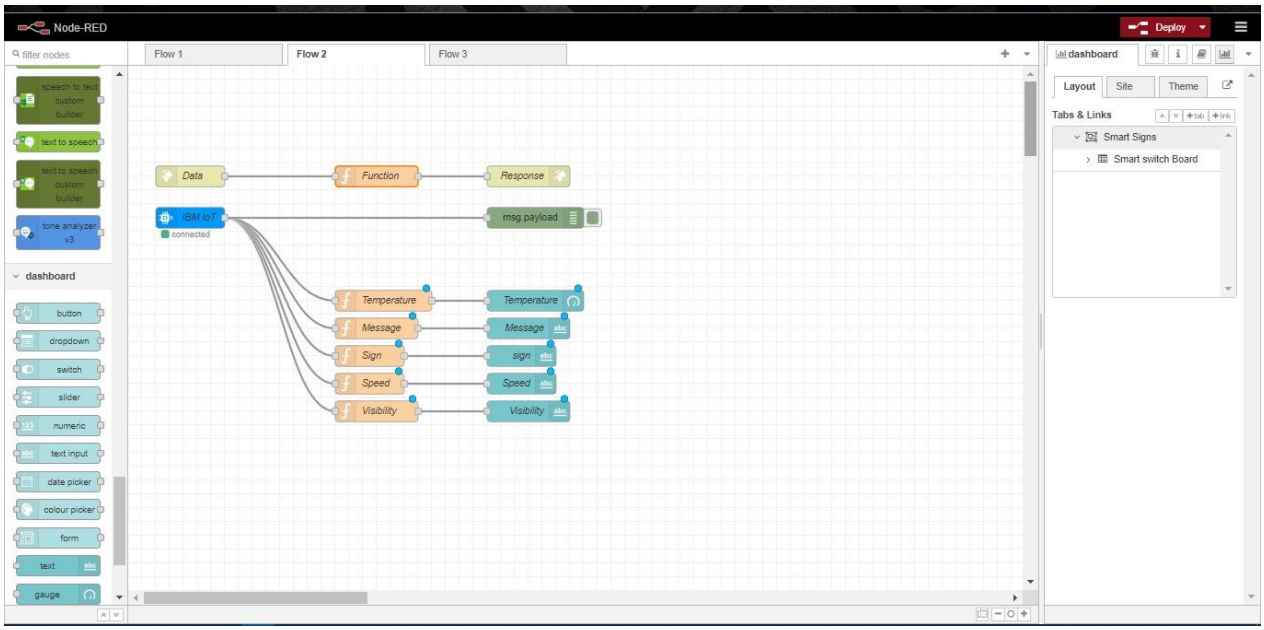
PROJECT DEVELOPMENT PHASE

Sprint-4

Team ID	PNT2022TMID29479
Project	SIGNS WITH SMART CONNECTIVITY FOR BETTER ROAD SAFETY
Batch	B2-2M4E

DEVELOPING ROUTE BASED ON THE PROGRAM:

Here based on the project the routing is developed by usingappropriate nodes.

