

HAZARDOUS AREA MONITORING FOR INDUSTRIAL PLANT POWERED BY IOT

Team id: PNT2022TMID36143

The screenshot displays the Node-RED web interface in a browser. The main workspace shows a flow named 'Flow 1' with the following components:

- IBM IoT Node:** Connected to three function nodes labeled 'temp', 'hum', and 'air quality'.
- Function Nodes:** Each function node is connected to a corresponding 'msg payload' node.
- Output Nodes:** The 'msg payload' nodes are connected to output nodes labeled 'temperature', 'humidity', and 'Air_quality'.
- Additional Nodes:** There are also 'sensor on/off', 'http', and 'function' nodes in the workspace.

The debug console on the right shows the following log messages:

```
iot-2/type/team/id/12345/evt/event_1/fmt/json :  
msg.payload : number  
45  
19/11/2022, 17:55:33 node: f2f2649a-0dd998  
iot-2/type/team/id/12345/evt/event_1/fmt/json :  
msg.payload : Object  
{ Air_quality: 50, humid: 67, temp:  
0.2 }  
19/11/2022, 17:55:33 node: f2f2649a-0dd998  
iot-2/type/team/id/12345/evt/event_1/fmt/json :  
msg.payload : number  
0.2  
19/11/2022, 17:55:33 node: f2f2649a-0dd998  
iot-2/type/team/id/12345/evt/event_1/fmt/json :  
msg.payload : undefined  
undefined  
19/11/2022, 17:55:33 node: f2f2649a-0dd998  
iot-2/type/team/id/12345/evt/event_1/fmt/json :  
msg.payload : number  
50
```

Below the Node-RED interface, a Python 3.7.0 Shell window is open, showing the following output:

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32  
Type "copyright", "credits" or "license()" for more information.  
>>>  
===== RESTART: C:\Users\USER\Downloads\code.py.txt =====  
2022-11-19 17:58:08,379 ibmiotf.device.Client INFO Connected successfully: d:t59c74:team:12345  
Published Temperature = 96 C Humidity = 66 % Air_quality = 366 % to IBM Watson  
Published Temperature = 104 C Humidity = 61 % Air_quality = 82 % to IBM Watson  
Published Temperature = 93 C Humidity = 60 % Air_quality = 980 % to IBM Watson  
Published Temperature = 106 C Humidity = 82 % Air_quality = 202 % to IBM Watson  
Published Temperature = 93 C Humidity = 74 % Air_quality = 149 % to IBM Watson  
Published Temperature = 104 C Humidity = 69 % Air_quality = 237 % to IBM Watson
```

HAZARDOUS AREA MONITORING FOR INDUSTRIAL PLANT POWERED BY IOT

Team id: PNT2022TMID36143

Code :

```
import wiotp.sdk.device
import time
import random
myConfig={
"identity":{
"orgId": "t59c74",
"typeId": "team",
"deviceId": "12345"
},
"auth": {
"token": "12345678"
}
}
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()
while True:
temp=random.randint(-20,125)
hum=random.randint(0,100)
myData={'temperature':temp, 'humidity':hum}
client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
print("Published data Successfully: %s", myData)
client.commandCallback = myCommandCallback
time.sleep(2)
client.disconnect()
```