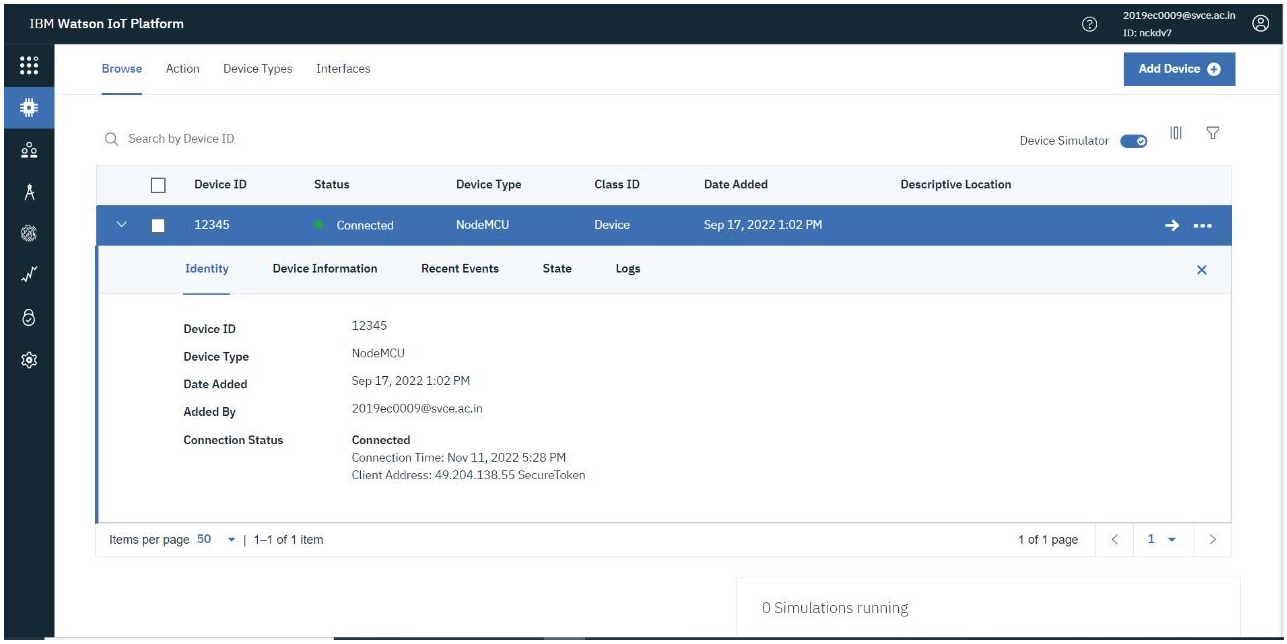
SPRINT 1

Date	29 October 2022
Team ID	PNT2022TMID53609
Project Name	Smart Farmer – IOT Enabled Smart Farming Application
Maximum Marks	8 Marks

Configuration of the IBM Watson IOT Platform and a device:

In the IBM Watson IOT Platform, under the catalog list, under the Internet of Things platform, a device has been created. From that the device credentials such as Device ID, Device Type, Organization ID, Authentication token were obtained.



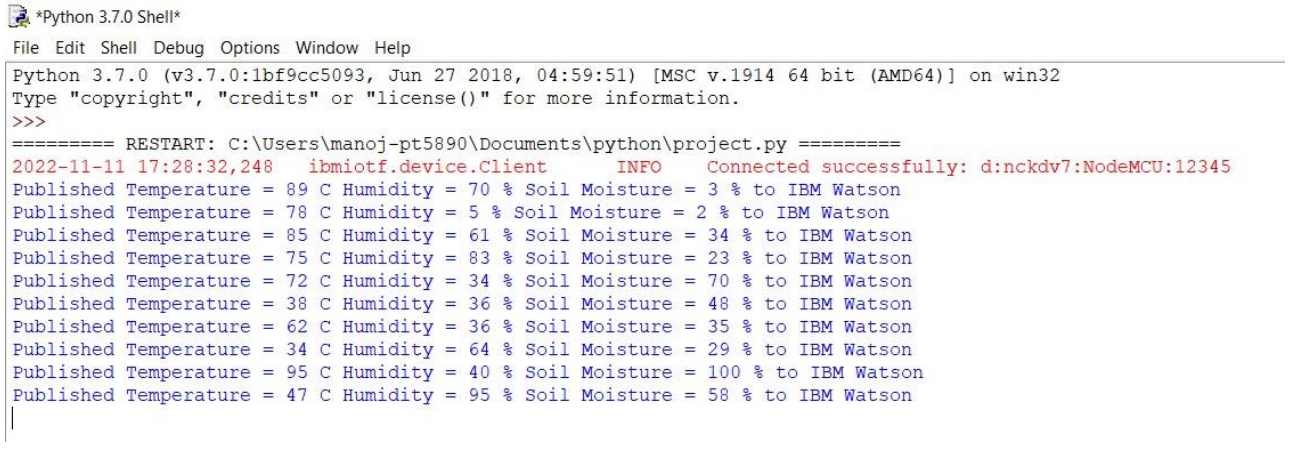
Development of Python Script to publish data to IBM Watson IOT platform:

Code:

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

#Provide your IBM Watson Device Credentials
organization = "nckdv7"
deviceType = "NodeMCU"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"
```

```
# Initialize GPIO
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)
    pulse=random.randint(0,100)
    moisture= random.randint(0,100)
    humidity=random.randint(0,100);
    lat =  17
    lon = 18
    data = { 'temperature' : temp, 'humidity' : humidity, 'Moisture' : moisture}
    #print data
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % humidity, "Soil
Moisture = %s %%" % moisture,"to IBM Watson")

    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")
    time.sleep(1)

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

Python Code Output:



```
```

After publishing data to IBM IOT platform: