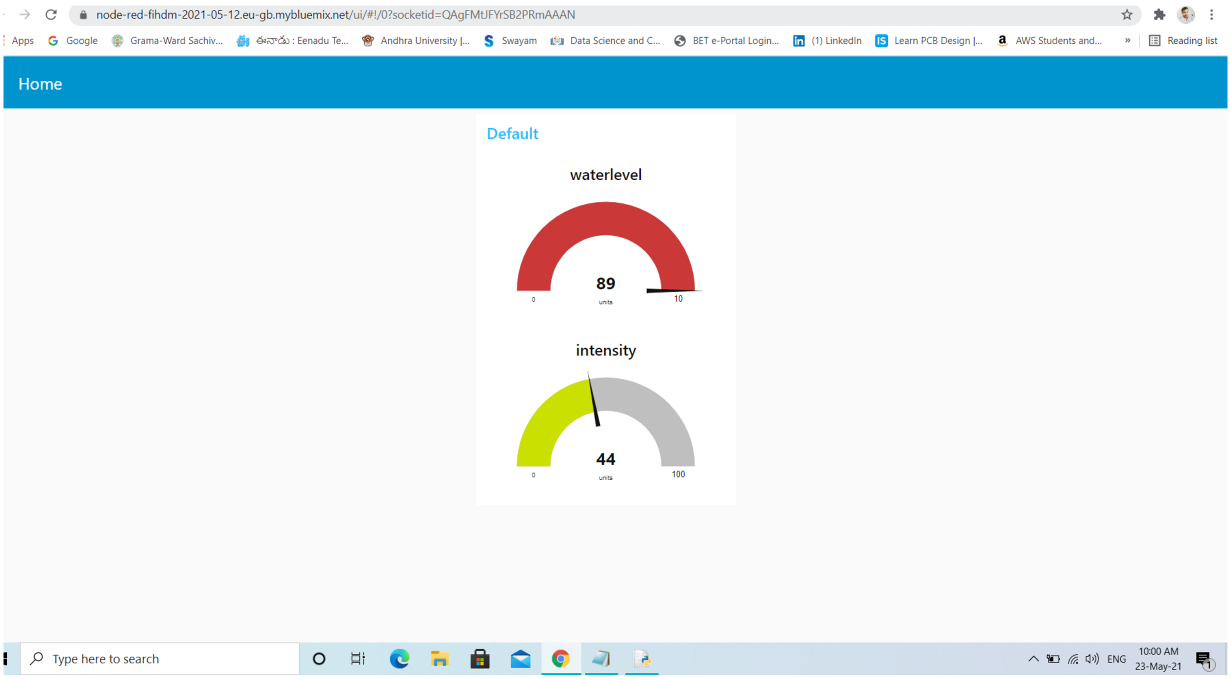
Assignment -3

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.

