**DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSRIBE**

**TO IBM IOT PLATFORM**

Project Name: SMART FARMER: IoT Enabled Smart Farming Application

Team ID: PNT2022TMID42977

**PROGRAM**

import time

|  |  |
| --- | --- |
|  | import sys |
|  | import IBM IOT f .application |
|  | import IBM IOT. Device |
|  | import random |
|  |  |
|  |  |
|  | #Provide your IBM Watson Device Credentials |
|  | organization = "r l by b h" |
|  | Device Type = "b11m3edevicetype" |
|  | Device Id = "b11m3edeviceid" |
|  | Auth Method = "token" |
|  | Auth Token = "gkoK69otVQCOglahYg" |
|  |  |
|  | # Initialize GPIO |
|  |  |
|  |  |
|  | def my Command Callback (c m d): # function for Callback |
|  | Print ("Command received: %s" % cmd. data) |
|  | if cmd. data['command'] =='m o t o r o n': |
|  | Print ("Turn Motor ON") |
|  |  |
|  | El if cmd. data['command'] =='m o t o r off': |
|  | Print ("Turn Motor OFF") |
|  | if cmd. data['command'] =='l I g h t o n': |
|  | Print ("Turn Light ON") |
|  | El if cmd. data['command'] =='l I g h t off': |
|  | Print ("Turn Light OFF") |
|  |  |
|  |  |
|  | if cmd. command == "s e t Interval": |
|  |  |
|  | if 'interval' not in cmd. data: |
|  | Print ("Error - command is missing required information: 'interval'") |
|  | else: |
|  | interval = cmd. data['interval'] |
|  | El if 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: |
|  | Device Options = {"org": organization, "type": device Type, "id": device Id, "auth-method": auth Method, "auth-token": auth Token} |
|  | Device C li = IBM IOT f. device. Client (device Options) |
|  | #.............................................. |
|  |  |
|  | 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 |
|  | Device C li. Connect () |
|  |  |
|  | while True: |
|  | #Get Sensor Data from DHT11 |
|  |  |
|  | temp=random. Rand int (0,100) |
|  | Humid=random. Rand int (0,100) |
|  | M o is=random. Rand int (0,100) |
|  |  |
|  | data = {'Temperature': temp, 'Humidity': Humid, 'Moisture’: m o is} |
|  | # Print data |
|  | def my On Publish Callback (): |
|  | print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "Moisture = %s %%" % m o is, "to IBM Watson") |
|  |  |
|  | success = device C li. Publish Event ("IoT Sensor", "j son", data, q o s=0, on \_publish=my On Publish Callback) |
|  | if not success: |
|  | Print ("Not connected to IoT F") |
|  | time. Sleep (1) |
|  |  |
|  | Device C li. Command Callback = my Command Callback |
|  |  |
|  | # Disconnect the device and application from the cloud |
|  | Device C li. disconnect() |