

PROJECT DEVELOPMENT PHASE
DELIVERY OF SPRINT 3

Date	14 November 2022
Team ID	PNT2022TMID33781
Project Name	Personal Assistance for Seniors who are Self-reliant

SPRINT III: Development of Python code (Software implementation)

Outline of Sprint 3

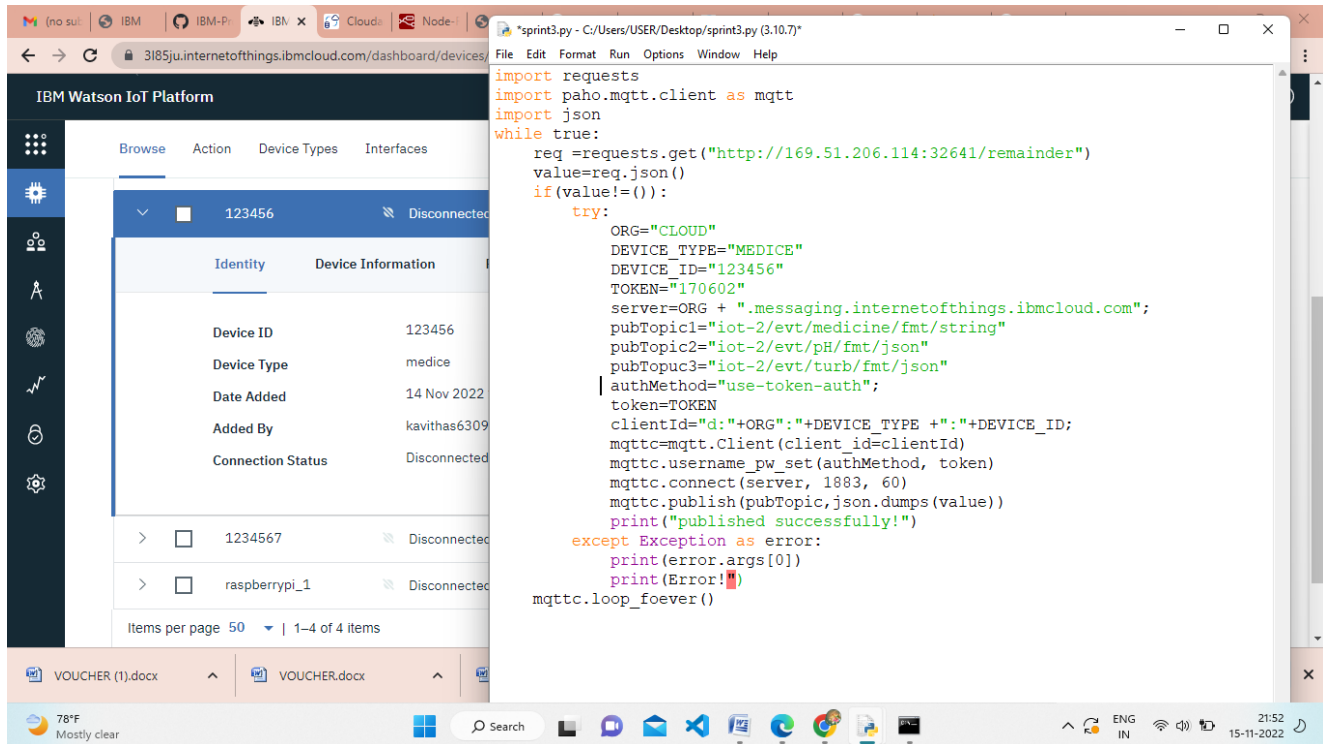
This sprint delivery document contains the following,

- 1)Python code to receive data from node red and send to IoT Watson platform
- 2)Updation of nodes in the node-red platform
- 3)The results of the web UI after deploying.

