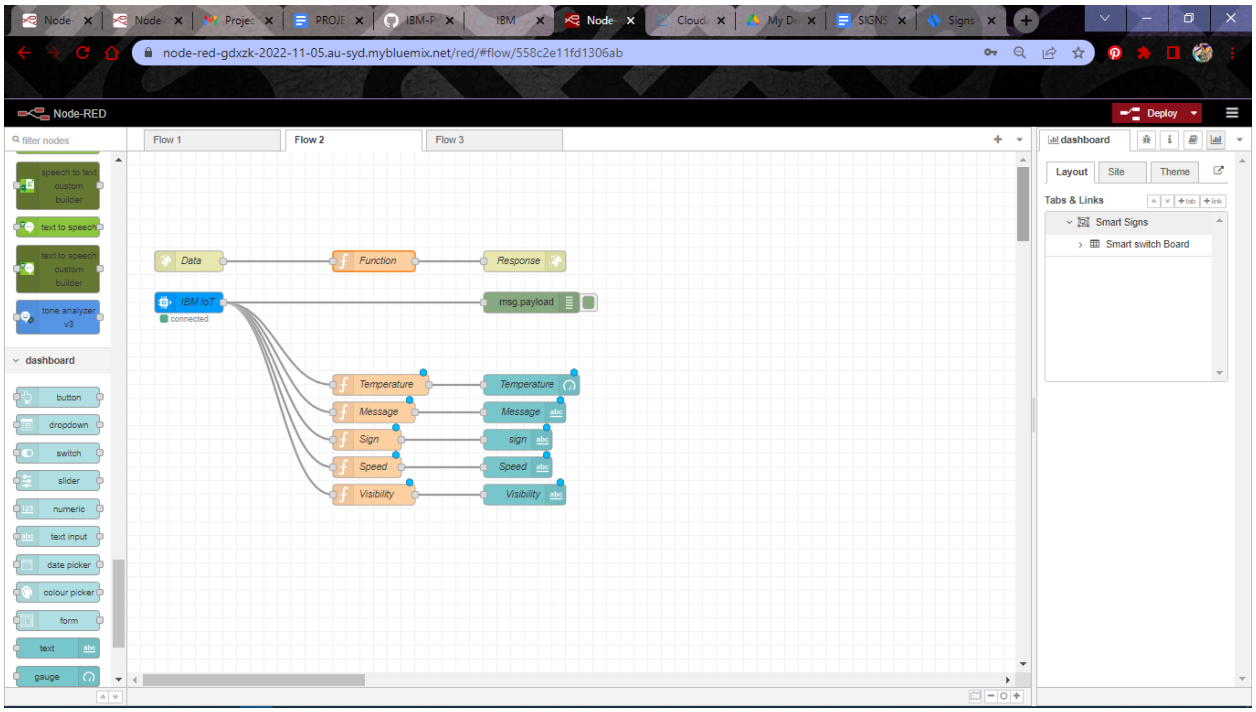
PROJECT DEVELOPMENT PHASE

Sprint-3

TEAM ID	**PNT2022TMID34520**
PROJECT NAME	**SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY**

DEVELOPING ROUTE BASED ON THE PROGRAM:

