

SPRINT-1

Python Script

Date	24 October 2022
Team ID	PNT2022TMID31899
Project Name	IOT BASED CROP PROTECTION SYSTEM FOR AGRICULTURE

Description:

The motor status data's are generated and automation has been implemented through the python code instead of using hardware to implement IOT based crop protection system. And the python code need to upload the data's in IBM cloud are written in this python script.

Python Code:

```
import time

import sys

import ibmiotf.application # to install pip install ibmiotf

import ibmiotf.device

# Provide your IBM Watson Device Credentials

organization = "ebf2oy" # replace the ORG ID

deviceType = "Humidity" # replace the Device type

deviceId = "123456" # replace Device ID

authMethod = "token"

authToken = "C4b(zFlpnKm_OT_C+c" # Replace the authtoken

def myCommandCallback(cmd): # function for Callback

    if cmd.data['command'] == 'motoron':

        print("MOTOR ON IS RECEIVED")

    elif cmd.data['command'] == 'motoroff':

        print("MOTOR OFF IS RECEIVED")

    if cmd.command == "setInterval":

        if 'interval' not in cmd.data:
```

```

        print("Error - command is missing required information: 'interval'")
else:
    interval = cmd.data['interval']

elif cmd.command == "print":

    if 'message' not in cmd.data:
        print("Error - command is missing required information: 'message'")
    else:
        output = cmd.data['message']
        print(output)

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()

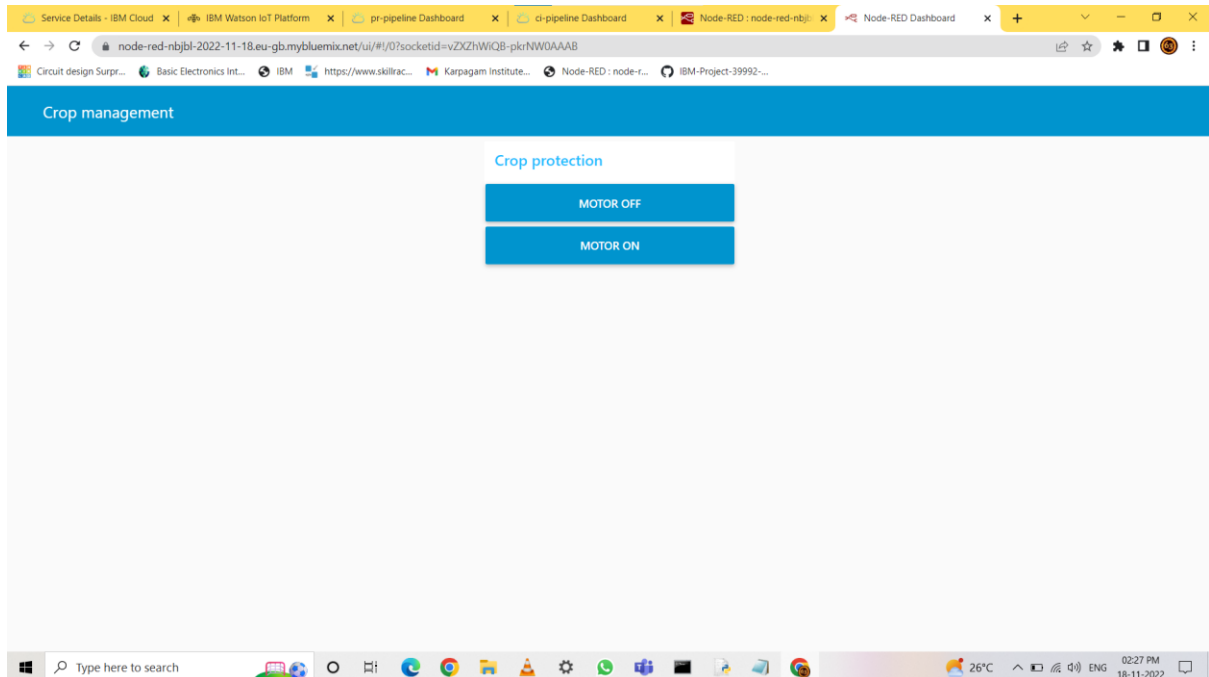
# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type
"greeting" 10 times
deviceCli.connect()

while True:
    deviceCli.commandCallback = myCommandCallback

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