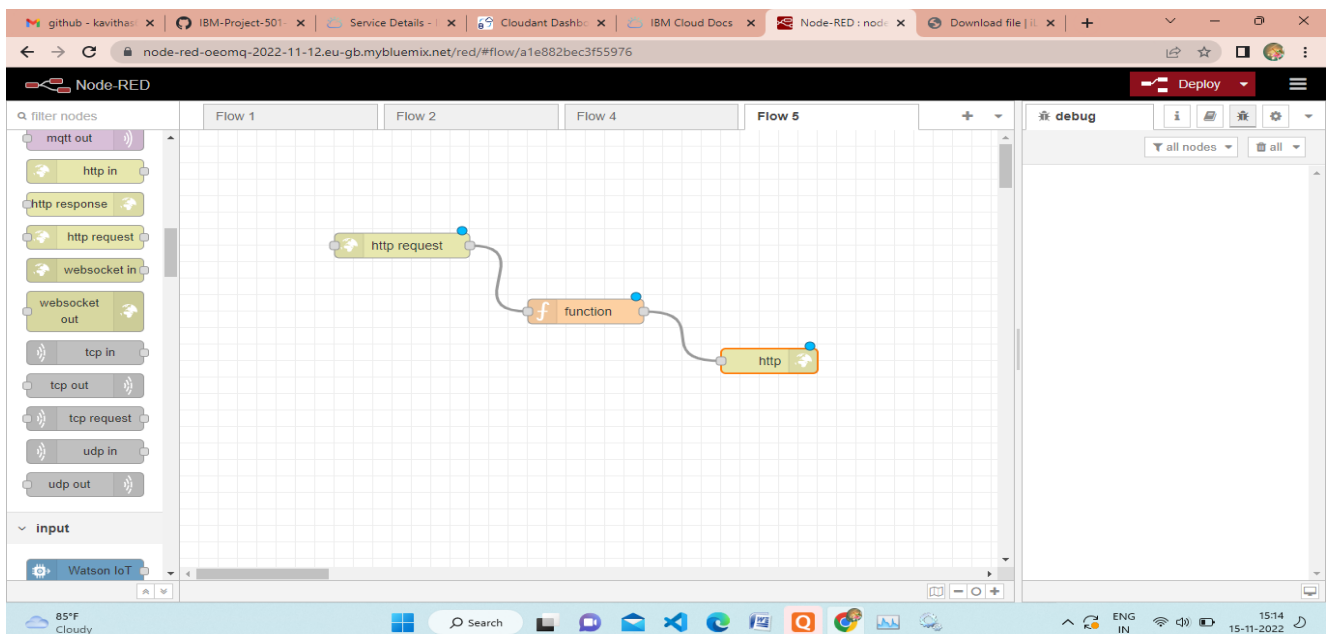
Python code to receive data from node red and send to IoT Watson platform

```
import requests
import paho.mqtt.client as mqtt
import json
while true:
    req =requests.get('http://169.51.206.114:32641/remainder')
    value=req.json()
    if(value!=()):
        try:
            ORG="CLOUD"
            DEVICE_TYPE="MEDICE"
            DEVICE_ID="123456"
            TOKEN="170602"
            server=ORG + ".messaging.internetofthings.ibmcloud.com";
            pubTopic1="iot-2/evt/medicine/fmt/string"
            pubTopic2="iot-2/evt/pH/fmt/json"
            pubTopic3="iot-2/evt/turb/fmt/json"
            authMethod="use-token-auth";
            token=TOKEN
            clientId="d:"+ORG+": "+DEVICE_TYPE+": "+DEVICE_ID;
            mqttc=mqtt.Client(client_id=clientId)
            mqttc.username_pw_set(authMethod, token)
            mqttc.connect(server, 1883, 60)
            mqttc.publish(pubTopic,json.dumps(value))
            print("published successfully!")
        except Exception as error:
            print(error.args[0])
```

```
print(Error!)"
mqttc.loop_forever()
```