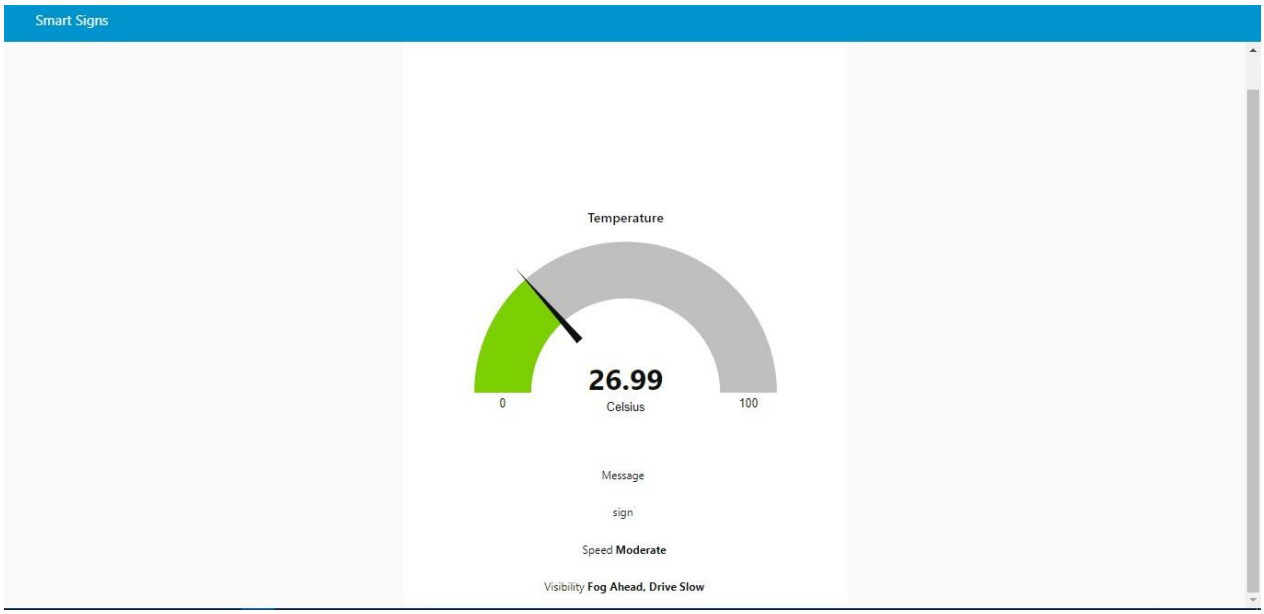


OUTPUT FOR NODE RED:

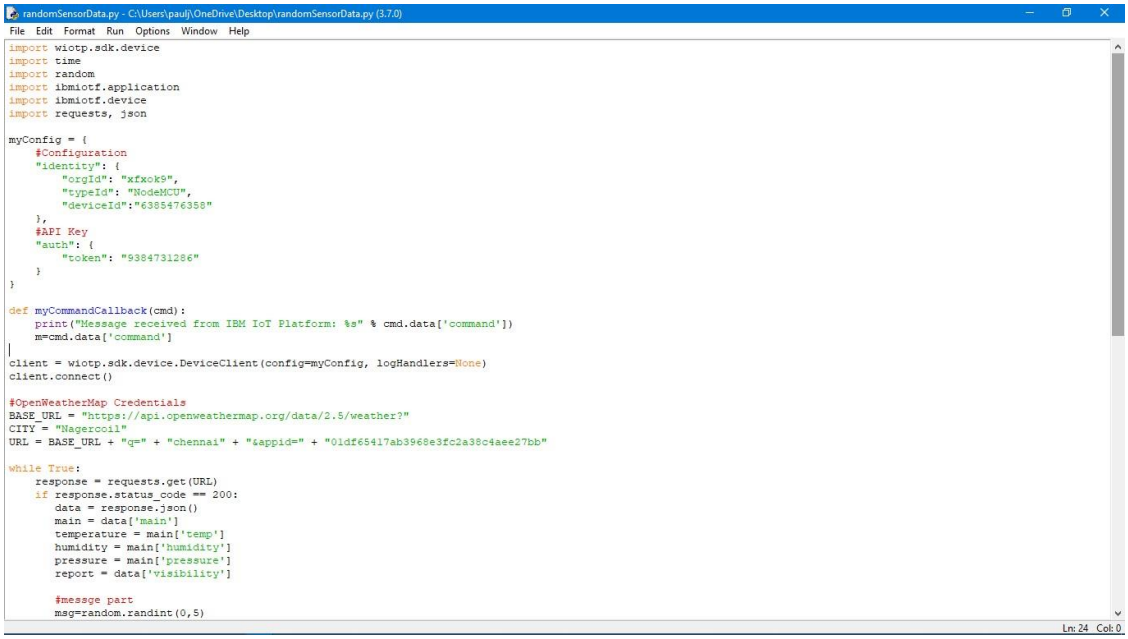
After making the proper connection between nodes the deploybutton is enabled and the result is displayed on the node-red dashboard.

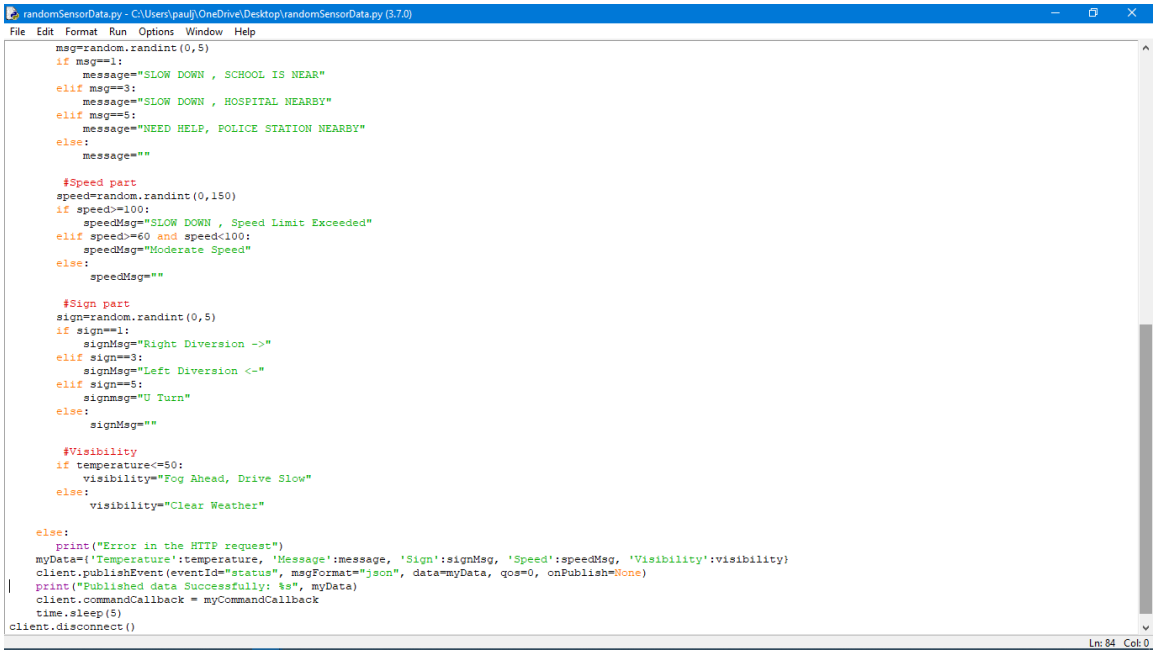
It shows the result in a diagrammatic structure.

