

# **Smart Bridge Externship Program**

## **Internet of Things**

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### **Assignment – 4**

**Q. Develop a mobile application that takes the user input and sends it to IoT device (python code). Print the received data in python shell.Keep a text box to accept the user input.integrate a submit button.Whenever user enters the text input in text box and clicks the button the data should be sent to IBM cloud using URL(HTTP API).**

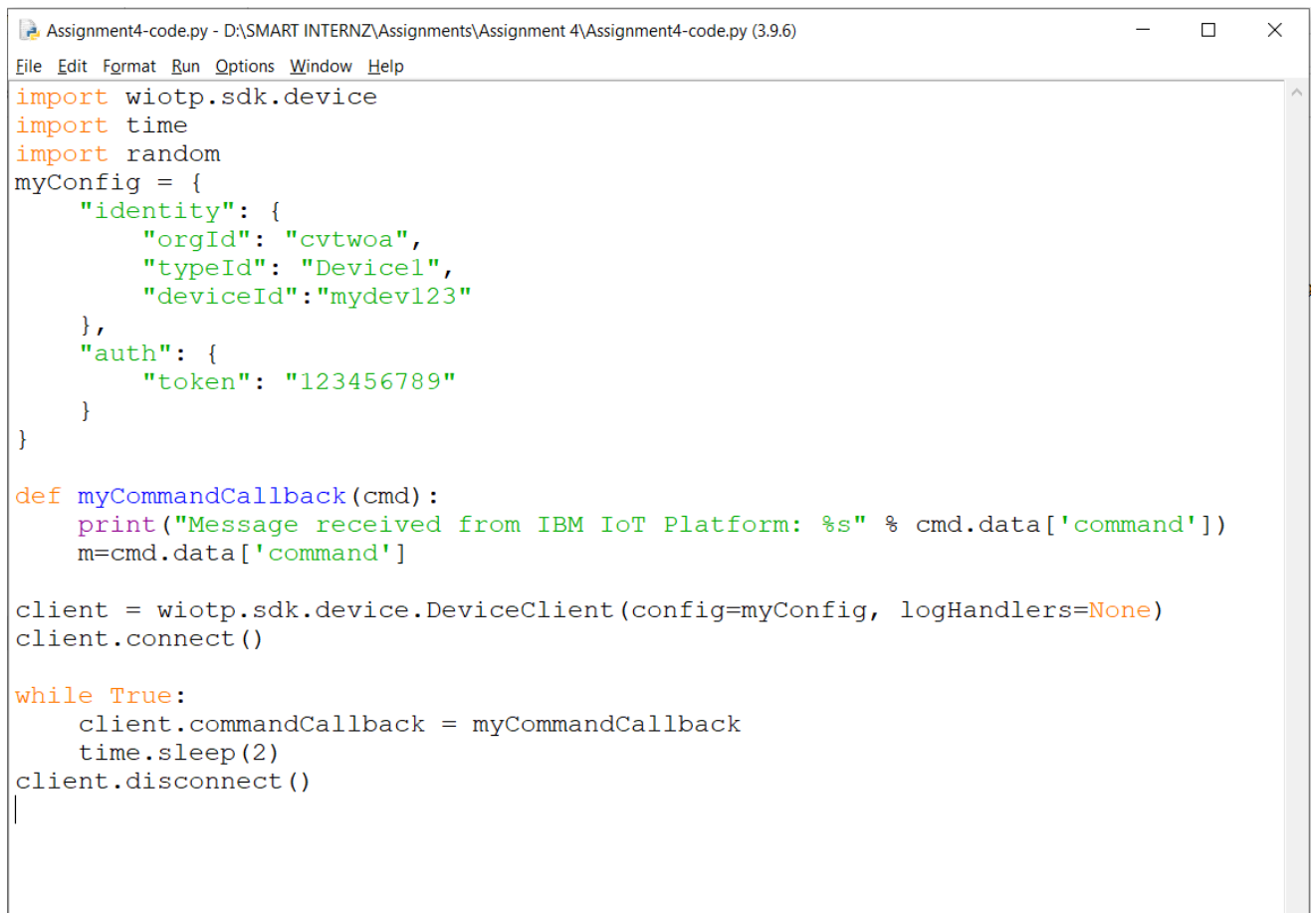
#### **Python Code:**

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "cvtwoa",
        "typeId": "Device1",
        "deviceId": "mydev123"
    },
    "auth": {
        "token": "123456789"
    }
}
```

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

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

while True:
    client.commandCallback = myCommandCallback
    time.sleep(2)
client.disconnect()
```

A screenshot of a Python IDE window titled "Assignment4-code.py - D:\SMART INTERNZ\Assignments\Assignment 4\Assignment4-code.py (3.9.6)". The window has a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The code is displayed with syntax highlighting: imports are orange, function definitions and loops are blue, strings are green, and keywords like "def", "while", and "import" are orange. The code matches the text in the first block.

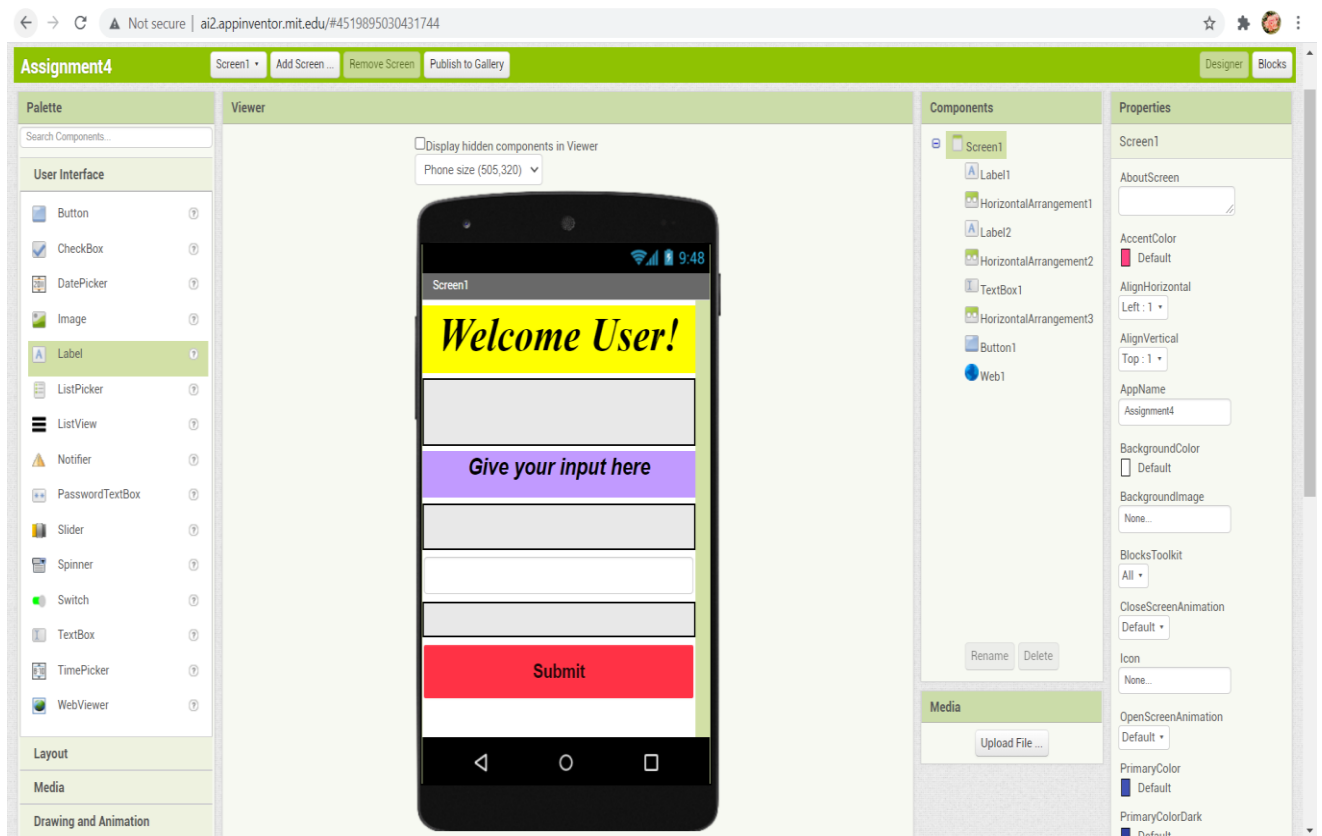
```
Assignment4-code.py - D:\SMART INTERNZ\Assignments\Assignment 4\Assignment4-code.py (3.9.6)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "cvtwoa",
        "typeId": "Device1",
        "deviceId": "mydev123"
    },
    "auth": {
        "token": "123456789"
    }
}

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

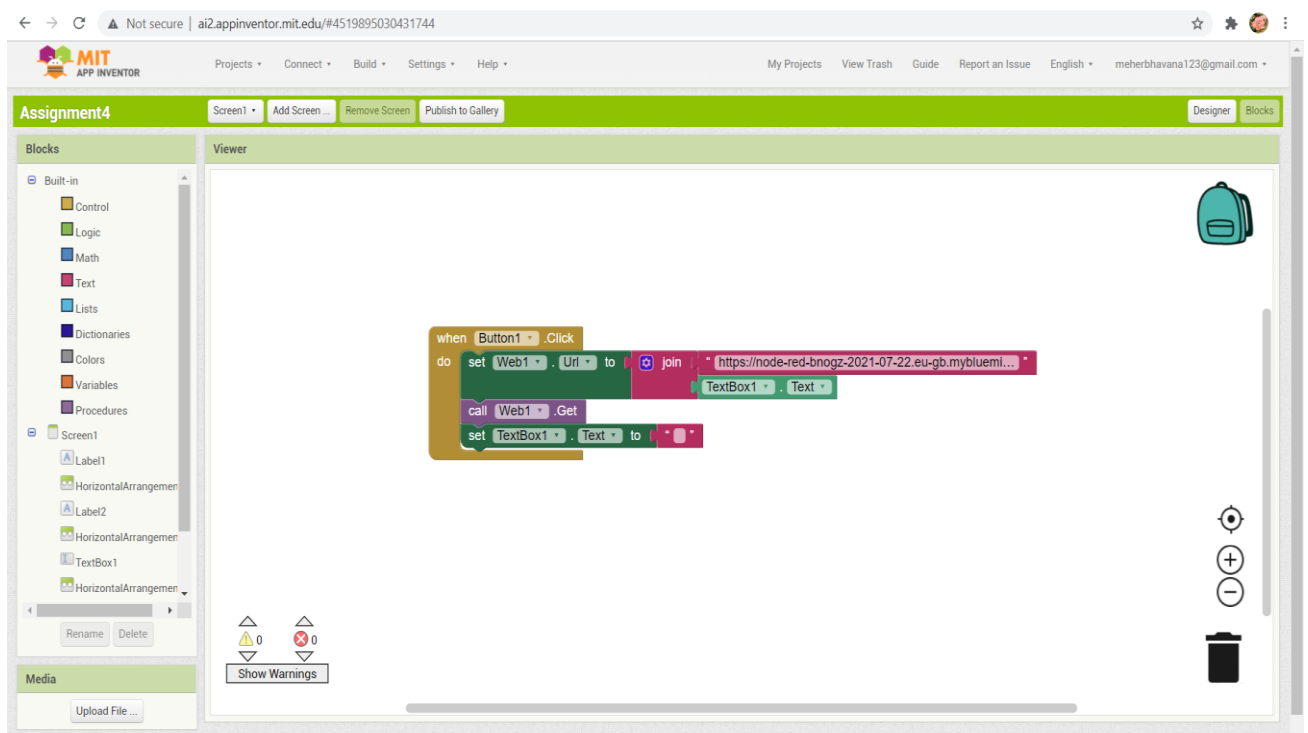
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    client.commandCallback = myCommandCallback
    time.sleep(2)
client.disconnect()
|
```