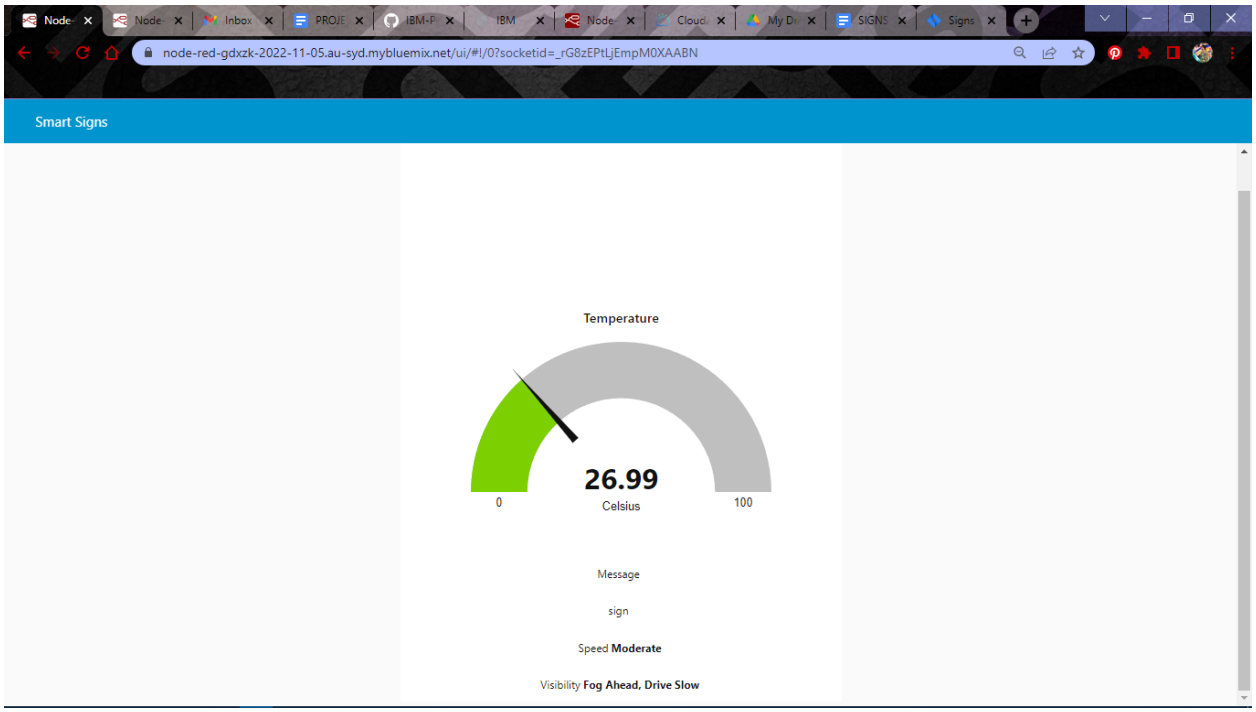
Here based on the project the routing is developed by using appropriate nodes.



OUTPUT FOR NODE RED:

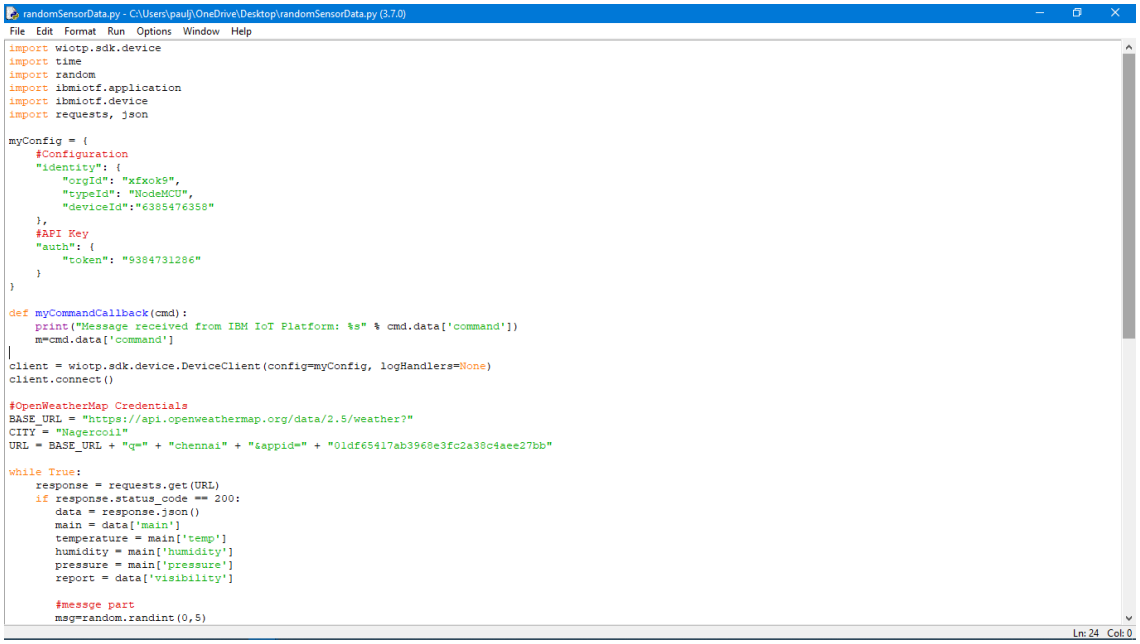
After making the proper connection between nodes the deploy button is enabled and the result is displayed on the node-red dashboard.