CODE IN PYTHON IDLE :



PROGRAM:





Program used in the code:

import wiotp.sdk.device
import time

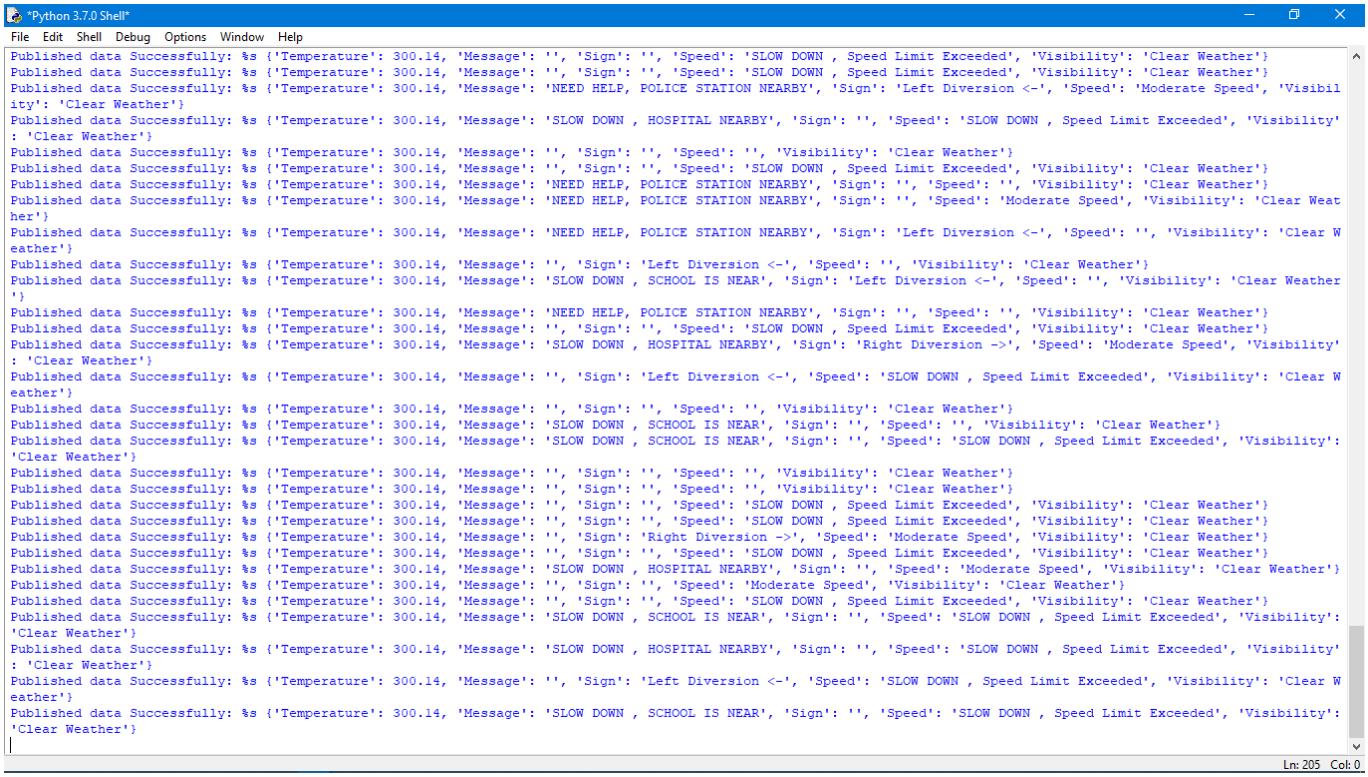
```
import random
import ibmiotf.application
import ibmiotf.device
import requests, json

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 = "Chennai"
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)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()

Output displayed in Python Idle:



The output of the code was displayed in python idle shellmode.