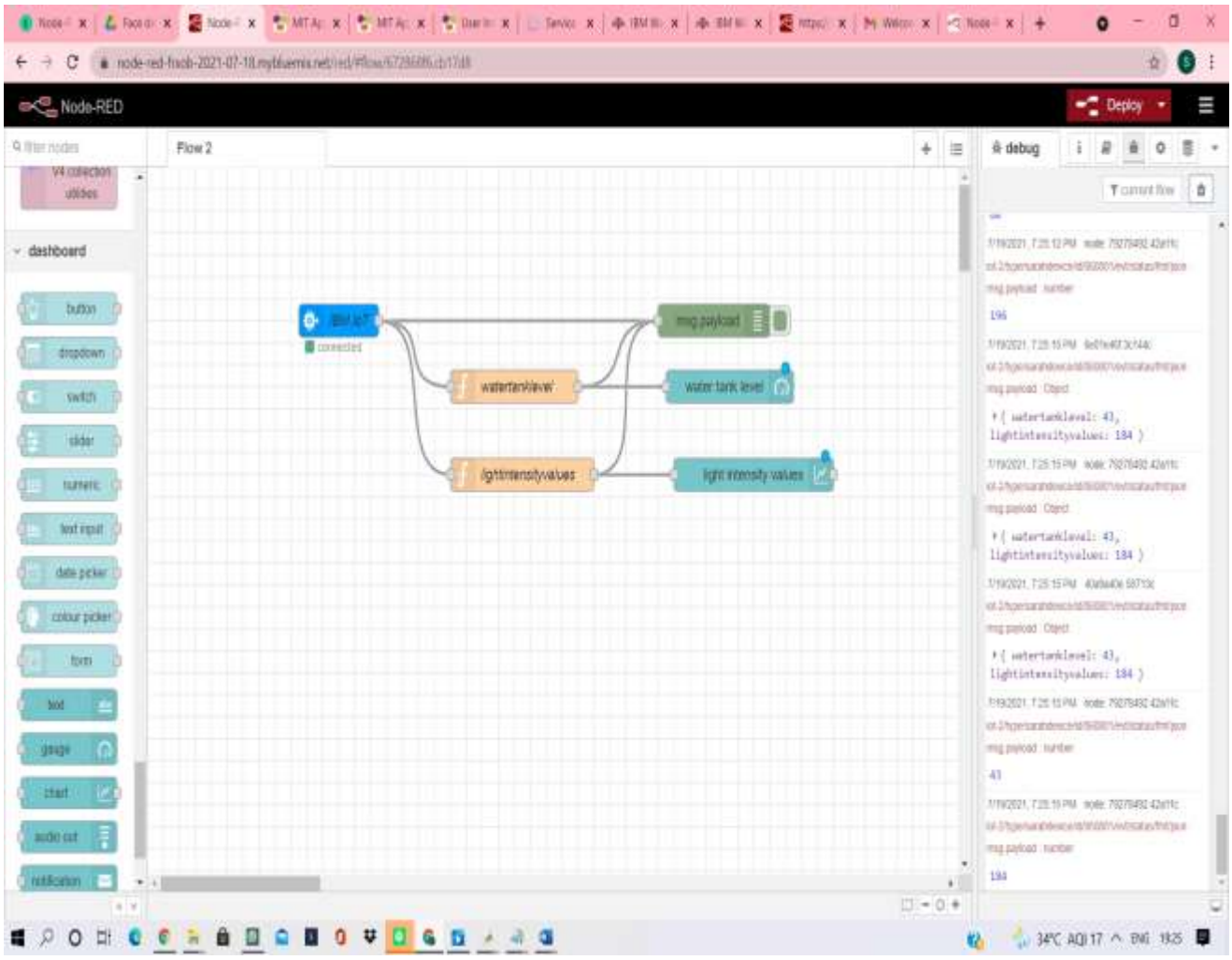
3. Develop a code to upload the water tank level and light intensity values to the IBM IoT platform and visualize them in the web application.

