

Project Development Phase
Sprint - 1

Date	29 October 2022
Team ID	PNT2022TMID18041
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT
Maximum Marks	2

Data Generation:

Using random function in python, the required sensor data have been generated and published to IBM Watson IoT Platform.

Python Source Code:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "sc7zij",
        "typeId": "NodeMCU",
        "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={'d':{'temperature':temp, 'humidity':hum}}
    client.publishEvent(eventId="Data", msgFormat="json", data=myData,
qos=0,onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
```

```
time.sleep(2)
client.disconnect()
```

Output:

The screenshot displays the IBM Watson IoT Platform dashboard. The main panel shows a list of recent events under the 'Recent Events' tab. The events are as follows:

Event	Value
Data	{"d":{"temperature":74,"humidity":22}}
Data	{"d":{"temperature":72,"humidity":42}}
Data	{"d":{"temperature":27,"humidity":47}}
Data	{"d":{"temperature":-1,"humidity":80}}
Data	{"d":{"temperature":85,"humidity":6}}

Overlaid on the right is the 'Simulations' panel, which indicates '1/50 Simulations Running'. It shows a 'Device Type' of 'NodeMCU' and a list of '1 Device' with ID '12345'. At the bottom of the simulation panel are two buttons: 'Create Simulated Device' and 'Use Registered Device'.