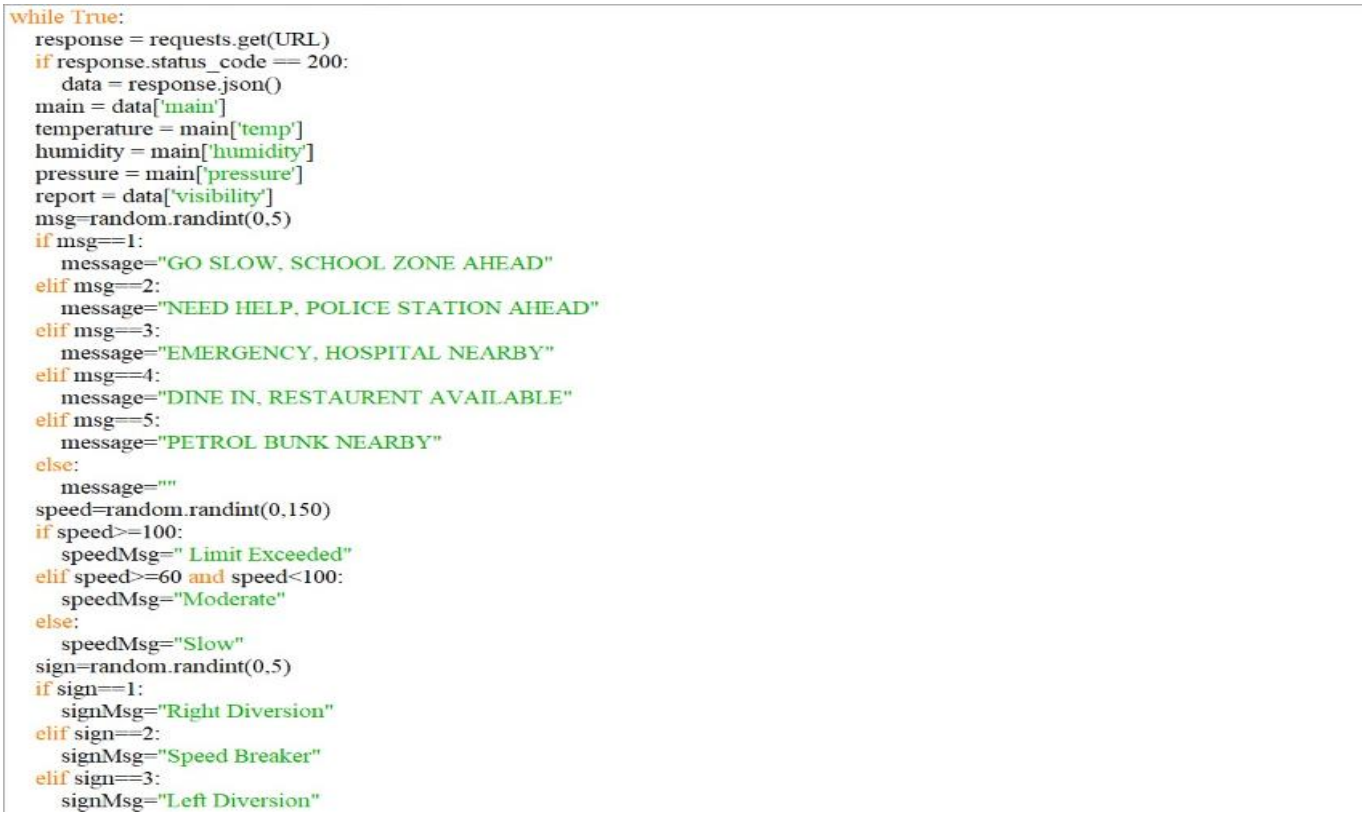