It shows the result in a diagrammatic structure.

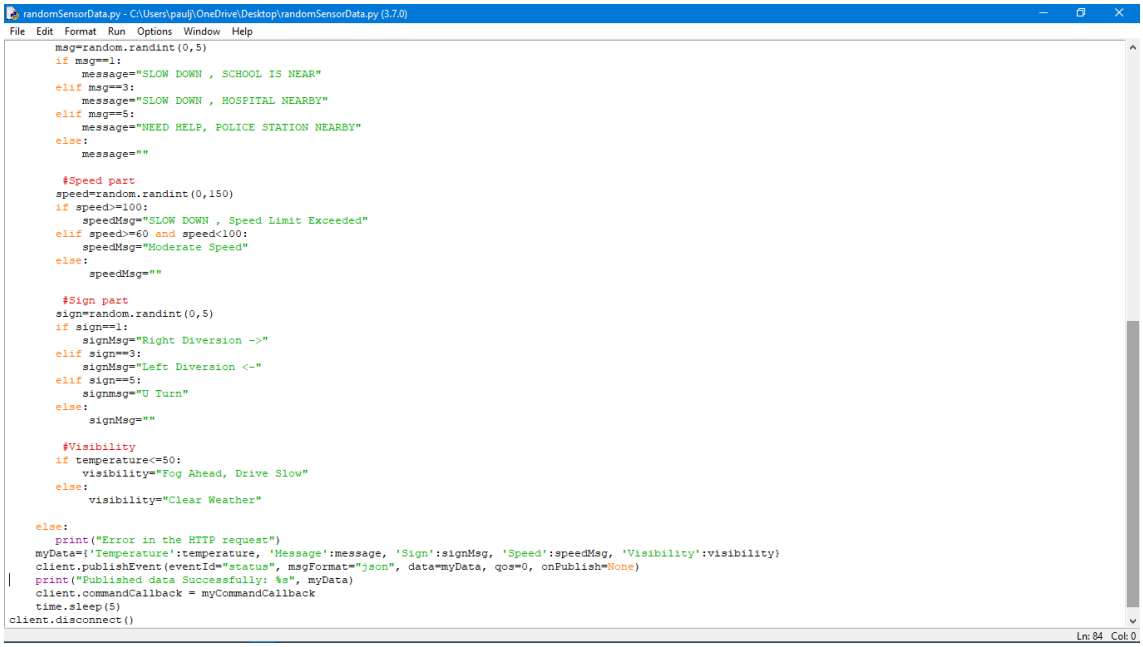


CODE IN PYTHON IDLE :

PROGRAM:



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

myConfig = {
    #Configuration
    "identity": {
        "orgId": "xfxok9",
        "typeId": "NodeMCU",
        "deviceId":"6385476358"
    },
    #API Key
    "auth": {
        "token": "9384731286"
    }
}

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.connect()

#OpenWeatherMap Credentials
BASE_URL = "https://api.openweathermap.org/data/2.5/weather?"
CITY = "Nagercoil"
URL = BASE_URL + "q=" + "chennai" + "&appid=" + "01df65417ab3968e3fc2a38c4aee27bb"

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)
```



```
       msg=random.randint(0,5)
       if msg==1:
           message="SLOW DOWN , SCHOOL IS NEAR"
       elif msg==3:
           message="SLOW DOWN , HOSPITAL NEARBY"
       elif msg==5:
           message="NEED HELP, POLICE STATION NEARBY"
       else:
           message=""

        #Speed part
       speed=random.randint(0,150)
       if speed>=100:
           speedMsg="SLOW DOWN , Speed Limit Exceeded"
       elif speed>=60 and speed<100:
           speedMsg="Moderate Speed"
       else:
            speedMsg=""

        #Sign 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<=50:
           visibility="Fog Ahead, Drive Slow"
       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)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(5)
client.disconnect()
```

Program used in the code:

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import time

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client.disconnect()

Output displayed in Python Idle:

The output of the code was displayed in python idle shell mode.