

DEVELOP A PYTHON SCRIPT

Deployment of IOT platform is also initiated by the python interpreter that enables IOT platform to connect with devices. Few packages need to be installed to work in python interpreter so that it can be able to traverse between simulator and NODE-RED many other services

PYTHON CODE FOR NODE-RED AND SIMULATOR

The below python code communicates between Node-Red Services, Simulator.

CODE:

```
#IBM Watson IOT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "6fkjbm",
        "typeId": "iotdevice1",
        "deviceId": "qwerty123"
    },
    "auth": {
        "token": "johnyjohnnyespapa"
    }
}

def myCommandCallback(cmd):
```

```

print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])

m=cmd.data['command']

if(m=="Motor-ON"):

    print("*****Motor is Turned
ON*****")

else:

    print("*****Motor is Turned
OFF*****")

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

while True:

    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    myData={'temperature':temp, 'humidity':hum}

    client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)

    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)
client.disconnect()

```

IBM TEXT TO SPEECH

```

from ibm_watson import TextToSpeechV1

from ibm_cloud_sdk_core.authenticators import IAMAuthenticator

authenticator = IAMAuthenticator('M_u6yEvEGJylj_ysbL_pG0ZOKuRCQW1LgXUtv_IcBPC
R')

text_to_speech = TextToSpeechV1(

```

```

    authenticator=authenticator
)

text_to_speech.set_service_url('https://api.au-syd.text-to-
speech.watson.cloud.ibm.com/instances/23724eb6-a096-4a3a-b914-
da0e442c1c5f')

with open('hello_world.wav', 'wb') as audio_file:

    audio_file.write(

        text_to_speech.synthesize(

            'Alert',

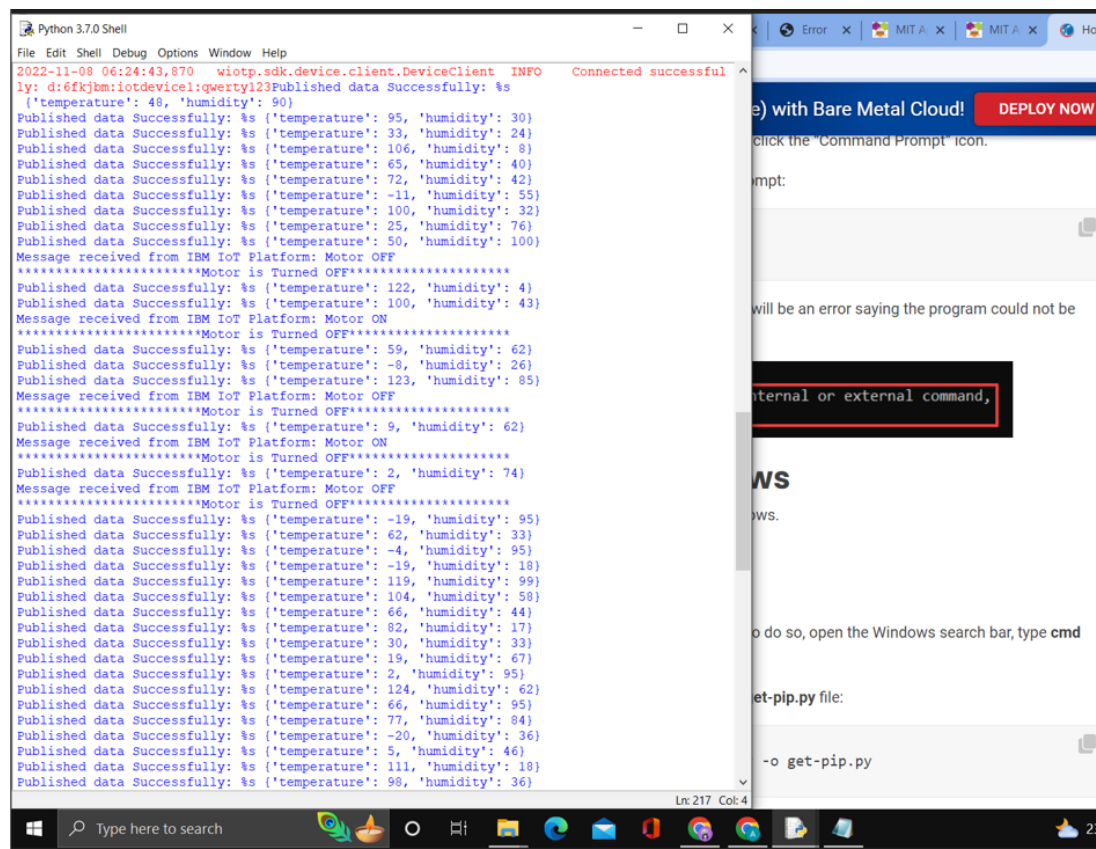
            voice='en-US_AllisonV3Voice',

            accept='audio/wav'

        ).get_result().content)