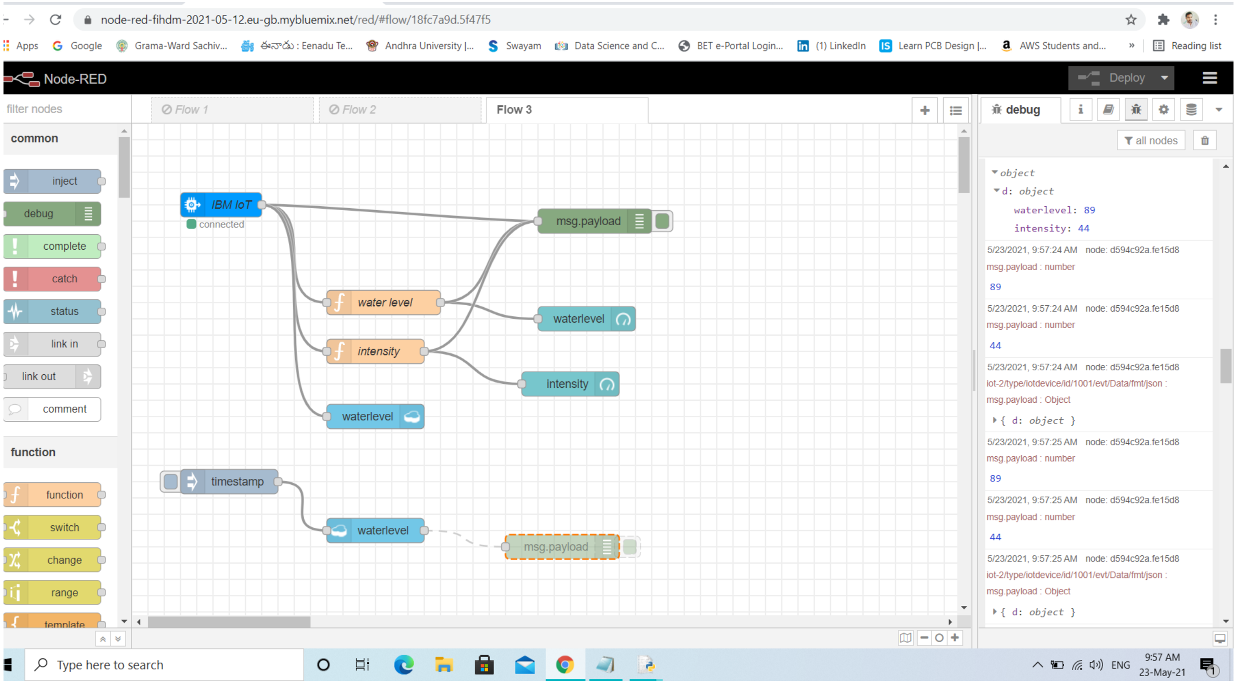
Python code:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
import json
#Provide your IBM Watson Device Credentials
organization = "3vmhl1"
deviceType = "iotdevice"
deviceId = "1001"
authMethod = "token"
authToken = "1234567890"
# Initialize the device client.
w=0
L=0
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
 if cmd.data['command']=='lighton':
        print("LIGHT ON IS RECEIVED")
 elif cmd.data['command']=='lightoff':
                print("LIGHT OFF IS RECEIVED")
if cmd.command == "setInterval":
                if 'interval' not in cmd.data:
                        print("Error - command is missing required information: 'interval'")
                else:
                        interval = cmd.data['interval']
        elif cmd.command == "print":
                if 'message' not in cmd.data:
                        print("Error - command is missing required information: 'message'")
                else:
                        print(cmd.data['message'])
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:
    w=89
    L=44
    #Send waterlevel & light intensity to IBM Watson
    data = {"d":{ 'Waterlevel' : w, 'lightintensity': L, }}
    #print data
    def myOnPublishCallback():
        print ("Published waterlevel = %s units" % w, "Light intensity = %s %%" % L, "to IBM Watson")
success = deviceCli.publishEvent("Data", "json", data, qos=0, on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")0
    time.sleep(1)
deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

UI:



Node Red Blocks:



```
▾object
 ▾d: object
    waterlevel: 89
    intensity: 44
5/23/2021, 9:57:24 AM   node: d594c92a.fe15d8
msg.payload : number
89
5/23/2021, 9:57:24 AM   node: d594c92a.fe15d8
msg.payload : number
44
5/23/2021, 9:57:24 AM   node: d594c92a.fe15d8
iot-2/type/iotdevice/id/1001/evt/Data/fmt/json :
msg.payload : Object
▸{ d: object }
5/23/2021, 9:57:25 AM   node: d594c92a.fe15d8
msg.payload : number
89
5/23/2021, 9:57:25 AM   node: d594c92a.fe15d8
msg.payload : number
44
5/23/2021, 9:57:25 AM   node: d594c92a.fe15d8
iot-2/type/iotdevice/id/1001/evt/Data/fmt/json :
msg.payload : Object
▸{ d: object }
```