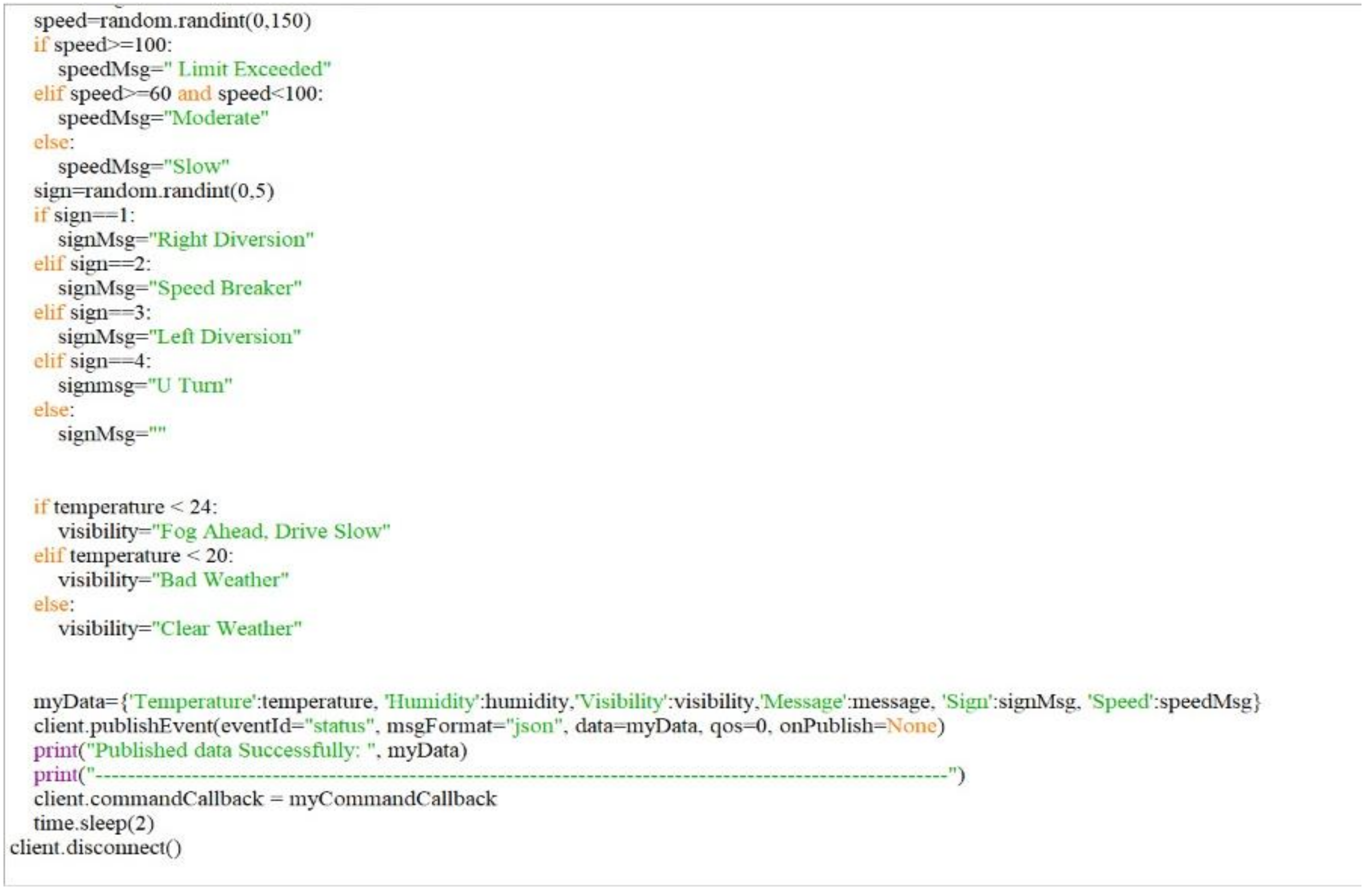
SPRINT - 4