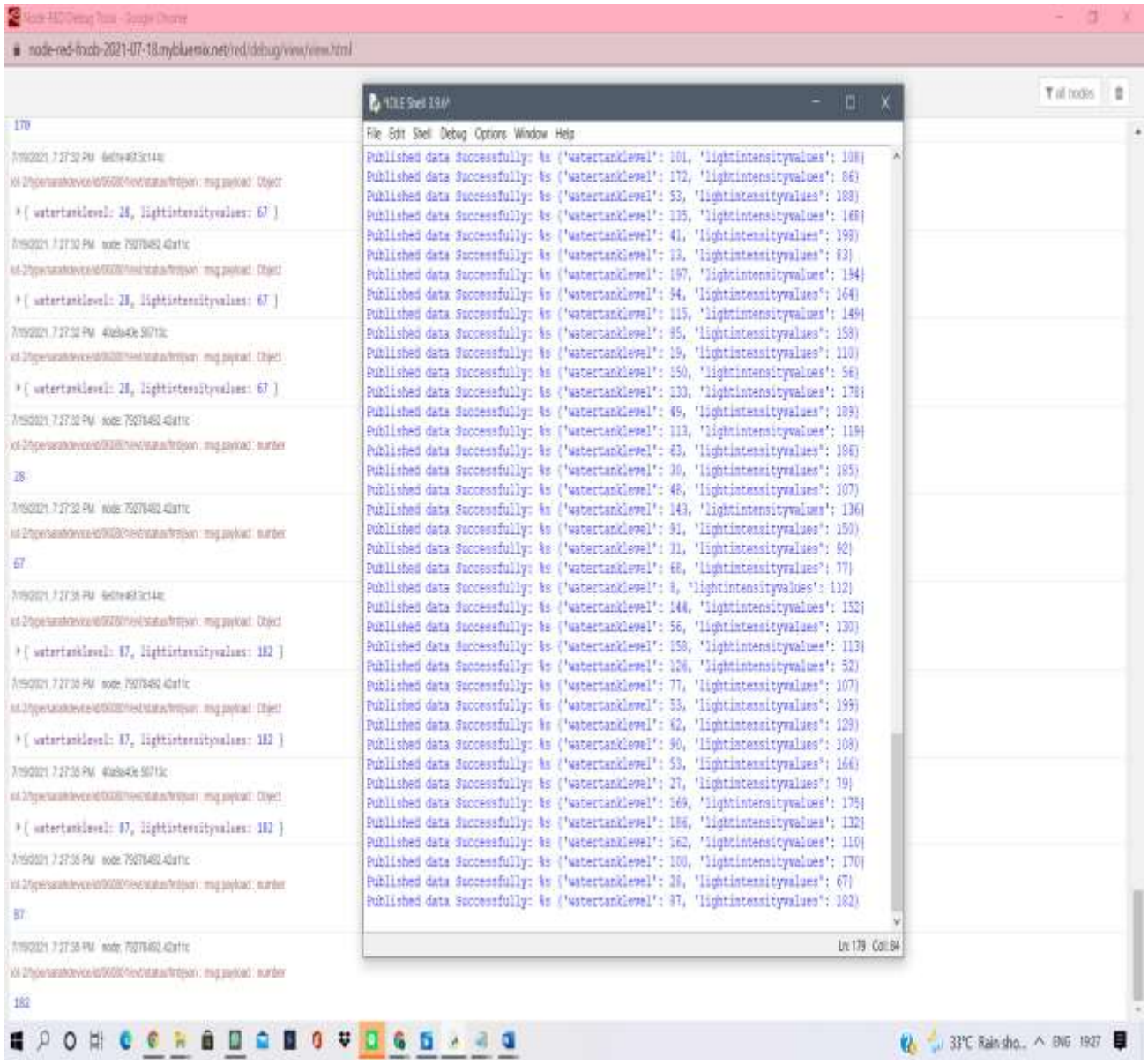
CODE:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "glif1g",
        "typeId": "sarahdevice",
        "deviceId":"060801"
    },
    "auth": {
        "token": "06082001"
    }
}


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()
```

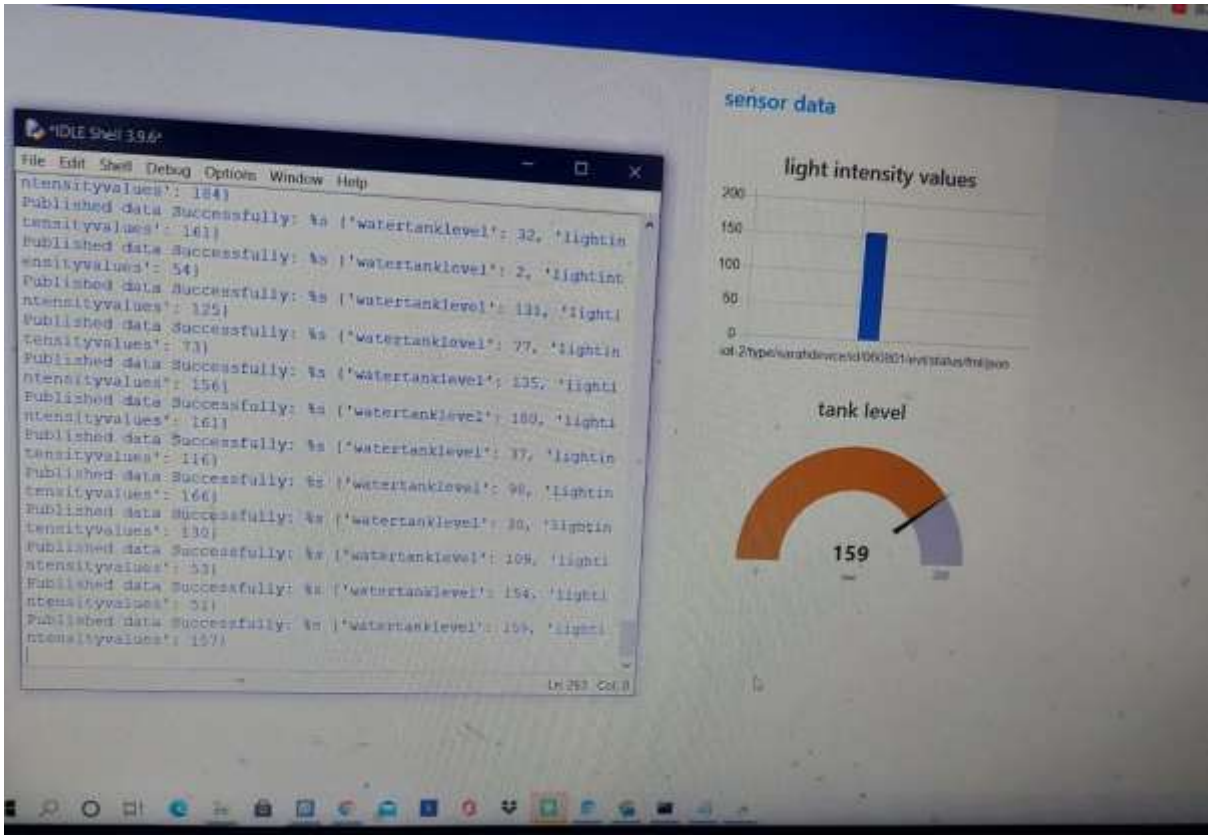
```
while True:
    tanklev=random.randint(0,200)
    liv=random.randint(50,200)
    myData={'watertanklevel':tanklev, 'lightintensityvalues':liv}
    client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(3)
client.disconnect()
```

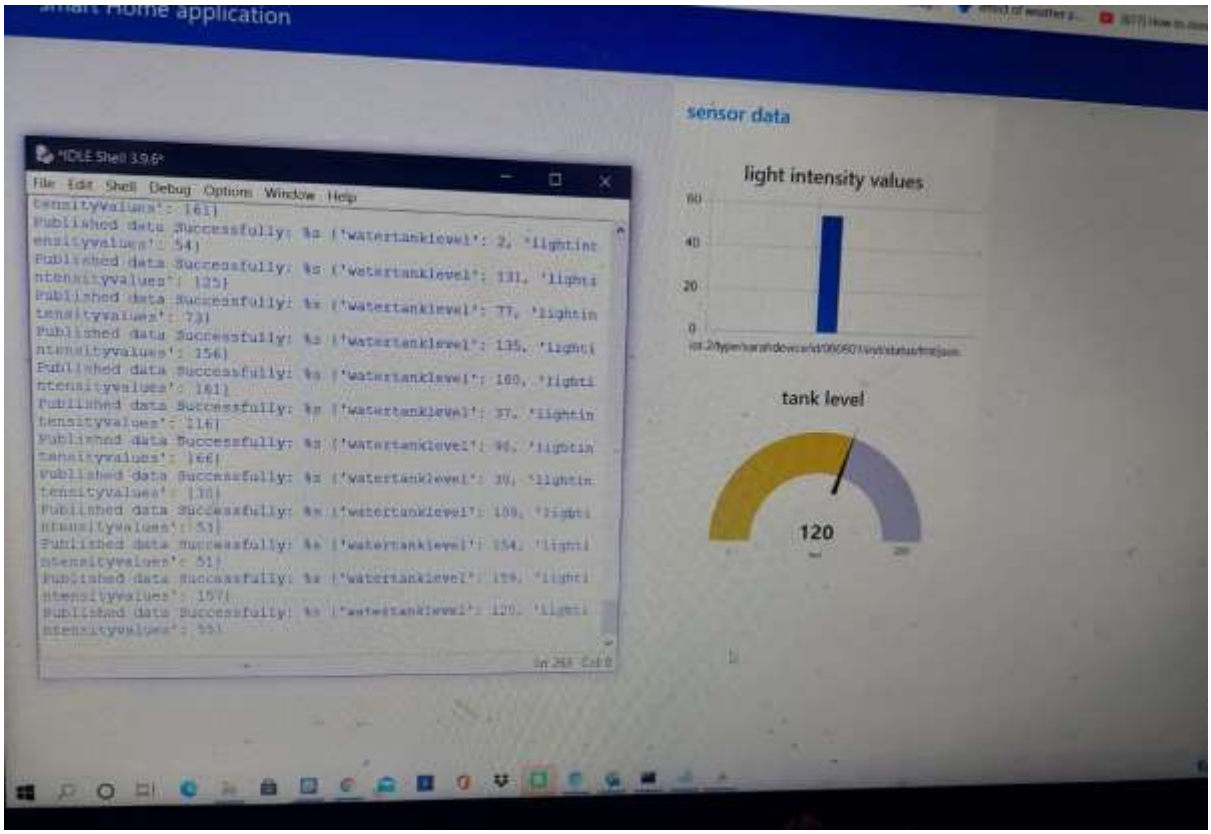
Node red:




node-red-frxob-2021-07-18.mybluemix.net/red/debug/view/view.html
IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
Published data Successfully: %s {'watertanklevel': 101, 'lightintensityvalues': 108}
Published data Successfully: %s {'watertanklevel': 172, 'lightintensityvalues': 86}
Published data Successfully: %s {'watertanklevel': 53, 'lightintensityvalues': 188}
Published data Successfully: %s {'watertanklevel': 135, 'lightintensityvalues': 168}
Published data Successfully: %s {'watertanklevel': 41, 'lightintensityvalues': 199}
Published data Successfully: %s {'watertanklevel': 13, 'lightintensityvalues': 83}
Published data Successfully: %s {'watertanklevel': 197, 'lightintensityvalues': 194}
Published data Successfully: %s {'watertanklevel': 94, 'lightintensityvalues': 164}
