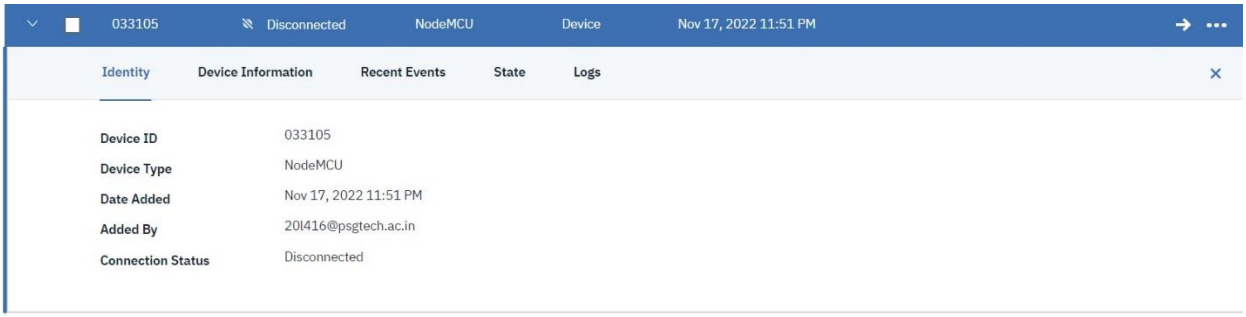
Project Development Phase

Sprint 1

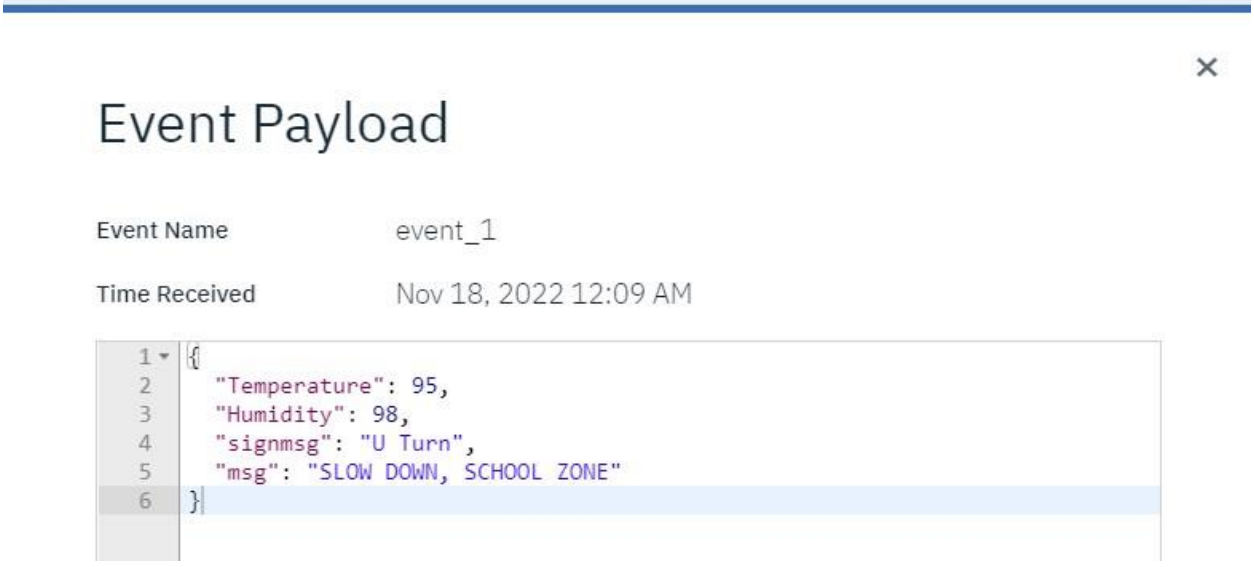
Date	17 November 2022
Team ID	PNT2022TMID12941
Title	Signs with smart connectivity for better road safety

Goal: To configure IBM services and to generate random data in IBM Watson platform and simulate in IBM Cloud.

Configuring IBM Watson IOT Platform:



Output at recent events:



Python code for random data generation:

```
import wiotp.sdk.device
import time
import random
import ibmiotf.application
import ibmiotf.device
import requests,json
myConfig = {
    #Configuration
    "identity":{
        "orgId":"ne15x6",
        "typeId":"ESP32",
        "deviceId":"030800"
        },
    #APIKey
    "auth":{
        "token":"26082022"
        }
    }
def myCommandCallback(cmd):
    print("MessagereceivedfromIBMIoTPlatform:%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="Coimbatore"
URL=BASE_URL+"q="+"coimbatore"+"&appid="+"2f8de56c1b8fa2fe34b779ad40c92609"

while True:
    response=requests.get(URL)
    if response.status_code==200:
        data=response.json()
        main = data['main']
        temperature = main['temp']
        humidity = main['humidity']
        report=data['visibility']
        #messge part
        msg=random.randint(0,5)
        if msg==1:
            message="SLOWDOWN,SCHOOL ZONE"
        elif msg==3:
            message="SLOWDOWN,HOSPITAL ZONE"
        else:
            message=""
        #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=""
    else:
        print("Error in the HTTP request")
    myData={'Temperature':temperature, 'Message':message,'Sign':signMsg}
    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()
```