Date	16 NOVEMBER 2022
Team ID	PNT2022TMID22101
Project Name	Project – SIGNS WITH SMART CONNECTIVITY FORBETTER ROAD SAFETY
Maximum Marks	4 Marks

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

myConfig = {
  "identity": {
    "orgId": "4gh14s",
    "typeId": "ESP32",
    "deviceId":"1234"
  },
  "auth": {
    "token": "5xp6Zc74hThvC!qyOY"
  }
}

def myCommandCallback(cmd):
  print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
  m=cmd.data['command']
  if(m=="alarm ON"):
    print("Alarm is turned ON")
  elif(m=="alarm OFF"):
    print("Alarm is turned OFF")
  print(" ")


client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
BASE_URL = "https://api.openweathermap.org/data/2.5/weather?"
CITY = "Jaipur, IN"
URL = BASE_URL + "q=" + CITY + "&units=metric"+"&appid=" + "be42a38741dd6a72d994a4bc7d9a5025"
```

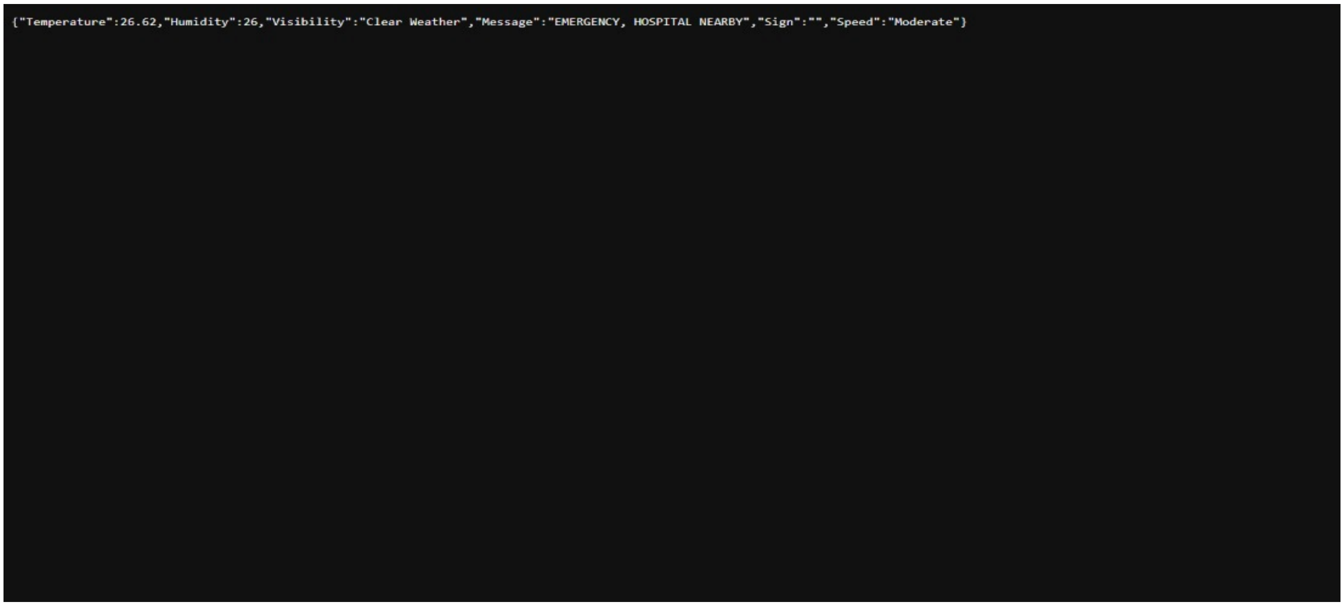


```
while True:
   response = requests.get(URL)
   if response.status_code == 200:
      data = response.json()
   main = data['main']
   temperature = main['temp']
   humidity = main['humidity']
   pressure = main['pressure']
   report = data['visibility']
   msg=random.randint(0,5)
   if msg==1:
      message="GO SLOW, SCHOOL ZONE AHEAD"
   elif msg==2:
      message="NEED HELP, POLICE STATION AHEAD"
   elif msg==3:
      message="EMERGENCY, HOSPITAL NEARBY"
   elif msg==4:
      message="DINE IN, RESTAURENT AVAILABLE"
   elif msg==5:
      message="PETROL BUNK NEARBY"
   else:
      message=""
   speed=random.randint(0,150)
   if speed>=100:
      speedMsg=" Limit Exceeded"
   elif speed>=60 and speed<100:
      speedMsg="Moderate"
   else:
      speedMsg="Slow"
   sign=random.randint(0,5)
   if sign==1:
      signMsg="Right Diversion"
   elif sign==2:
      signMsg="Speed Breaker"
   elif sign==3:
      signMsg="Left Diversion"
```

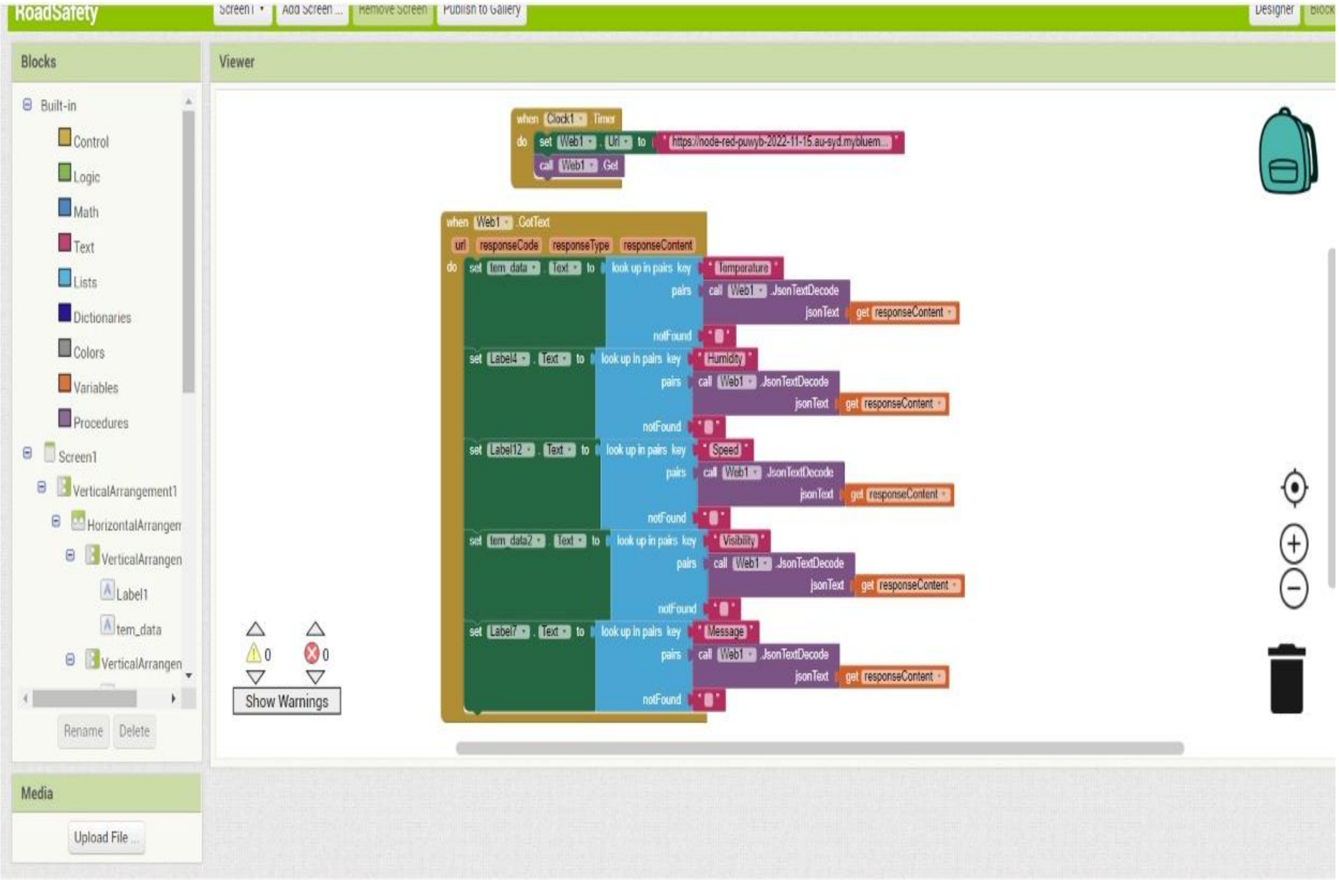


