VIT SMART BRIDGE IOT EXTERNSHIP

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Assignment 3:

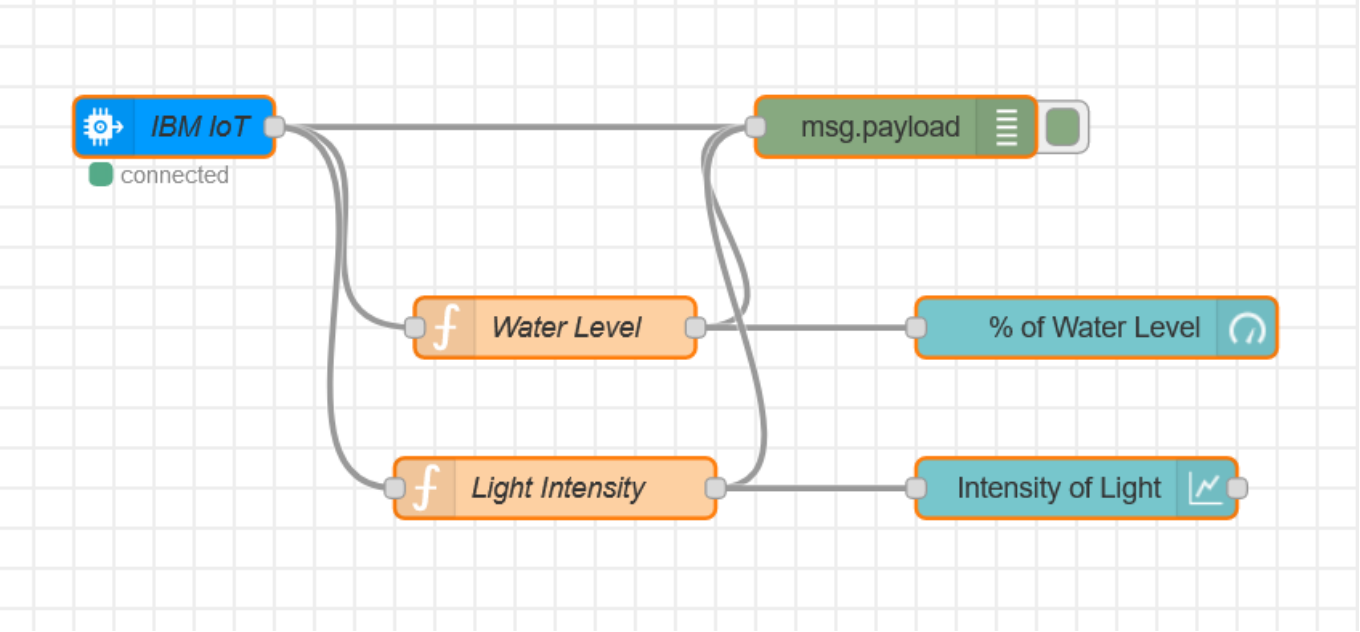
Topic: Develop a code to upload the water tank level and light intensity values to the IBM IoT platform and visualize them in the web application.

Code:

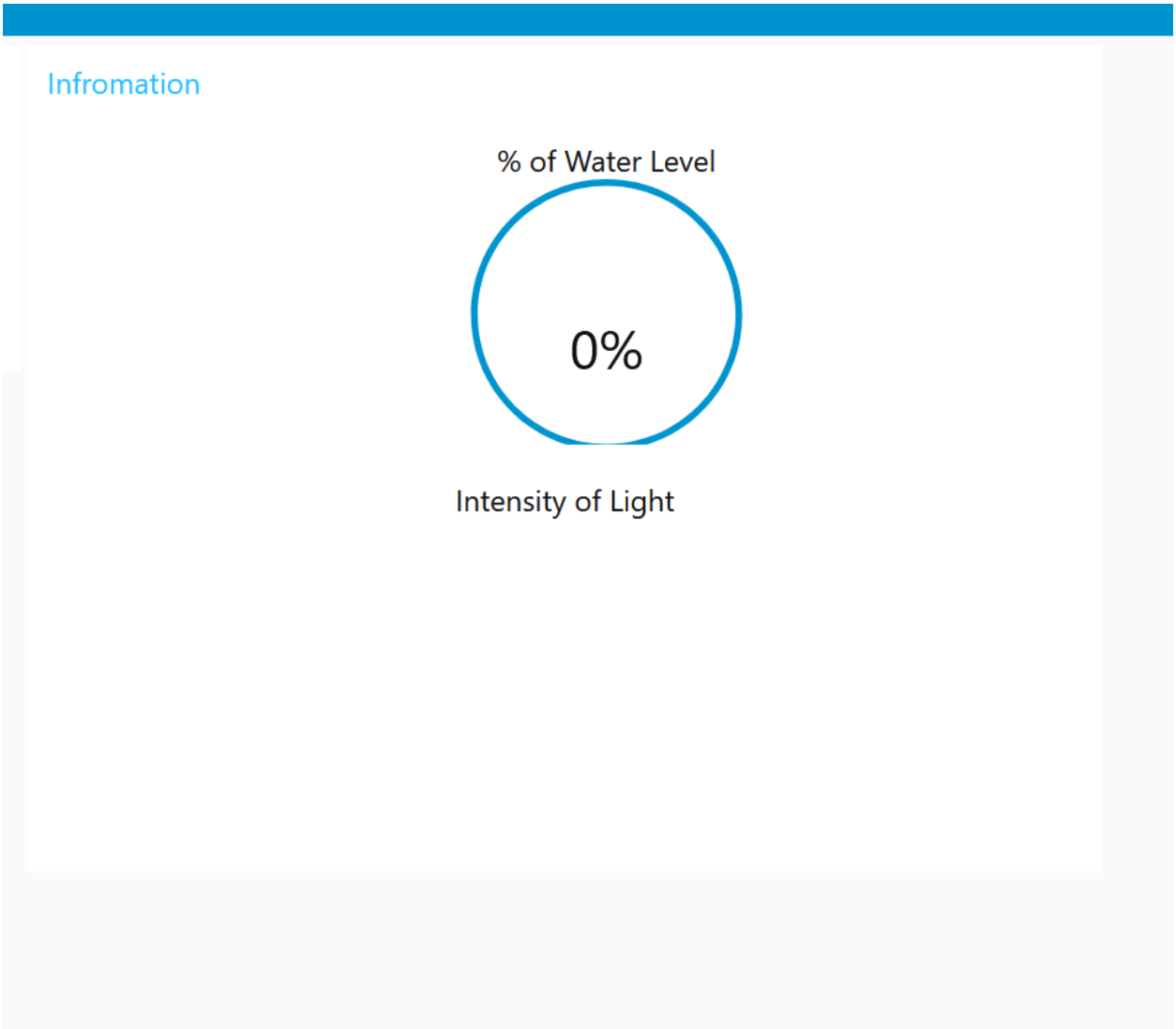
```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "cxkx1i",
        "typeId": "MyCloud",
        "deviceId":"1"
    },
    "auth": {
        "token": "12345678"
    }
}

def myCommandCallback(cmd):
```

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


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


while True:
    wtlevel=random.randint(0,100)
    inten=random.randint(0,100)
    myData={'water_level':wtlevel, 'light_intensity':inten}
    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()
```

Node Red Application flow:


IBM IoT
connected
msg.payload
Water Level
% of Water Level
Light Intensity
Intensity of Light

UI Design:



After Execution of the python file:

Output in python shell:

Published data Successfully: %s {'water_level': 74, 'light_intensity': 59}

Published data Successfully: %s {'water_level': 100, 'light_intensity': 73}

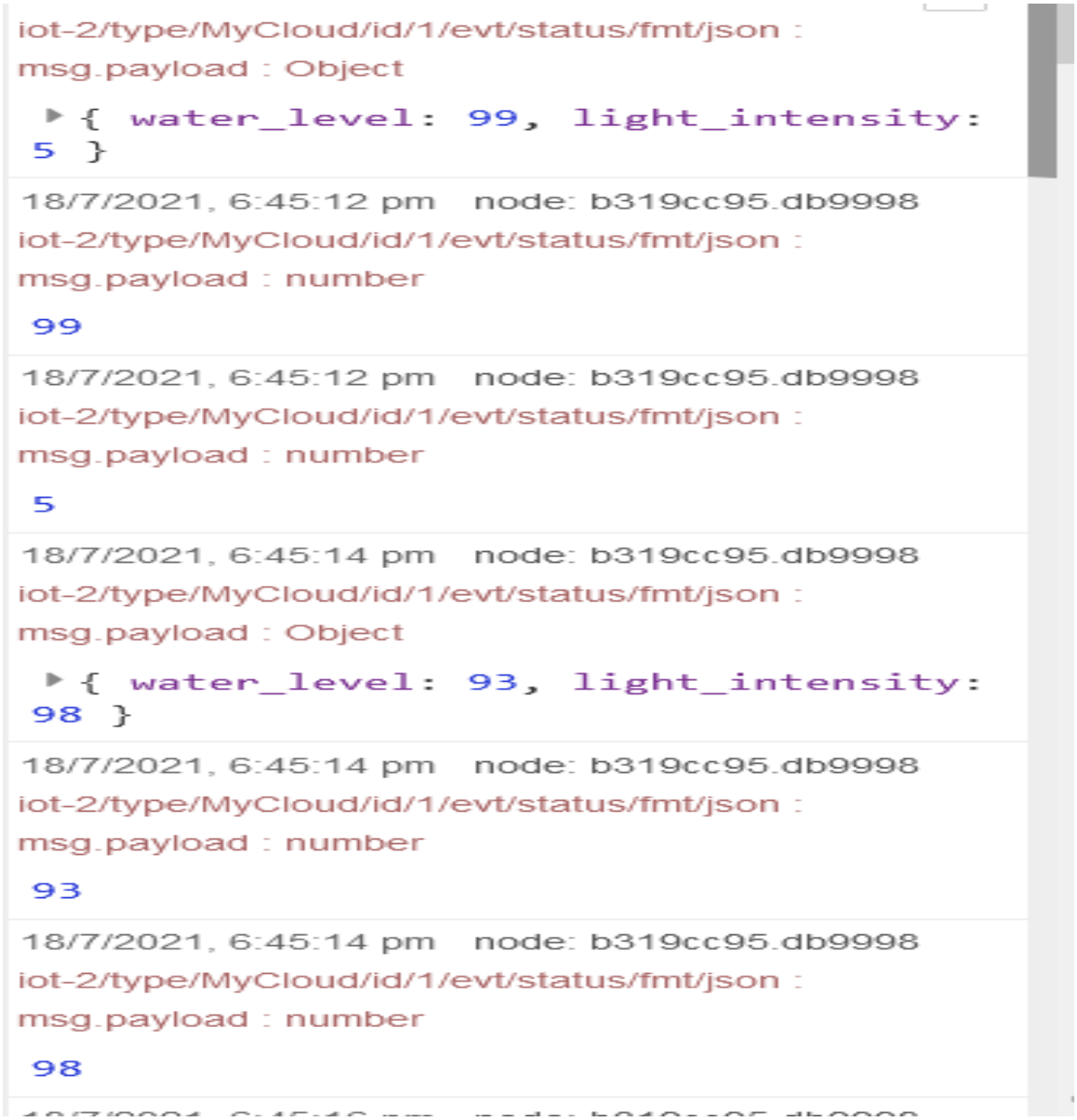
Published data Successfully: %s {'water_level': 34, 'light_intensity': 29}

Published data Successfully: %s {'water_level': 17, 'light_intensity': 12}

Published data Successfully: %s {'water_level': 34, 'light_intensity': 80}

