Project Development Phase
SPRINT - 3

Date	12 November 2022
Team ID	PNT2022TMID54322
Project Name	Signs with Smart Connectivity for Better Road Safety
Maximum Marks	20 Marks

Sprint-3	USN-1	Develop a python script to publish random sensor data such as temperature, humidity to the IBM IoT platform.
Sprint-3	USN-2	After developing python code, commands are received just print the statements which represent the control of the devices.
Sprint-3	USN-3	Publish Data to The IBM Cloud

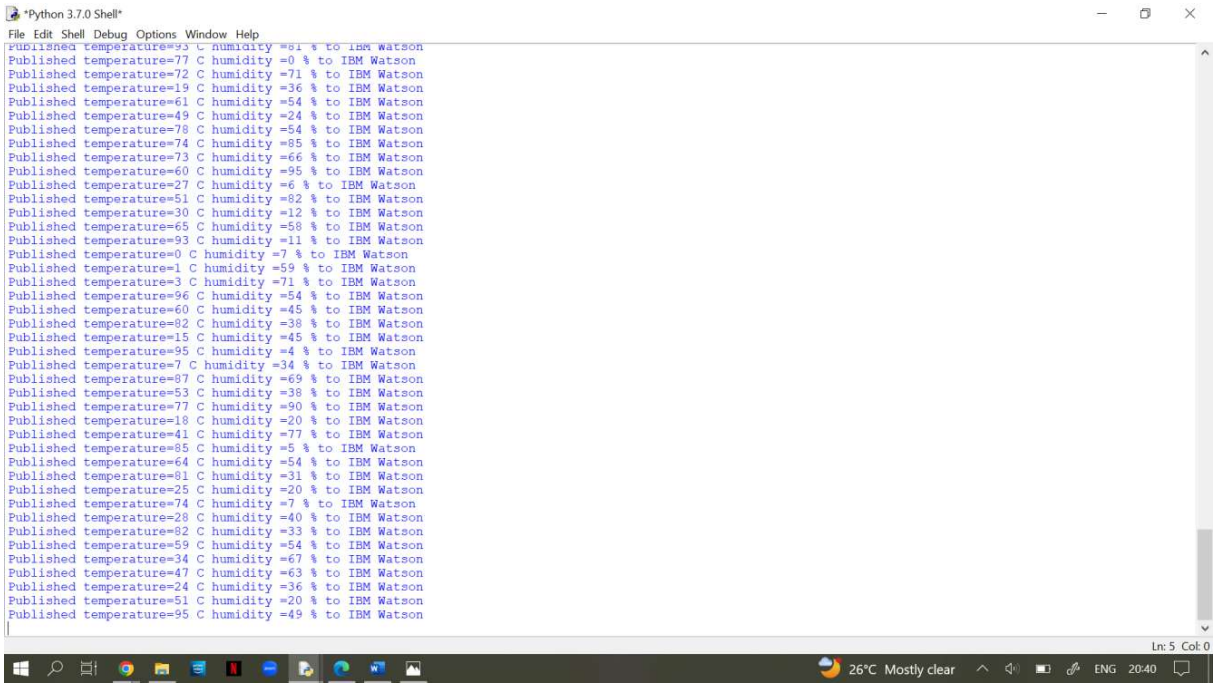
USN-1: Develop a python script to publish random sensor data such as temperature, humidity to the IBM IoT platform.