Published data Successfully: %s {'watertanklevel': 115, 'lightintensityvalues': 149}
Published data Successfully: %s {'watertanklevel': 85, 'lightintensityvalues': 158}
Published data Successfully: %s {'watertanklevel': 19, 'lightintensityvalues': 110}
Published data Successfully: %s {'watertanklevel': 150, 'lightintensityvalues': 56}
Published data Successfully: %s {'watertanklevel': 133, 'lightintensityvalues': 178}
Published data Successfully: %s {'watertanklevel': 49, 'lightintensityvalues': 189}
Published data Successfully: %s {'watertanklevel': 113, 'lightintensityvalues': 119}
Published data Successfully: %s {'watertanklevel': 63, 'lightintensityvalues': 184}
Published data Successfully: %s {'watertanklevel': 30, 'lightintensityvalues': 185}
Published data Successfully: %s {'watertanklevel': 48, 'lightintensityvalues': 107}
Published data Successfully: %s {'watertanklevel': 143, 'lightintensityvalues': 136}
Published data Successfully: %s {'watertanklevel': 91, 'lightintensityvalues': 150}
Published data Successfully: %s {'watertanklevel': 31, 'lightintensityvalues': 92}
Published data Successfully: %s {'watertanklevel': 68, 'lightintensityvalues': 77}
Published data Successfully: %s {'watertanklevel': 8, 'lightintensityvalues': 112}
Published data Successfully: %s {'watertanklevel': 148, 'lightintensityvalues': 152}
Published data Successfully: %s {'watertanklevel': 56, 'lightintensityvalues': 130}
Published data Successfully: %s {'watertanklevel': 158, 'lightintensityvalues': 113}
