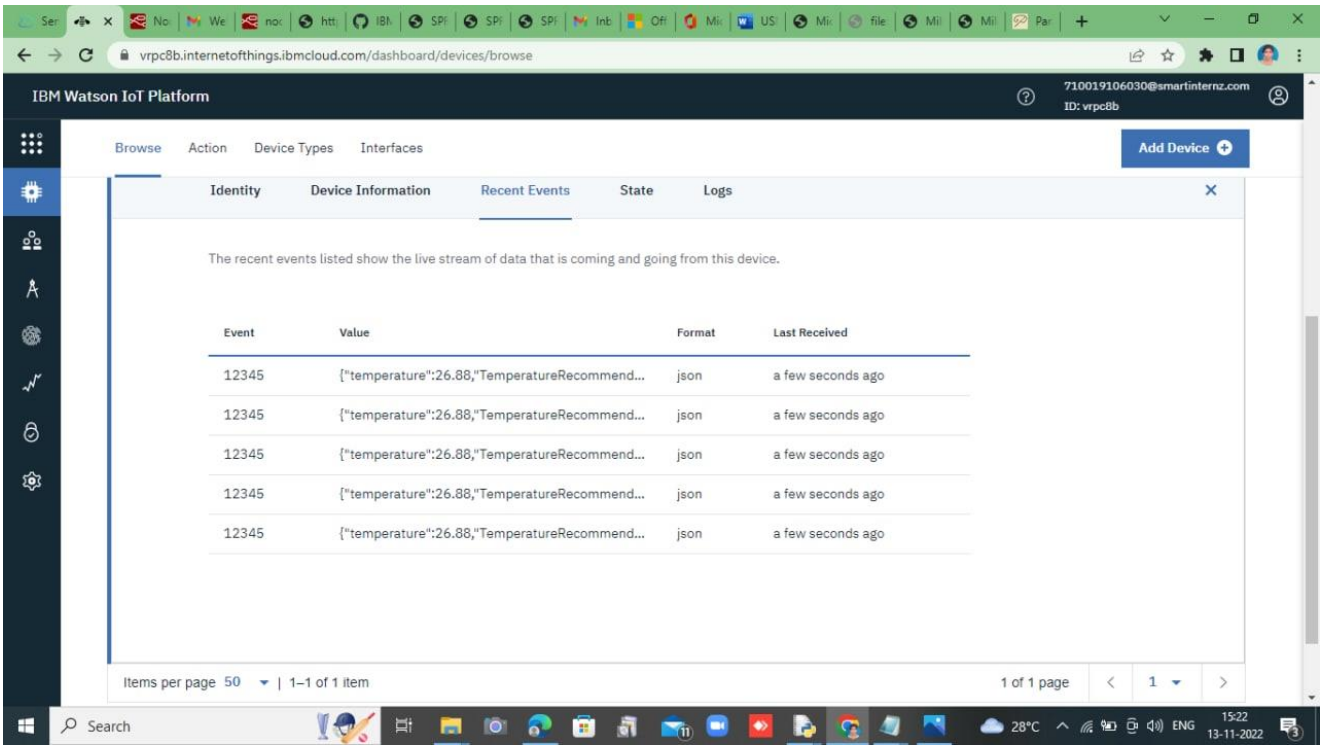
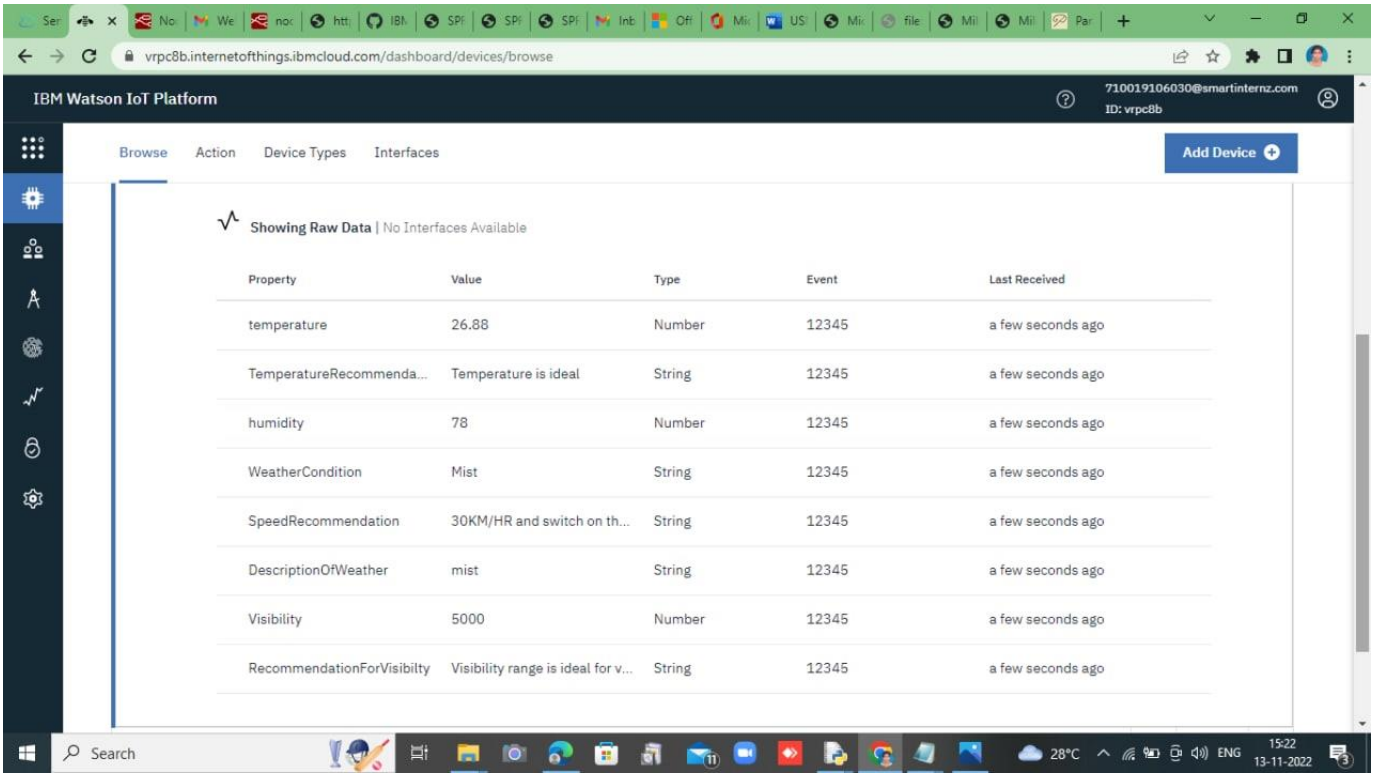
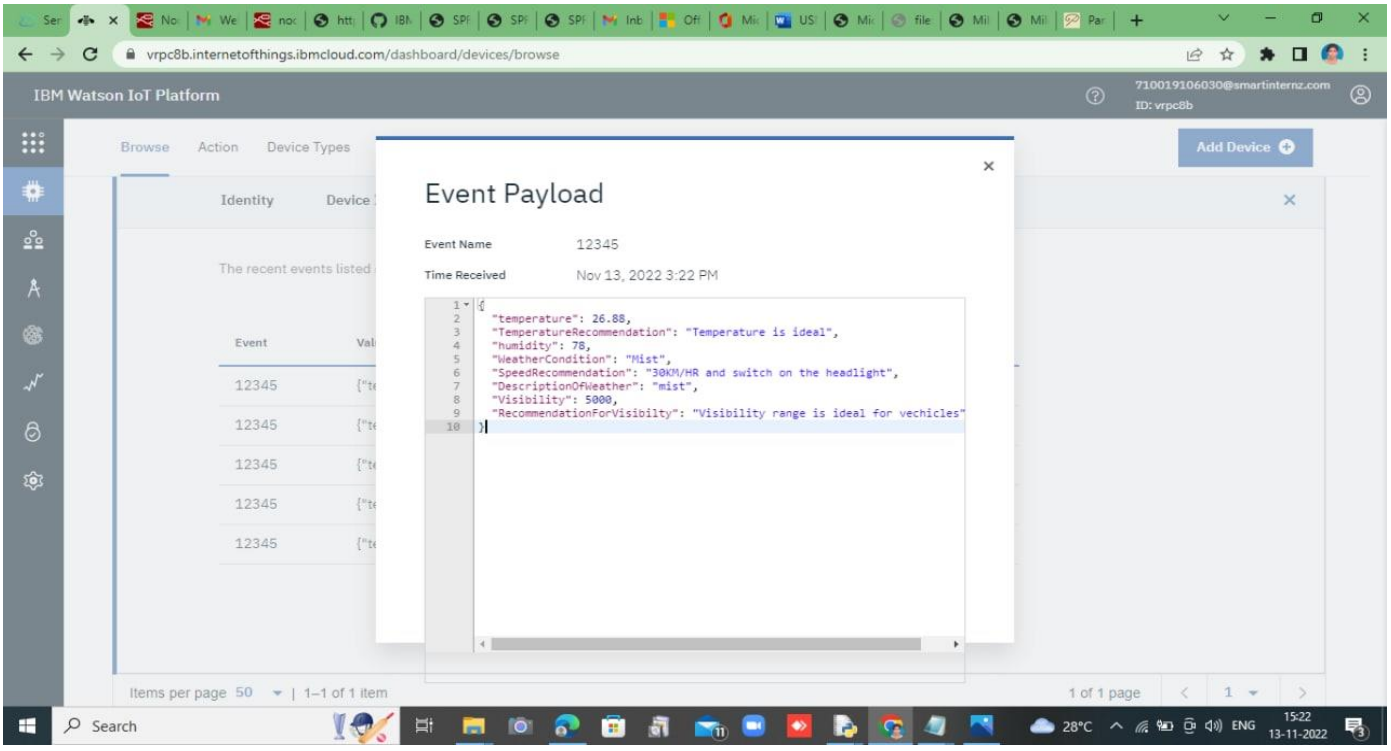
        #print("Rain:",b["rain"]["1h"])
        #print("SPEED RECOMMENDATION : 30KM/HR ,ROAD WILL BE SLIPPERY")
    elif (main == "Drizzle"):
        SpeedRecommendation = "30KM/HR"
        #print("SPEED RECOMMENDATION : 30KM/HR")
    elif (main == "Mist"):
        SpeedRecommendation = "30KM/HR and switch on 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":humi,"WeatherCondition":main,"SpeedRe
    print(mydata)
    client.publishEvent("12345","json",mydata)
```

PYTHON OUTPUT:

ESTABLISHING THE OPENWEATHERMAP CODE TO CLOUD TO EASY ACCESSING BY CREATING A DEVICE IN IBM WATSON WITH THE CONFIGURATION DETAILS:




vrpc8b.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
710019106030@smartinternz.com
ID: vrpc8b
Browse
Action
Device Types
Interfaces
Add Device
Showing Raw Data | No Interfaces Available
Property
Value
Type
Event
Last Received
temperature
26.88
Number
12345
a few seconds ago
TemperatureRecommenda...
Temperature is ideal
String
12345
a few seconds ago
humidity
78
Number
12345
a few seconds ago
WeatherCondition
Mist
String
12345
a few seconds ago
SpeedRecommendation
30KM/HR and switch on th...
String
12345
a few seconds ago
DescriptionOfWeather
mist
String
12345
a few seconds ago
Visibility
5000
Number
12345
a few seconds ago
RecommendationForVisibilty
Visibility range is ideal for v...
String
12345
a few seconds ago
Search
28°C
ENG
15:22
13-11-2022


vrpc8b.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
710019106030@smartinternz.com
ID: vrpc8b
Browse
Action
Device Types
Add Device
Identity
Device
The recent events listed
Event
12345
Event Payload
Event Name
12345
Time Received
Nov 13, 2022 3:22 PM
{
"temperature": 26.88,
"TemperatureRecommendation": "Temperature is ideal",
"humidity": 78,
"WeatherCondition": "Mist",
"SpeedRecommendation": "30KM/HR and switch on the headlight",
"DescriptionOfWeather": "mist",
"Visibility": 5000,
"RecommendationForVisibilty": "Visibility range is ideal for vechicles"
}
Items per page 50
1–1 of 1 item
1 of 1 page
Search
28°C
ENG
15:22
13-11-2022