

FINAL CODE

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|----------------|---|
| Date | 19 November 2022 |
| Team ID | PNT2022TMID17542 |
| Project | Signs with Smart Connectivity for Better Road Safety |

PROGRAM CODE:

```
import wiotp.sdk.device
import time
import random
import ibmiotf.application
import ibmiotf.device
import requests, json

myConfig = { #Configuration
    "identity": {
        "orgId": "fvh76j",
        "typeId": "SMARTBOARD",
        "deviceId": "SMARTCONNECTIVITY"},
    #API Key
    "auth": {
        "token": "12345678"
    }
}

#Receiving callbacks from IBM IOT platform
def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

client =
wiotp.sdk.device.DeviceClient(config=myConfig,logHandlers=None)
```

```
client.commandCallback= myCommandCallback  
client.connect()
```

```
#OpenWeatherMap Credentials
```

```
BASE_URL ="https://api.openweathermap.org/data/2.5/weather?"
```

```
CITY = "Chennai"
```

```
URL = BASE_URL + "q=" + CITY + "&units=metric"+"&appid=" +  
" aacfd527963a5d91a8b5db80c6fe67b4"
```

```
while True:      response =  
requests.get(URL)      if  
response.status_code ==200:  
    data = response.json()  
    main = data['main']  
    temperature =main['temp']  
    humidity = main['humidity']  
    pressure = main['pressure']  
    report = data['visibility']
```

```
#messge part
```

```
msg=random.randint(0,5)    if  
msg==1:  
    message="SLOW DOWN, SCHOOL IS NEAR"  
elif msg==2:  
    message="NEED HELP, POLICE STATION AHED"  
elif msg==3:  
    message="EMERGENCY, HOSPITAL NEARBY"  
elif msg==4:  
    message="DINE IN, RESTAURENT AVAILABLE"  
else:  
    message="" #Speed Limit  
part  
speed=random.randint(0,150)  
if speed>=100:
```

```

        speedMsg=" Limit Exceeded"
    elif speed>=60 and speed<100:
        speedMsg="Moderate"
    else:
        speedMsg="Slow"

#Diversioin          part
sign=random.randint(0,5)
if sign==1:
    signMsg="Right Diversion"
elif sign==3:
    signMsg="Left Diversion"
elif sign==5:
    signmsg="U Turn"
else:
    signMsg=""

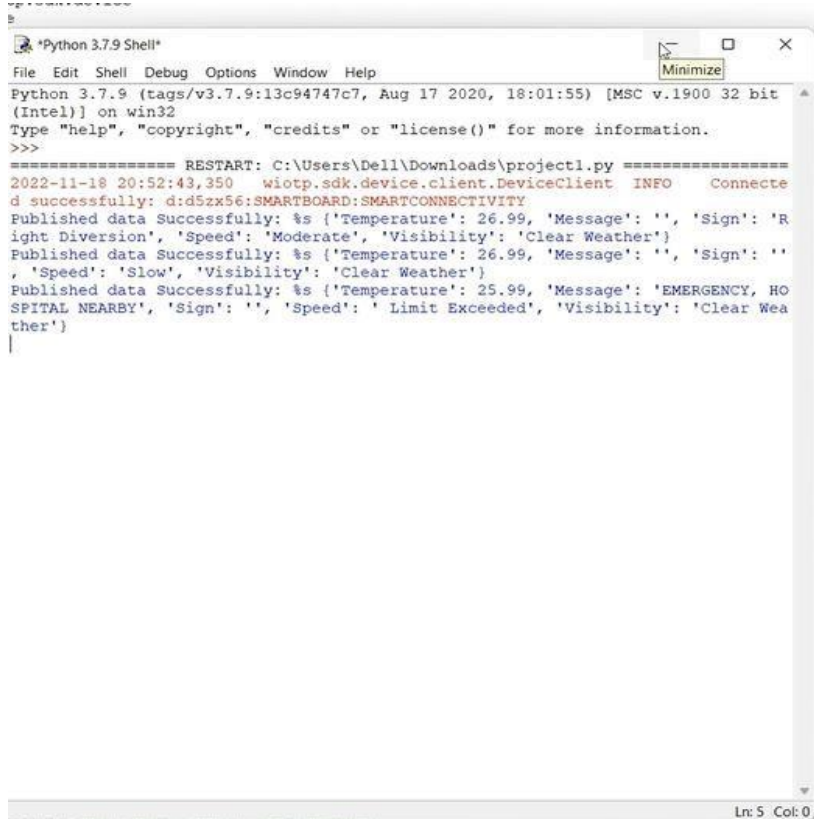
#Visibility    if
temperature < 24:
    visibility="Fog Ahead, Drive Slow"
elif temperature < 20:
    visibility="Bad Weather"
else:
    visibility="Clear Weather"

else:
    print("Error in the HTTP request")
myData={'Temperature':temperature, 'Message':message,
'Sign':signMsg, 'Speed':speedMsg, 'Visibility':visibility}
client.publishEvent(eventId="status", msgFormat="json",
data=myData, qos=0, onPublish=None)
#PUBLISHING TO IOT WATSON
print("Published data Successfully: %s", myData)
client.commandCallback= myCommandCallback
time.sleep(5)

```

client.disconnect()

OUTPUT:



```
*Python 3.7.9 Shell*
File Edit Shell Debug Options Window Help
Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 18:01:55) [MSC v.1900 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Dell\Downloads\project1.py =====
2022-11-18 20:52:43,350 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: d:d5zx56:SMARTBOARD:SMARTCONNECTIVITY
Published data Successfully: %s {'Temperature': 26.99, 'Message': '', 'Sign': 'R
ight Diversion', 'Speed': 'Moderate', 'Visibility': 'Clear Weather'}
Published data Successfully: %s {'Temperature': 26.99, 'Message': '', 'Sign': ''
, 'Speed': 'Slow', 'Visibility': 'Clear Weather'}
Published data Successfully: %s {'Temperature': 25.99, 'Message': 'EMERGENCY, HO
SPITAL NEARBY', 'Sign': '', 'Speed': ' Limit Exceeded', 'Visibility': 'Clear Wea
ther'}
|
```