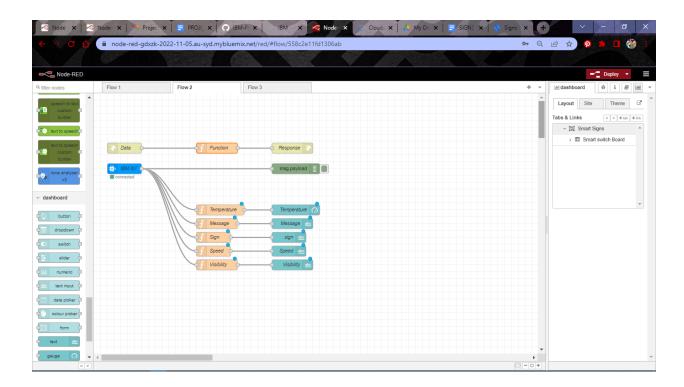
## PROJECT DEVELOPMENT PHASE

# Sprint-3

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

#### DEVELOPING ROUTE BASED ON THE PROGRAM:

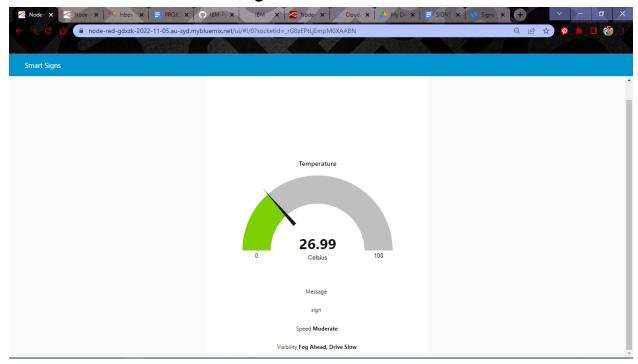
Here based on the project the routing is developed by using appropriate nodes.



### **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:

```
File Edit Format Run Options Window Help
              tdit Format Run Options \
rt wiotp.sdk.device
rt time
rt random
rt ibmiotf.application
rt ibmiotf.device
    import requests, json
 },
#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 = "Magercoil"
URL = BASE_URL + "q=" + "chennai" + "Sappid=" + "Oldf65417ab3968e3fc2a38c4aee27bb"
while True:
    response = requests.get(URL)
    if response.status_code == 200:
    data = response.joon()
    main = date('main')
    temperature = main('semp')
    humidity = main('humidity')
    pressure = main('pressure')
    report = data('visibility')
randomSensorData.py - Ci\User\paulj\OneDrive\Deixtop\randomSensorData
File Edit Format Run Options Window Help
msg=randoms.randalnt(0,5)
if msg=*1:
message=*SLOW DOWN , SCHOOL IS NEAR*
elif msg=*SLOW DOWN , HOSPITAL NEARBY*
else:
message="NEED HELF, POLICE STATION NEARBY*
else:
message=""
                 #Speed part
speed-random.randint(0,150)
if speed-bl00:
speedMsgm=SLOW DOWN , Speed Limit Exceeded"
elif speed-e00 and speed(100:
speedMsgm=Moderate Speed"
else:
speedMsgm=""
               fSign part
sign=random.randint(0,5)
if sign==1:
    signMsg="Right Diversion ->"
    signMsg="Right Diversion <-"
    signMsg="Left Diversion <-"
elif sign==5:
    signmsg="U Turn"
else:
    signMsg=""
                 #Visibility
if temperature<=50:
    visibility="Fog Ahead, Drive Slow"</pre>
                                  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: ks", myData)
client.commandCallback = myCommandCallback
 time.sleep(5)
client.disconnect()
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ln: 84 Col: 0
```

### 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 = "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)
   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 shell mode.

```
File Edit Shell Debug Options Window Help
Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': 'NEED HELP, POLICE STATION NEARBY', 'Sign': 'Left Diversion <-', 'Speed': 'Moderate Speed', 'Visibil
 Published data Successfully: %s {'Temperature': 300.14, 'Message': 'SLOW DOWN , HOSPITAL NEARBY', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility'
: 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN, Speed Limit Exceeded', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': 'NEED HELP, POLICE STATION NEARBY', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': 'NEED HELP, POLICE STATION NEARBY', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')
 Published data Successfully: %s ('Temperature': 300.14, 'Message': 'NEED HELP, POLICE STATION NEARBY', 'Sign': 'Left Diversion <-', 'Speed': '', 'Visibility': 'Clear W
eauler;
Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': 'Left Diversion <-', 'Speed': '', 'Visibility': 'Clear Weather')
Published data Successfully: %s {'Temperature': 300.14, 'Message': 'SLOW DOWN , SCHOOL IS NEAR', 'Sign': 'Left Diversion <-', 'Speed': '', 'Visibility': 'Clear Weather
',
Published data Successfully: %s {'Temperature': 300.14, 'Message': 'NEED HELP, POLICE STATION NEARBY', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather'}
Published data Successfully: %s {'Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear Weather'}
Published data Successfully: %s {'Temperature': 300.14, 'Message': 'SLOW DOWN , HOSPITAL NEARBY', 'Sign': 'Right Diversion ->', 'Speed': 'Moderate Speed', 'Visibility'
     'Clear Weather'}
  Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': 'Left Diversion <-', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear W
eather;
Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': 'SLOW DOWN , SCHOOL IS NEAR', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather')
Published data Successfully: %s ('Temperature': 300.14, 'Message': 'SLOW DOWN , SCHOOL IS NEAR', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility':
'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': '', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': '', 'Speed': 'Moderate Speed', 'Visibility': 'Clear Weather')

Fublished data Successfully: %s ('Temperature': 300.14, 'Message': '', Sign': '', 'Speed': 'Moderate Speed', Visibility': 'Clear Weather')
   'Clear Weather'}
   Clear Weather!
 Published data Successfully: %s ('Temperature': 300.14, 'Message': 'SLOW DOWN , HOSPITAL NEARBY', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility'
       'Clear Weather'}
 Published data Successfully: %s ('Temperature': 300.14, 'Message': '', 'Sign': 'Left Diversion <-', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility': 'Clear W
 Published data Successfully: %s ('Temperature': 300.14, 'Message': 'SLOW DOWN , SCHOOL IS NEAR', 'Sign': '', 'Speed': 'SLOW DOWN , Speed Limit Exceeded', 'Visibility':
  'Clear Weather'
                                                                                                                                                                                                                                                                                                                                                                                                                    Ln: 205 Col: 0
```