```

Python Sprint Output:



```
File Edit Shell Debug Options Window Help
Published Temperature = 92 C Humidity = 63 % Soil Moisture = 42 % to IBM Watson
Published Temperature = 15 C Humidity = 84 % Soil Moisture = 29 % to IBM Watson
Published Temperature = 81 C Humidity = 58 % Soil Moisture = 48 % to IBM Watson
Published Temperature = 99 C Humidity = 81 % Soil Moisture = 5 % to IBM Watson
Published Temperature = 35 C Humidity = 36 % Soil Moisture = 71 % to IBM Watson
Published Temperature = 73 C Humidity = 77 % Soil Moisture = 8 % to IBM Watson
Published Temperature = 37 C Humidity = 82 % Soil Moisture = 37 % to IBM Watson
Published Temperature = 19 C Humidity = 66 % Soil Moisture = 14 % to IBM Watson
Published Temperature = 59 C Humidity = 21 % Soil Moisture = 19 % to IBM Watson
Published Temperature = 63 C Humidity = 23 % Soil Moisture = 83 % to IBM Watson
Published Temperature = 72 C Humidity = 93 % Soil Moisture = 69 % to IBM Watson
Published Temperature = 66 C Humidity = 27 % Soil Moisture = 28 % to IBM Watson
Published Temperature = 51 C Humidity = 92 % Soil Moisture = 27 % to IBM Watson
Published Temperature = 21 C Humidity = 49 % Soil Moisture = 97 % to IBM Watson
Published Temperature = 42 C Humidity = 70 % Soil Moisture = 68 % to IBM Watson
Published Temperature = 75 C Humidity = 17 % Soil Moisture = 87 % to IBM Watson
Published Temperature = 100 C Humidity = 56 % Soil Moisture = 49 % to IBM Watson
Published Temperature = 20 C Humidity = 68 % Soil Moisture = 53 % to IBM Watson
Published Temperature = 80 C Humidity = 76 % Soil Moisture = 22 % to IBM Watson
Published Temperature = 3 C Humidity = 77 % Soil Moisture = 36 % to IBM Watson
Published Temperature = 53 C Humidity = 35 % Soil Moisture = 9 % to IBM Watson
Published Temperature = 47 C Humidity = 61 % Soil Moisture = 10 % to IBM Watson
Published Temperature = 47 C Humidity = 63 % Soil Moisture = 19 % to IBM Watson
Published Temperature = 2 C Humidity = 94 % Soil Moisture = 41 % to IBM Watson
Published Temperature = 61 C Humidity = 10 % Soil Moisture = 83 % to IBM Watson
Published Temperature = 48 C Humidity = 11 % Soil Moisture = 96 % to IBM Watson
Published Temperature = 8 C Humidity = 34 % Soil Moisture = 43 % to IBM Watson
Published Temperature = 94 C Humidity = 25 % Soil Moisture = 88 % to IBM Watson
Published Temperature = 5 C Humidity = 70 % Soil Moisture = 41 % to IBM Watson
Published Temperature = 77 C Humidity = 20 % Soil Moisture = 50 % to IBM Watson
Published Temperature = 9 C Humidity = 77 % Soil Moisture = 7 % to IBM Watson
Published Temperature = 85 C Humidity = 49 % Soil Moisture = 79 % to IBM Watson
Published Temperature = 1 C Humidity = 53 % Soil Moisture = 94 % to IBM Watson

===== RESTART: C:\Users\murug\Desktop\motor.py =====
2022-11-10 00:49:51,101 ibmiotf.device.Client INFO Connected successful
ly: d:8gyz7t:weather_monitor:b827ebd607b5
MOTOR ON IS RECEIVED
MOTOR OFF IS RECEIVED
```