PYTHON SCRIPT

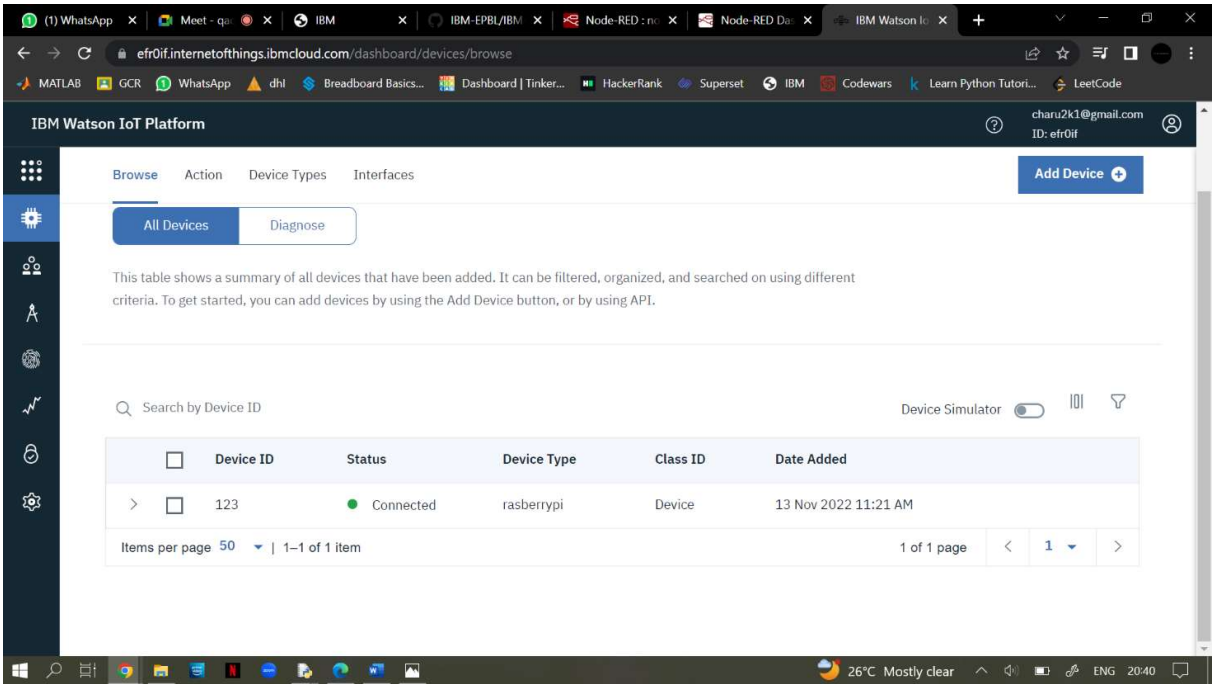
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "efr0if"
deviceType = "rasberrypi"
deviceId = "123"
authMethod = "token"
authToken = "12345678"

#Intialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s” % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
```

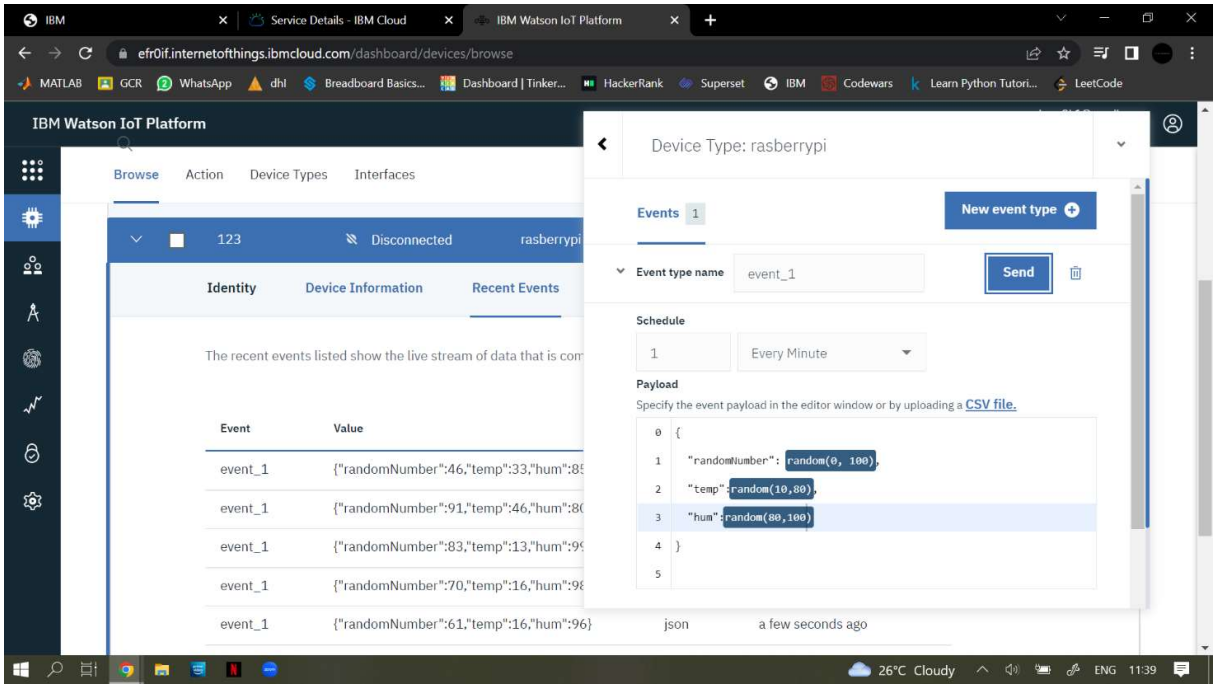
```
        print ("led is on")
    else:
        print("led is off")


#print(cmd)