```

OUTPUT:



```

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
2022-11-08 06:24:43,870 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:6fkjbm:iotdevice1:qwerty123Published data Successfully: %s
({'temperature': 48, 'humidity': 90})
Published data Successfully: %s ('temperature': 95, 'humidity': 30)
Published data Successfully: %s ('temperature': 33, 'humidity': 24)
Published data Successfully: %s ('temperature': 106, 'humidity': 8)
Published data Successfully: %s ('temperature': 65, 'humidity': 40)
Published data Successfully: %s ('temperature': 72, 'humidity': 42)
Published data Successfully: %s ('temperature': -11, 'humidity': 55)
Published data Successfully: %s ('temperature': 100, 'humidity': 32)
Published data Successfully: %s ('temperature': 25, 'humidity': 76)
Published data Successfully: %s ('temperature': 50, 'humidity': 100)
Message received from IBM IoT Platform: Motor OFF
*****Motor is Turned OFF*****
Published data Successfully: %s ('temperature': 122, 'humidity': 4)
Published data Successfully: %s ('temperature': 100, 'humidity': 43)
Message received from IBM IoT Platform: Motor ON
*****Motor is Turned OFF*****
Published data Successfully: %s ('temperature': 59, 'humidity': 62)
Published data Successfully: %s ('temperature': -8, 'humidity': 26)
Published data Successfully: %s ('temperature': 123, 'humidity': 85)
Message received from IBM IoT Platform: Motor OFF
*****Motor is Turned OFF*****
Published data Successfully: %s ('temperature': 9, 'humidity': 62)
Message received from IBM IoT Platform: Motor ON
*****Motor is Turned OFF*****
Published data Successfully: %s ('temperature': 2, 'humidity': 74)
Message received from IBM IoT Platform: Motor OFF
*****Motor is Turned OFF*****
Published data Successfully: %s ('temperature': -19, 'humidity': 95)
Published data Successfully: %s ('temperature': 62, 'humidity': 33)
Published data Successfully: %s ('temperature': -4, 'humidity': 95)
Published data Successfully: %s ('temperature': -19, 'humidity': 18)
Published data Successfully: %s ('temperature': 119, 'humidity': 99)
Published data Successfully: %s ('temperature': 104, 'humidity': 58)
Published data Successfully: %s ('temperature': 66, 'humidity': 44)
Published data Successfully: %s ('temperature': 82, 'humidity': 17)
Published data Successfully: %s ('temperature': 30, 'humidity': 33)
Published data Successfully: %s ('temperature': 19, 'humidity': 67)
Published data Successfully: %s ('temperature': 2, 'humidity': 95)
Published data Successfully: %s ('temperature': 124, 'humidity': 62)
Published data Successfully: %s ('temperature': 66, 'humidity': 95)
Published data Successfully: %s ('temperature': 77, 'humidity': 84)
Published data Successfully: %s ('temperature': -20, 'humidity': 36)
Published data Successfully: %s ('temperature': 5, 'humidity': 46)
Published data Successfully: %s ('temperature': 111, 'humidity': 18)
Published data Successfully: %s ('temperature': 98, 'humidity': 36)
Ln: 217 Col: 4

```