**Develop a python script**

|  |  |
| --- | --- |
| Date | 17 September 2022 |
| Team ID | PNT2022TMID37462 |
| Project Name | Project - Industry-Specific Intelligent Fire  Management System |

Python script for generating the random sensor values - Temperature, Flame Level and Gas Level to the IBM Watson IoT Platform.

import time import sys

import ibmiotf.application

import ibmiotf.device import random

#Provide your IBM Watson Device Credentials

organization = "4aqwut" deviceType = "12345678dt" deviceId = "12345678did" authMethod = "token" authToken = "\*PrtsGAO?B@\_tTPEKT"

# Initialize GPIO

def myCommandCallback(cmd): print("Command received: %s" % cmd.data['command']) status=cmd.data['command'] if status=="sprinkleron":

print ("Sprinkler is on")

elif status == "sprinkleroff":

print ("Sprinkler is off")

elif status == "exhaustfanon":

print ("Exhaust Fan ON")

elif status == "exhaustfanoff":

print ("Exhaust Fan 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) flame\_level=random.randint(0,100) gas\_level = random.randint(0,100)

data = { 'Temperature' : temp, 'Flame\_Level' : flame\_level, 'Gas\_Level' : gas\_level }

#print data

def myOnPublishCallback():

print ("Published Temperature = %s C" % temp, "Flame\_Level = %s %%" % flame\_level,

"Gas\_Level = %s %%" %gas\_level ,"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()

**Output :**

Published Temperature = 3 C Flame\_Level = 88 % Gas\_Level = 30 % to IBM Watson

Published Temperature = 22 C Flame\_Level = 51 % Gas\_Level = 16 % to IBM Watson

Published Temperature = 80 C Flame\_Level = 32 % Gas\_Level = 88 % to IBM Watson

Published Temperature = 98 C Flame\_Level = 81 % Gas\_Level = 34 % to IBM Watson

Command received: sprinkleroff

Sprinkler is off

Command received: exhaustfanoff

Exhaust Fan OFF

Command received: sprinkleron

Sprinkler is on

Published Temperature = 93 C Flame\_Level = 77 % Gas\_Level = 43 % to IBM Watson

Command received: exhaustfanon

Exhaust Fan ON

Published Temperature = 18 C Flame\_Level = 37 % Gas\_Level = 88 % to IBM Watson

Published Temperature = 61 C Flame\_Level = 53 % Gas\_Level = 65 % to IBM Watson

Published Temperature = 95 C Flame\_Level = 76 % Gas\_Level = 90 % to IBM Watson

Published Temperature = 56 C Flame\_Level = 14 % Gas\_Level = 27 % to IBM Watson

Published Temperature = 34 C Flame\_Level = 33 % Gas\_Level = 51 % to IBM Watson

Published Temperature = 9 C Flame\_Level = 56 % Gas\_Level = 80 % to IBM Watson

Published Temperature = 42 C Flame\_Level = 51 % Gas\_Level = 18 % to IBM Watson