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


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

 # Connect and send a datapoint "hello" with value "world" into the cloud as
an event of type "greeting" 10 times
deviceCli.connect()

while True:
 #Get Sensor Data from DHT11

        temp=random.randint(0,100)
        humid=random.randint(0,100)
        data = {'temperature':temp, 'humidity':humid}
 #print data
        def myOnPublishCallback():
            print("Published temperature=%s C" %temp,"humidity =%s %%"
%humid,"to IBM Watson")

        success = deviceCli.publishEvent("IoTSensor","json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(10)

        deviceCli.commandCallback= myCommandCallback

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

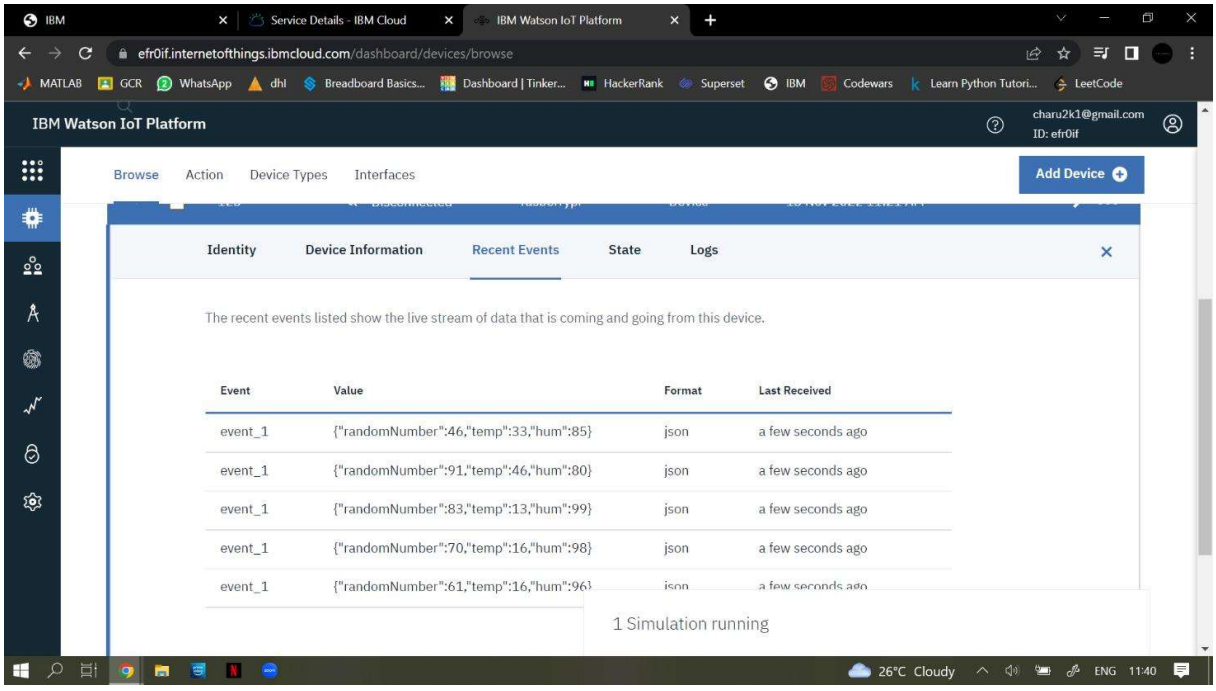
USN-2: After developing python code, commands are received just print the statements which represent the control of the devices.



USN-3: Publish Data to the IBM Cloud.




IBM
Service Details - IBM Cloud
IBM Watson IoT Platform
efr0if.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
Browse
Action
Device Types
Interfaces
123
Disconnected
rasberrypi
Identity
Device Information
Recent Events
The recent events listed show the live stream of data that is com
Event
Value
event_1
{"randomNumber":46,"temp":33,"hum":85
event_1
{"randomNumber":91,"temp":46,"hum":80
event_1
{"randomNumber":83,"temp":13,"hum":99
event_1
{"randomNumber":70,"temp":16,"hum":98
event_1
{"randomNumber":61,"temp":16,"hum":96}
json
a few seconds ago
Device Type: rasberrypi
Events 1
New event type
Event type name
event_1
Send
Schedule
1
Every Minute
Payload
Specify the event payload in the editor window or by uploading a CSV file.
{
"randomNumber": random(0, 100),
"temp":random(10,80),
"hum":random(80,100)
}
26°C Cloudy
ENG
11:39


IBM
Service Details - IBM Cloud
IBM Watson IoT Platform
efr0if.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
charu2k1@gmail.com
ID: efr0if
Browse
Action
Device Types
Interfaces
Add Device
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
{"randomNumber":46,"temp":33,"hum":85}
json
a few seconds ago
event_1
{"randomNumber":91,"temp":46,"hum":80}
json
a few seconds ago
event_1
{"randomNumber":83,"temp":13,"hum":99}
json
a few seconds ago
event_1
{"randomNumber":70,"temp":16,"hum":98}
json
a few seconds ago
event_1
{"randomNumber":61,"temp":16,"hum":96}
1 Simulation running
26°C Cloudy
ENG
11:40