```
   speed=random.randint(0,150)
   if speed>=100:
      speedMsg=" Limit Exceeded"
   elif speed>=60 and speed<100:
      speedMsg="Moderate"
   else:
      speedMsg="Slow"
   sign=random.randint(0,5)
   if sign==1:
      signMsg="Right Diversion"
   elif sign==2:
      signMsg="Speed Breaker"
   elif sign==3:
      signMsg="Left Diversion"
```

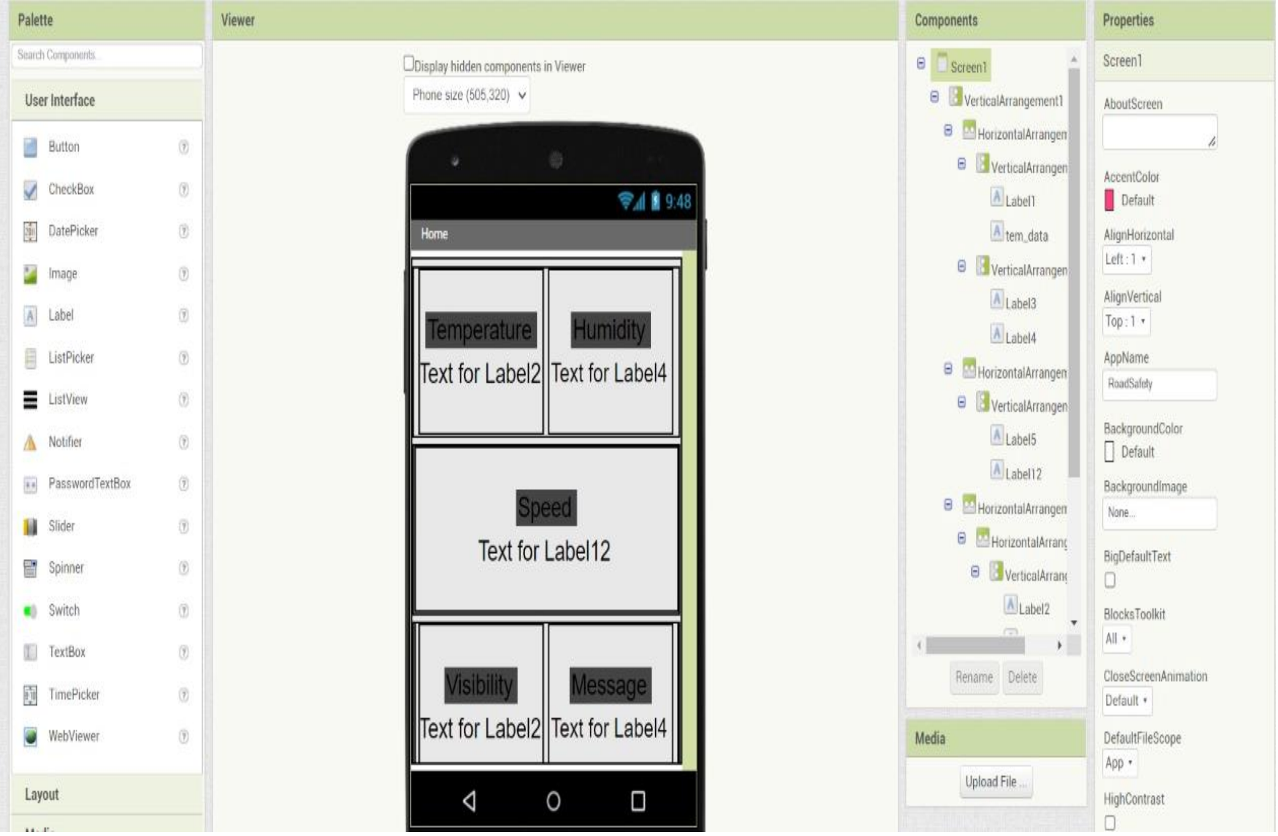
```
   elif sign==4:
      signmsg="U Turn"
   else:
      signMsg=""


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


   myData={'Temperature':temperature, 'Humidity':humidity,'Visibility':visibility,'Message':message, 'Sign':signMsg, 'Speed':speedMsg}
   client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
   print("Published data Successfully: ", myData)
   print("------------------------------------------------------------------------------------------------------")
   client.commandCallback = myCommandCallback
   time.sleep(2)
client.disconnect()
```



```
{"Temperature":26.62,"Humidity":26,"Visibility":"Clear Weather","Message":"EMERGENCY, HOSPITAL NEARBY","Sign":"","Speed":"Moderate"}
```



```
when Clock1 .Timer
do  set Web1 . Url to "https://node-red-puwyb-2022-11-15.au-syd.mybluem..."
    call Web1 .Get

