Assignment – 3

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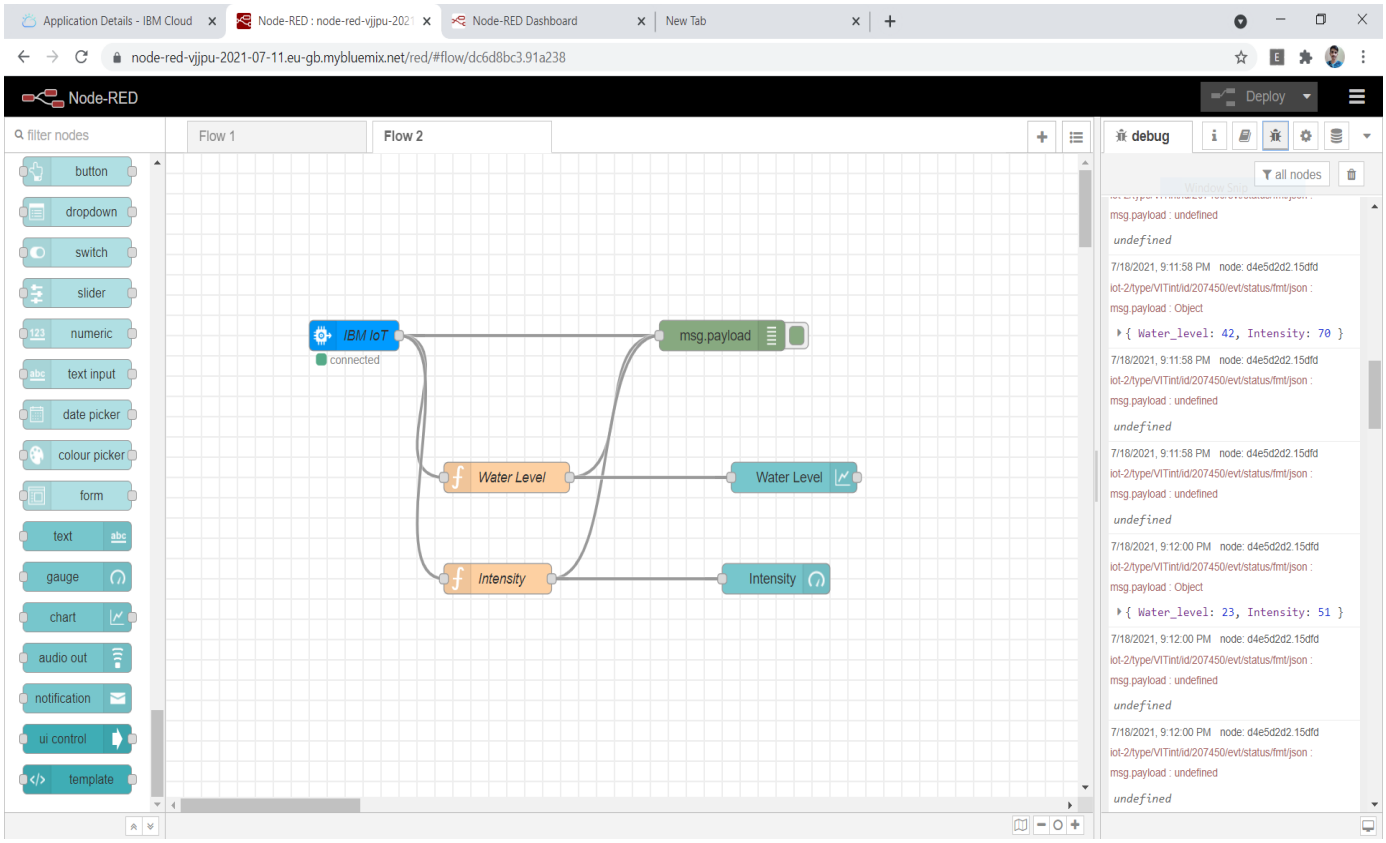
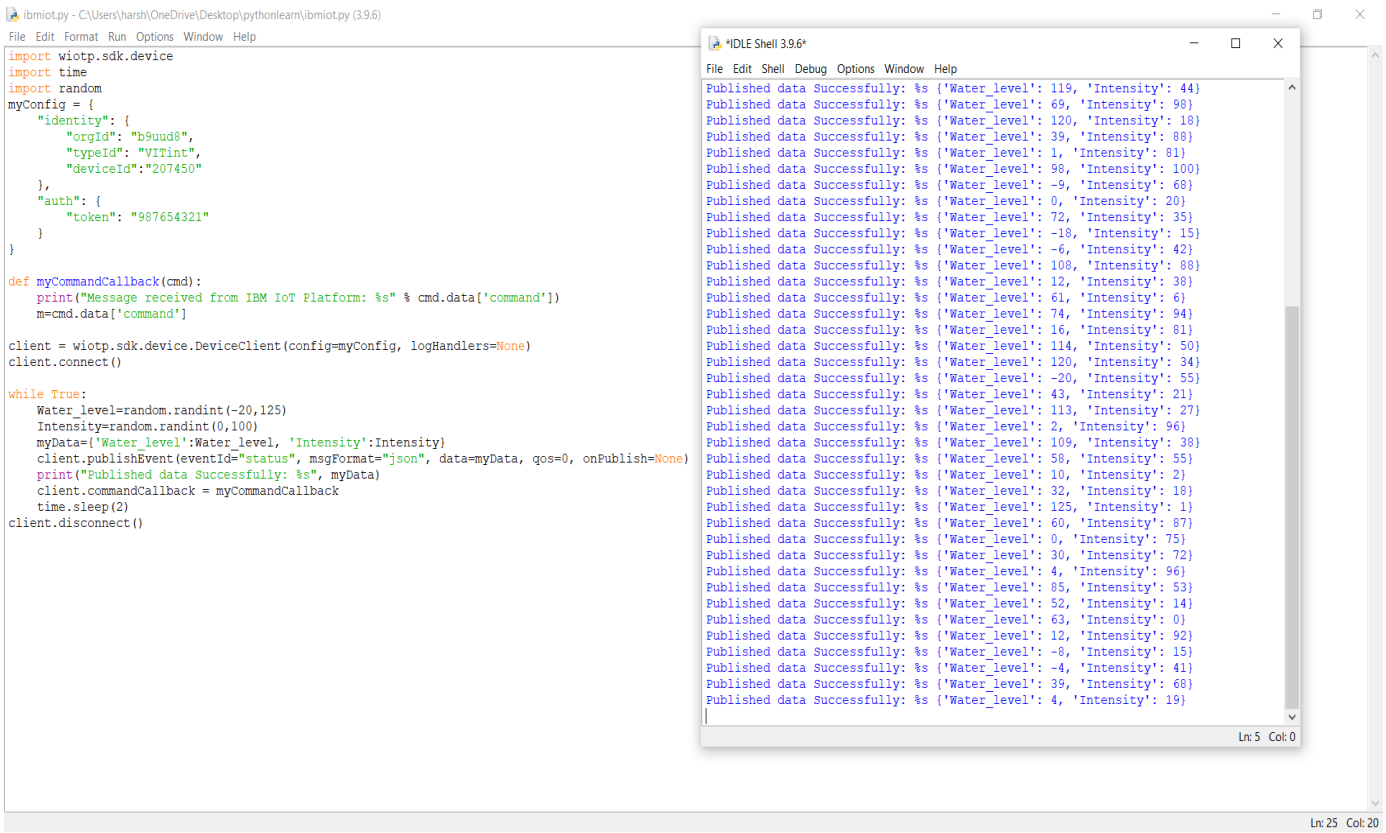
Q. Develop a code to upload the water tank level and light intensity values to the IBM IoT platform and visualize them in the web application.

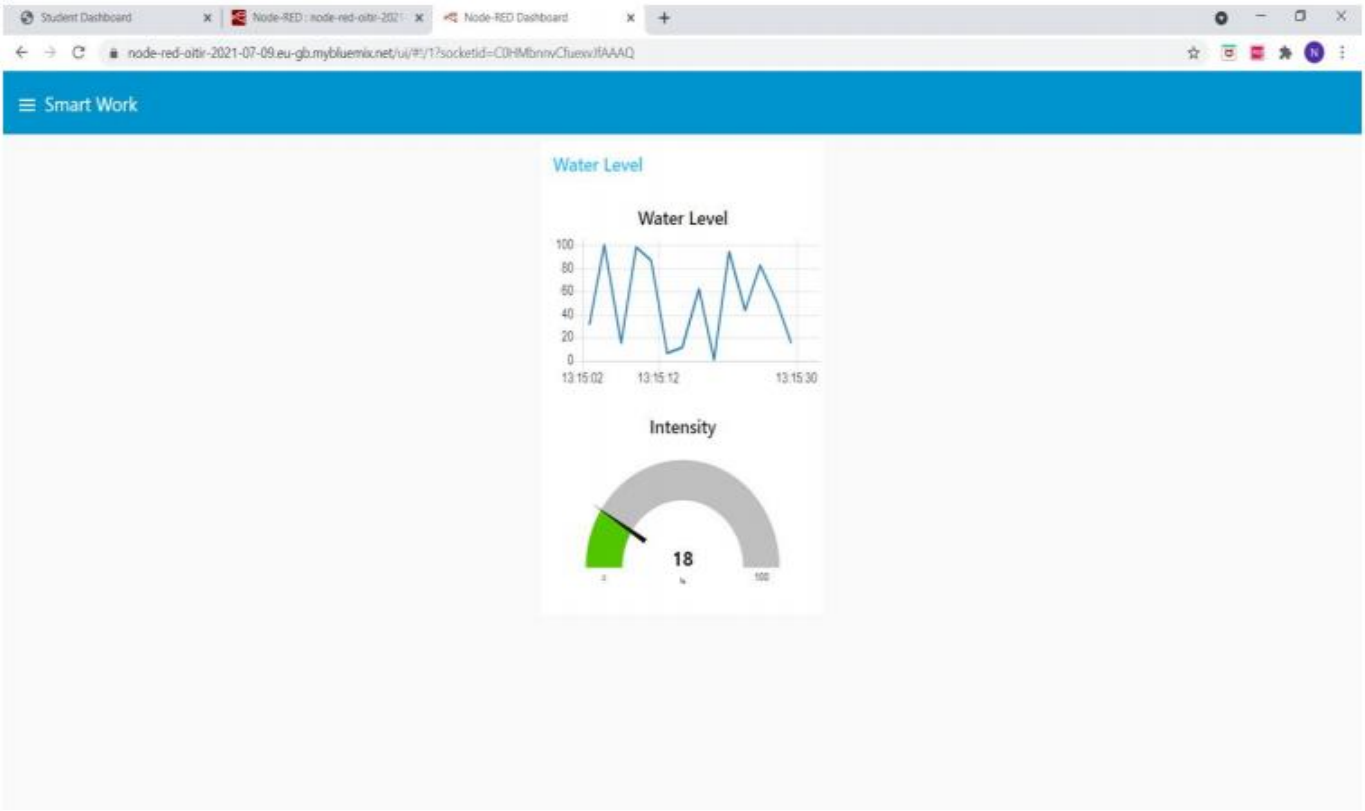
Code:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "b9uud8",
        "typeId": "VITint",
        "deviceId":"207450"
    },
    "auth": {
        "token": "987654321"
    }
}

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:
    Water_level=random.randint(-20,125)
    Intensity=random.randint(0,100)
    myData={'Water_level':Water_level, 'Intensity':Intensity}
    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()
```


Application Details - IBM Cloud
Node-RED : node-red-vjjpu-2021
Node-RED Dashboard
New Tab
node-red-vjjpu-2021-07-11.eu-gb.mybluemix.net/red/#flow/dc6d8bc3.91a238
Node-RED
Deploy
filter nodes
Flow 1
Flow 2
button
dropdown
switch
slider
numeric
text input
date picker
colour picker
form
text
gauge
chart
audio out
notification
ui control
template
IBM IoT
connected
msg.payload
Water Level
Water Level
Intensity
Intensity
debug
all nodes
msg.payload : undefined
undefined
7/18/2021, 9:11:58 PM node: d4e5d2d2.15dfd
iot-2/type/VITint/id/207450/evt/status/fmt/json :
msg.payload : Object
{ Water_level: 42, Intensity: 70 }
7/18/2021, 9:11:58 PM node: d4e5d2d2.15dfd
iot-2/type/VITint/id/207450/evt/status/fmt/json :
msg.payload : undefined
undefined
7/18/2021, 9:11:58 PM node: d4e5d2d2.15dfd
iot-2/type/VITint/id/207450/evt/status/fmt/json :
msg.payload : undefined
undefined
7/18/2021, 9:12:00 PM node: d4e5d2d2.15dfd
iot-2/type/VITint/id/207450/evt/status/fmt/json :
msg.payload : Object
{ Water_level: 23, Intensity: 51 }
7/18/2021, 9:12:00 PM node: d4e5d2d2.15dfd
iot-2/type/VITint/id/207450/evt/status/fmt/json :
msg.payload : undefined
undefined
7/18/2021, 9:12:00 PM node: d4e5d2d2.15dfd
iot-2/type/VITint/id/207450/evt/status/fmt/json :
msg.payload : undefined
undefined


ibmiot.py - C:\Users\harsh\OneDrive\Desktop\pythonlearn\ibmiot.py (3.9.6)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
"identity": {
"orgId": "b9uud8",
"typeId": "VITint",
"deviceId":"207450"
},
"auth": {
"token": "987654321"
}
}
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:
Water_level=random.randint(-20,125)
Intensity=random.randint(0,100)
myData={'Water_level':Water_level, 'Intensity':Intensity}
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()
Ln: 25 Col: 20
IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
Published data Successfully: %s {'Water_level': 119, 'Intensity': 44}
Published data Successfully: %s {'Water_level': 69, 'Intensity': 98}
Published data Successfully: %s {'Water_level': 120, 'Intensity': 18}
Published data Successfully: %s {'Water_level': 39, 'Intensity': 88}
Published data Successfully: %s {'Water_level': 1, 'Intensity': 81}
Published data Successfully: %s {'Water_level': 98, 'Intensity': 100}
Published data Successfully: %s {'Water_level': -9, 'Intensity': 68}
Published data Successfully: %s {'Water_level': 0, 'Intensity': 20}
Published data Successfully: %s {'Water_level': 72, 'Intensity': 35}
Published data Successfully: %s {'Water_level': -18, 'Intensity': 15}
Published data Successfully: %s {'Water_level': -6, 'Intensity': 42}
Published data Successfully: %s {'Water_level': 108, 'Intensity': 88}
Published data Successfully: %s {'Water_level': 12, 'Intensity': 38}
Published data Successfully: %s {'Water_level': 61, 'Intensity': 6}
Published data Successfully: %s {'Water_level': 74, 'Intensity': 94}
Published data Successfully: %s {'Water_level': 16, 'Intensity': 81}
Published data Successfully: %s {'Water_level': 114, 'Intensity': 50}
Published data Successfully: %s {'Water_level': 120, 'Intensity': 34}
Published data Successfully: %s {'Water_level': -20, 'Intensity': 55}
Published data Successfully: %s {'Water_level': 43, 'Intensity': 21}
Published data Successfully: %s {'Water_level': 113, 'Intensity': 27}
Published data Successfully: %s {'Water_level': 2, 'Intensity': 96}
Published data Successfully: %s {'Water_level': 109, 'Intensity': 38}
Published data Successfully: %s {'Water_level': 58, 'Intensity': 55}
Published data Successfully: %s {'Water_level': 10, 'Intensity': 2}
Published data Successfully: %s {'Water_level': 32, 'Intensity': 18}
Published data Successfully: %s {'Water_level': 125, 'Intensity': 1}
Published data Successfully: %s {'Water_level': 60, 'Intensity': 87}
Published data Successfully: %s {'Water_level': 0, 'Intensity': 75}
Published data Successfully: %s {'Water_level': 30, 'Intensity': 72}
Published data Successfully: %s {'Water_level': 4, 'Intensity': 96}
Published data Successfully: %s {'Water_level': 85, 'Intensity': 53}
Published data Successfully: %s {'Water_level': 52, 'Intensity': 14}
Published data Successfully: %s {'Water_level': 63, 'Intensity': 0}
Published data Successfully: %s {'Water_level': 12, 'Intensity': 92}
Published data Successfully: %s {'Water_level': -8, 'Intensity': 15}
Published data Successfully: %s {'Water_level': -4, 'Intensity': 41}
Published data Successfully: %s {'Water_level': 39, 'Intensity': 68}
Published data Successfully: %s {'Water_level': 4, 'Intensity': 19}
Ln: 5 Col: 0


Student Dashboard
Node-RED : node-red-oitir-2021
Node-RED Dashboard
node-red-oitir-2021-07-09.eu-gb.mybluemix.net/ui/#!/1?socketid=C0HMbnnvCIuexvJfAAAQ
Smart Work
Water Level
Water Level
100
80
60
40
20
0
13:15:02
13:15:12
13:15:30
Intensity
18
0
100