

TEAM ID	PNT2022TMID22860
PROJECT NAME	IoT based crop protection system for agriculture

## PYTHON OUTPUT

The image shows a Python script running in a PCPY IDE (left) and an IDLE Shell (right). The script is designed to simulate an IoT-based crop protection system for agriculture. It uses the `wiotp.sdk.device` module to connect to an IBM IoT Platform and publish data. The script also includes logic to control a motor based on the received command.

**Python Script (Left Window):**

```

import wiotp.sdk.device
import time
import random

myConfig={
    "identity": {
        "orgId": "c0b4co",
        "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']
    if(m=="motoron"):
        print("Motor is switched on")
    elif(m=="motoroff"):
        print("Motor is switched off")
    print(" ")

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    moist=random.randint(0,14)
    animal=random.randint(0,1)
    if(animal>0.5):
        an="animal is present"
    else:
        an="animal is not present"
    myData={"temperature":temp, "humidity":hum, "Moisture":moist,"animal status":an}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0)
    print("Published data Successfully: %s" % myData)

    client.commandCallback = myCommandCallback
    time.sleep(2)
    client.disconnect()

```

**IDLE Shell Output (Right Window):**

```

animal is present
Published data Successfully: %s {'temperature': 101, 'humidity': 47, 'Moisture': 14, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 11, 'humidity': 65, 'Moisture': 5, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 39, 'humidity': 41, 'Moisture': 7, 'animal status': 'animal is present'}
Published data Successfully: %s {'temperature': 72, 'humidity': 36, 'Moisture': 13, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 14, 'humidity': 55, 'Moisture': 3, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 28, 'humidity': 20, 'Moisture': 14, 'animal status': 'animal is present'}
Published data Successfully: %s {'temperature': 7, 'humidity': 92, 'Moisture': 14, 'animal status': 'animal is present'}
Published data Successfully: %s {'temperature': 95, 'humidity': 100, 'Moisture': 8, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 23, 'humidity': 11, 'Moisture': 11, 'animal status': 'animal is present'}
Published data Successfully: %s {'temperature': 114, 'humidity': 58, 'Moisture': 13, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 19, 'humidity': 97, 'Moisture': 14, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 70, 'humidity': 4, 'Moisture': 13, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 58, 'humidity': 5, 'Moisture': 5, 'animal status': 'animal is present'}
Published data Successfully: %s {'temperature': -16, 'humidity': 39, 'Moisture': 9, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 114, 'humidity': 44, 'Moisture': 9, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 120, 'humidity': 98, 'Moisture': 12, 'animal status': 'animal is present'}
Published data Successfully: %s {'temperature': -3, 'humidity': 87, 'Moisture': 2, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 29, 'humidity': 86, 'Moisture': 13, 'animal status': 'animal is not present'}
Published data Successfully: %s {'temperature': 78, 'humidity': 73, 'Moisture': 14, 'animal status': 'animal is not present'}

```