Published data Successfully: %s {'watertanklevel': 126, 'lightintensityvalues': 52}
Published data Successfully: %s {'watertanklevel': 77, 'lightintensityvalues': 107}
Published data Successfully: %s {'watertanklevel': 53, 'lightintensityvalues': 199}
Published data Successfully: %s {'watertanklevel': 62, 'lightintensityvalues': 128}
Published data Successfully: %s {'watertanklevel': 90, 'lightintensityvalues': 108}
Published data Successfully: %s {'watertanklevel': 53, 'lightintensityvalues': 166}
Published data Successfully: %s {'watertanklevel': 27, 'lightintensityvalues': 79}
Published data Successfully: %s {'watertanklevel': 169, 'lightintensityvalues': 175}
Published data Successfully: %s {'watertanklevel': 186, 'lightintensityvalues': 132}
Published data Successfully: %s {'watertanklevel': 162, 'lightintensityvalues': 110}
Published data Successfully: %s {'watertanklevel': 100, 'lightintensityvalues': 170}
Published data Successfully: %s {'watertanklevel': 28, 'lightintensityvalues': 67}
Published data Successfully: %s {'watertanklevel': 87, 'lightintensityvalues': 182}
Ln: 179 Col: 84
170
28
67
182
33°C Rain sho...
ENG
1927

SIMULATION:


IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
sensor data
light intensity values
200
150
100
50
0
tank level
159


Smart Home application
IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
sensor data
light intensity values
80
40
20
0
tank level
120