```
2021-07-18 18:42:54,611   wiotp.sdk.device.client.DeviceClient  INFO    Connect
d successfully: d:cxkx1i:MyCloud:1
Published data Successfully: %s {'water_level': 74, 'light_intensity': 59}
Published data Successfully: %s {'water_level': 100, 'light_intensity': 73}
Published data Successfully: %s {'water_level': 34, 'light_intensity': 29}
Published data Successfully: %s {'water_level': 17, 'light_intensity': 12}
Published data Successfully: %s {'water_level': 34, 'light_intensity': 80}
Published data Successfully: %s {'water_level': 35, 'light_intensity': 31}
Published data Successfully: %s {'water_level': 50, 'light_intensity': 25}
Published data Successfully: %s {'water_level': 33, 'light_intensity': 5}
Published data Successfully: %s {'water_level': 35, 'light_intensity': 29}
Published data Successfully: %s {'water_level': 95, 'light_intensity': 48}
Published data Successfully: %s {'water_level': 68, 'light_intensity': 62}
Published data Successfully: %s {'water_level': 9, 'light_intensity': 39}
Published data Successfully: %s {'water_level': 35, 'light_intensity': 99}
Published data Successfully: %s {'water_level': 34, 'light_intensity': 97}
Published data Successfully: %s {'water_level': 87, 'light_intensity': 7}
Published data Successfully: %s {'water_level': 89, 'light_intensity': 93}
Published data Successfully: %s {'water_level': 55, 'light_intensity': 68}
Published data Successfully: %s {'water_level': 55, 'light_intensity': 64}
Published data Successfully: %s {'water_level': 14, 'light_intensity': 93}
Published data Successfully: %s {'water_level': 8, 'light_intensity': 90}
Published data Successfully: %s {'water_level': 45, 'light_intensity': 42}
Published data Successfully: %s {'water_level': 38, 'light_intensity': 44}
Published data Successfully: %s {'water_level': 5, 'light_intensity': 24}
Published data Successfully: %s {'water_level': 52, 'light_intensity': 54}
Published data Successfully: %s {'water_level': 85, 'light_intensity': 17}
Published data Successfully: %s {'water_level': 37, 'light_intensity': 1}
Published data Successfully: %s {'water_level': 37, 'light_intensity': 39}
Published data Successfully: %s {'water_level': 93, 'light_intensity': 19}
Published data Successfully: %s {'water_level': 27, 'light_intensity': 42}
Published data Successfully: %s {'water_level': 82, 'light_intensity': 91}
```

Results of debug messages:



Results in web UI: