

Project Development Phase
Sprint - 1

Team ID	PNT2022TMID52802
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT
Maximum Marks	

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 time
import sys
import ibmiotf.application
import ibmiotf.device
import random

# Provide your IBM Watson Device Credentials
organization = "c1n0yk"
deviceType = "Hazard"
deviceId = "2"
authMethod = "token"
authToken = "123456789"

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-
method": authMethod,
                    "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    deviceCli.connect()
```

```

# .....

except ibmiotf.ConnectionException as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

while True:
    # Get Sensor Data from DHT11

    temp = random.randint(0, 100)

    mydata = {'temp': temp}

    def on_publish():
        print("Published Temperature = %s C" % temp, "to IBM Watson")

    success = deviceCli.publishEvent("Temp sensor", "json", mydata, qos=0,
on_publish=on_publish)
    if not success:
        print("Not connected to IoT")
        time.sleep(2)

# Disconnect the device and application from the cloud
deviceCli.disconnect()

```

Output:

The screenshot displays a web application interface for managing devices. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main content area shows details for a device named 'weather_device', which is currently 'Disconnected'. The 'Recent Events' tab is active, displaying a table of simulation events. The table has four columns: 'Event', 'Value', 'Format', and 'Last Received'. It lists five events, each with a unique ID and a JSON value representing temperature and humidity data. A status message at the bottom right indicates '1 Simulation running'. The Windows taskbar at the bottom shows the system clock as 21:31 on 09-11-2022.

Identity **Device Information** **Recent Events** **State** **Logs**

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Temperature":44,"humidity":94}	json	a few seconds ago
event_1	{"Temperature":58,"humidity":90}	json	a few seconds ago
event_1	{"Temperature":30,"humidity":95}	json	a few seconds ago
event_1	{"Temperature":46,"humidity":74}	json	a few seconds ago
event_1	{"Temperature":46,"humidity":96}	json	a few seconds ago

1 Simulation running

27°C Mostly cloudy Q Search ENG IN 21:31 09-11-2022