## MIT App Inventor Mobile UI:



## Blocks:



## Mobile view of the MIT App:

20:38 | 0.2KB/s

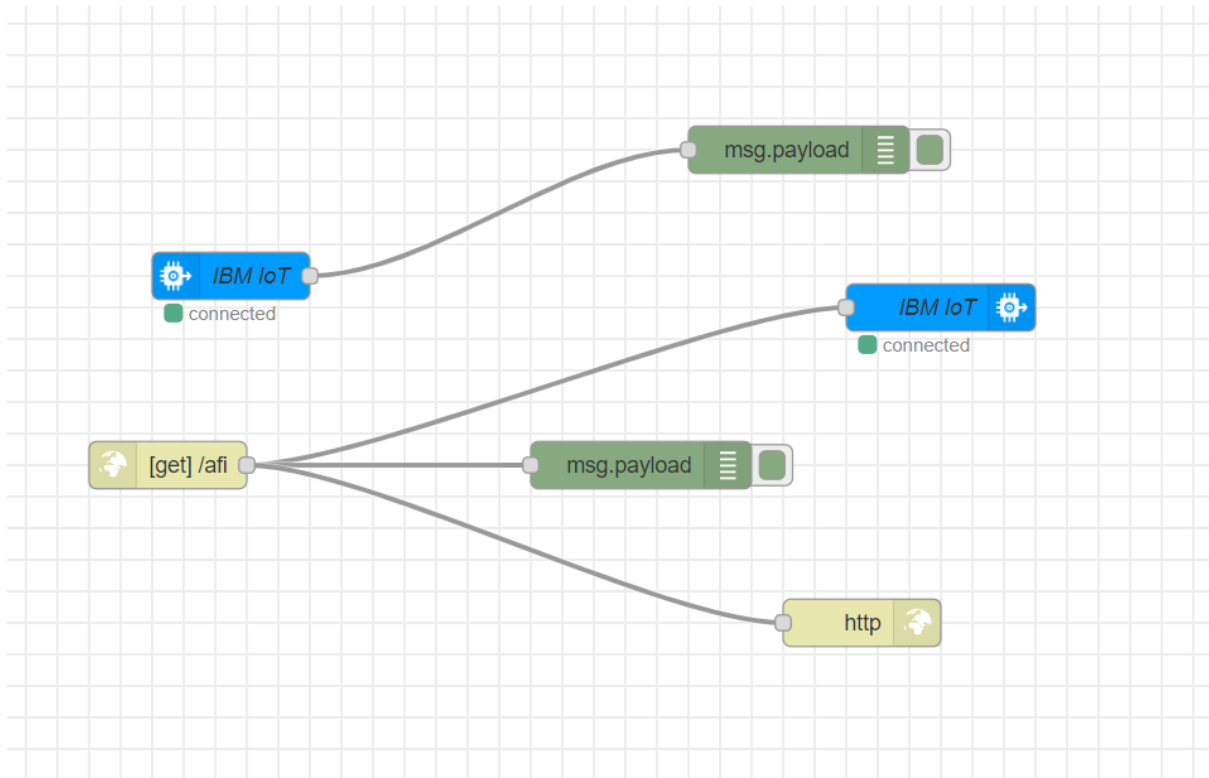
Screen1

# Welcome User!

Give your input here

Submit

## NodeRed flow:



## On running Python code and sending text through mobile, the NodeRed debug Console returns the text sent:

The screenshot shows the Node-RED web interface in a browser. The flow editor displays a flow with a "[get] /mobileapp" node connected to two "IBM IoT" nodes and two "msg.payload" nodes, with an "http" node. The left sidebar shows the "common" and "function" node palettes. The right sidebar shows the "debug" console with the following output:

```
8/2/2021, 8:34:31 PM node: c5392b5.a9b67
msg.payload: Object
{ command: "Hello!" }
8/2/2021, 8:34:48 PM node: c5392b5.a9b67
msg.payload: Object
{ command: "Myself Bhavana" }
8/2/2021, 8:35:00 PM node: c5392b5.a9b67
msg.payload: Object
{ command: "An apple a keeps the doctor aw..." }
8/2/2021, 8:35:48 PM node: c5392b5.a9b67
msg.payload: Object
{ command: "All work and no play makes Jac..." }
```

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Deploy ▾

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debug

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▾

all nodes

🗑️

8/2/2021, 8:34:31 PM node: c539f2b5.a9b67

msg.payload : Object

▶ { command: "Hello!" }

8/2/2021, 8:34:48 PM node: c539f2b5.a9b67

msg.payload : Object

▶ { command: "Myself Bhavana" }

8/2/2021, 8:35:00 PM node: c539f2b5.a9b67 ▾

msg.payload : Object

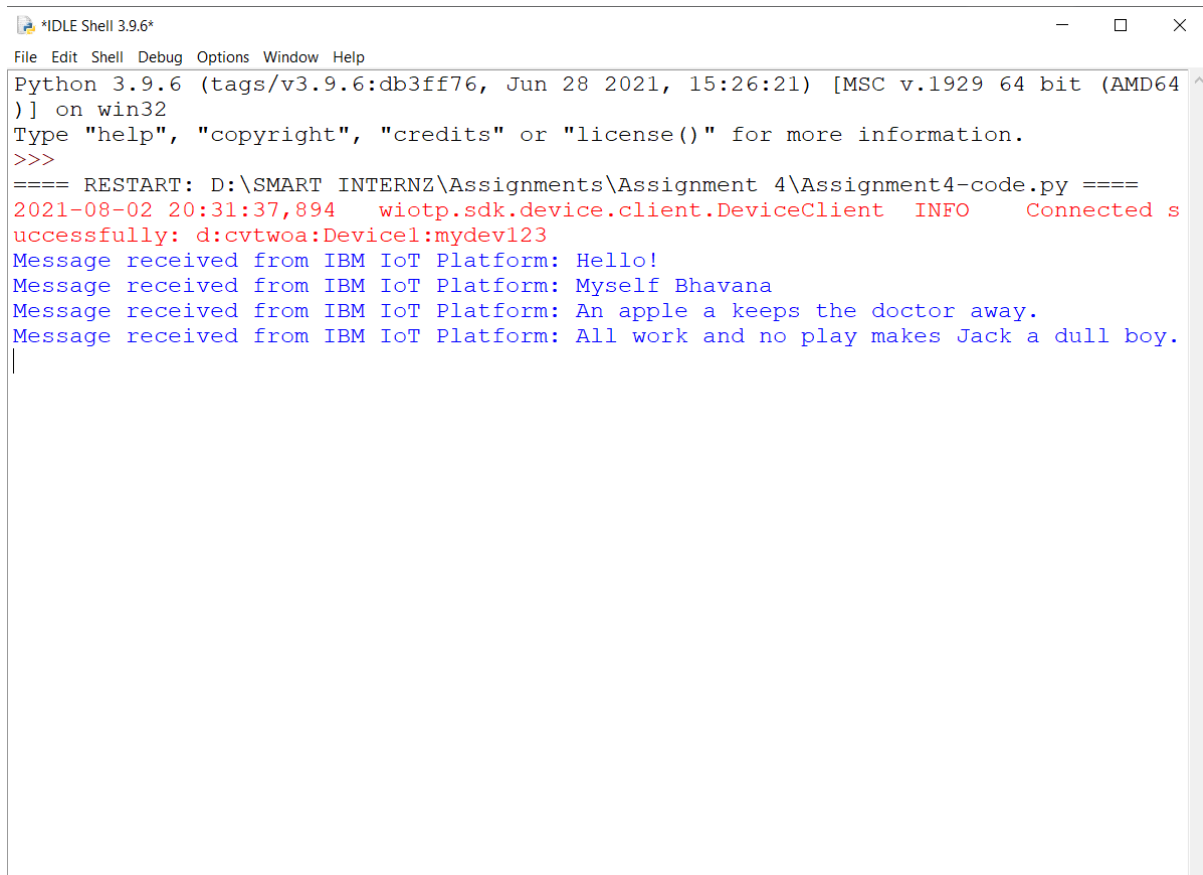
▶ { command: "An apple a keeps the doctor aw..." }

8/2/2021, 8:35:48 PM node: c539f2b5.a9b67

msg.payload : Object

▶ { command: "All work and no play makes Jac..." }

## Same text returned to Python Shell:



```
*IDLE Shell 3.9.6*
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: D:\SMART INTERNZ\Assignments\Assignment 4\Assignment4-code.py ====
2021-08-02 20:31:37,894    wiotp.sdk.device.client.DeviceClient INFO    Connected successfully: d:cvtwoa:Device1:mydev123
Message received from IBM IoT Platform: Hello!
Message received from IBM IoT Platform: Myself Bhavana
Message received from IBM IoT Platform: An apple a keeps the doctor away.
Message received from IBM IoT Platform: All work and no play makes Jack a dull boy.
|
```