when Web1 .GotText
  url  responseCode  responseType  responseContent
do  set tem_data . Text to  look up in pairs  key "Temperature"
                                               pairs  call Web1 .JsonTextDecode
                                                                jsonText  get responseContent
                                               notFound ""
    set Label4 . Text to  look up in pairs  key "Humidity"
                                             pairs  call Web1 .JsonTextDecode
                                                              jsonText  get responseContent
                                             notFound ""
    set Label12 . Text to  look up in pairs  key "Speed"
                                              pairs  call Web1 .JsonTextDecode
                                                               jsonText  get responseContent
                                              notFound ""
    set tem_data2 . Text to  look up in pairs  key "Visibility"
                                                pairs  call Web1 .JsonTextDecode
                                                                 jsonText  get responseContent
                                                notFound ""
    set Label7 . Text to  look up in pairs  key "Message"
                                             pairs  call Web1 .JsonTextDecode
                                                              jsonText  get responseContent
                                             notFound ""
```



Screen1

AboutScreen

AccentColor
Default

AlignHorizontal
Left : 1

AlignVertical
Top : 1

AppName
RoadSafety

BackgroundColor
□ Default

BackgroundImage
None...

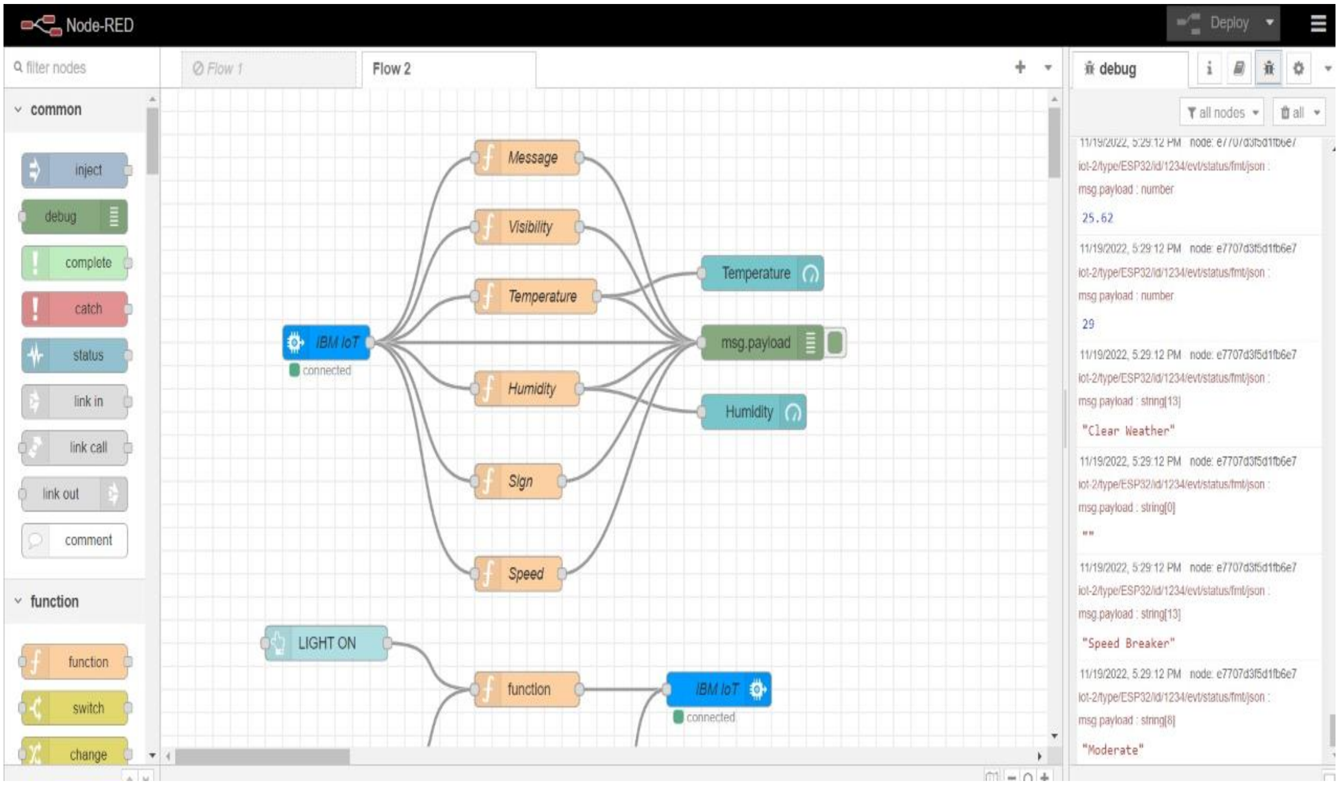
BigDefaultText
□

BlocksToolkit
All

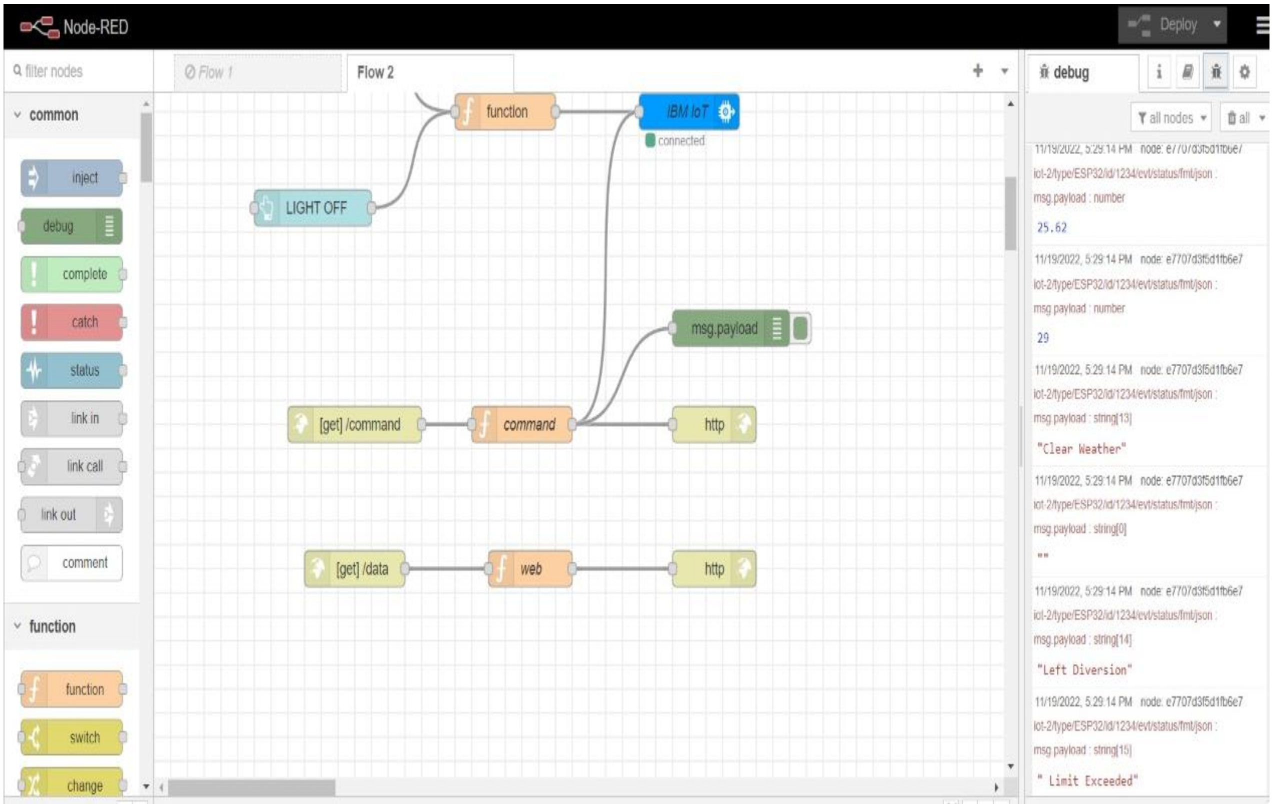
CloseScreenAnimation
Default

DefaultFileScope
App

HighContrast
□



```
11/19/2022, 5:29:12 PM  node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : number
25.62

11/19/2022, 5:29:12 PM  node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : number
29

11/19/2022, 5:29:12 PM  node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[13]
"Clear Weather"

11/19/2022, 5:29:12 PM  node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[0]
""

11/19/2022, 5:29:12 PM  node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[13]
"Speed Breaker"

11/19/2022, 5:29:12 PM  node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[8]
"Moderate"
```



```
11/19/2022, 5:29:14 PM   node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : number
25.62

11/19/2022, 5:29:14 PM   node: e7707d3f5d1fb6e7
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iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[0]
""

11/19/2022, 5:29:14 PM   node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[14]
"Left Diversion"

11/19/2022, 5:29:14 PM   node: e7707d3f5d1fb6e7
iot-2/type/ESP32/id/1234/evt/status/fmt/json :
msg.payload : string[15]
" Limit Exceeded"
```