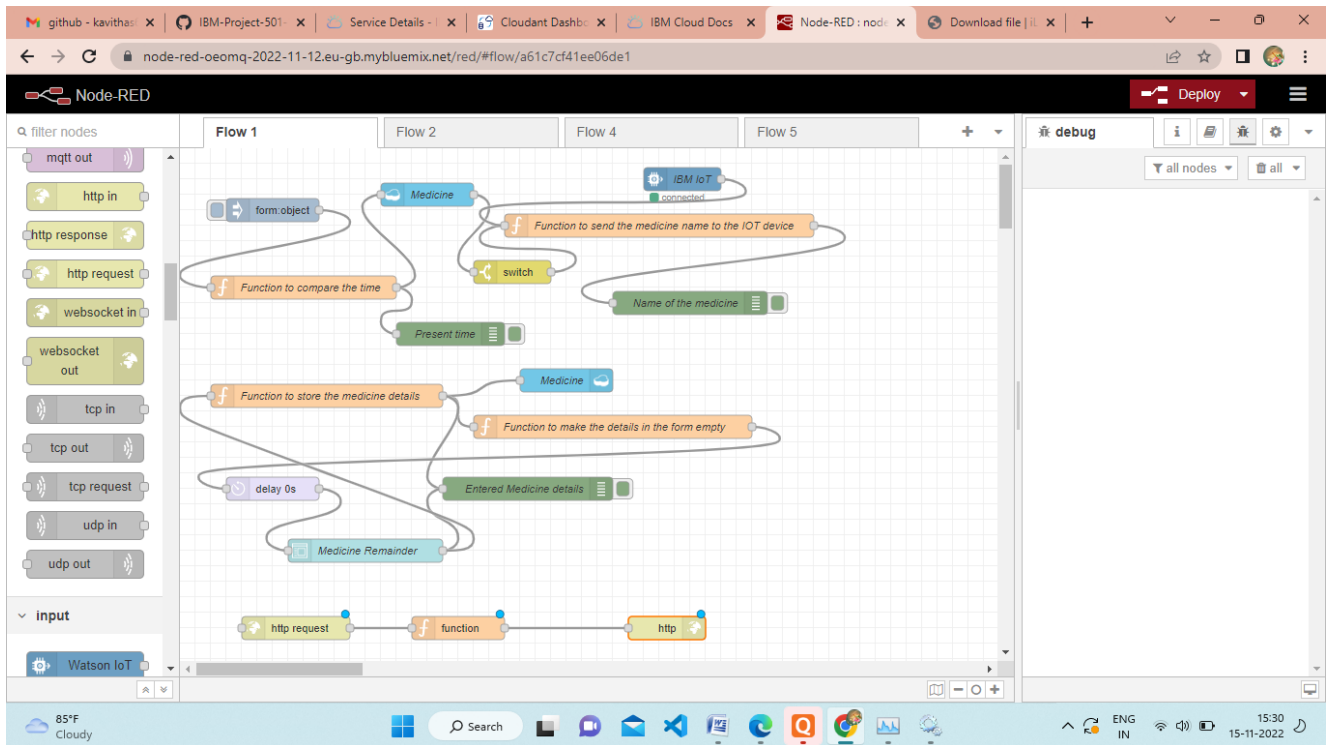


1) Updation of nodes in the node-red platform



The following function is returned in order to store get the medicine name in http to facilitate request and response via python code

The Updated node red flow diagram



Creating the IBM Watson account and add the devices, simulating the devices:

The screenshot shows the IBM Watson IoT Platform dashboard with the following details:

- Page Title:** Browse Devices
- Buttons:** All Devices, Diagnose
- Table:** A table with columns: Device ID, Status, Device Type. It lists two devices: 123 (Disconnected, raspberrypi) and 123456 (Connected, medicine).
- Event Editor:** A modal window for editing an event. It shows the event type name "event_1" and frequency "20 x Every Minute". The payload is a JSON object:

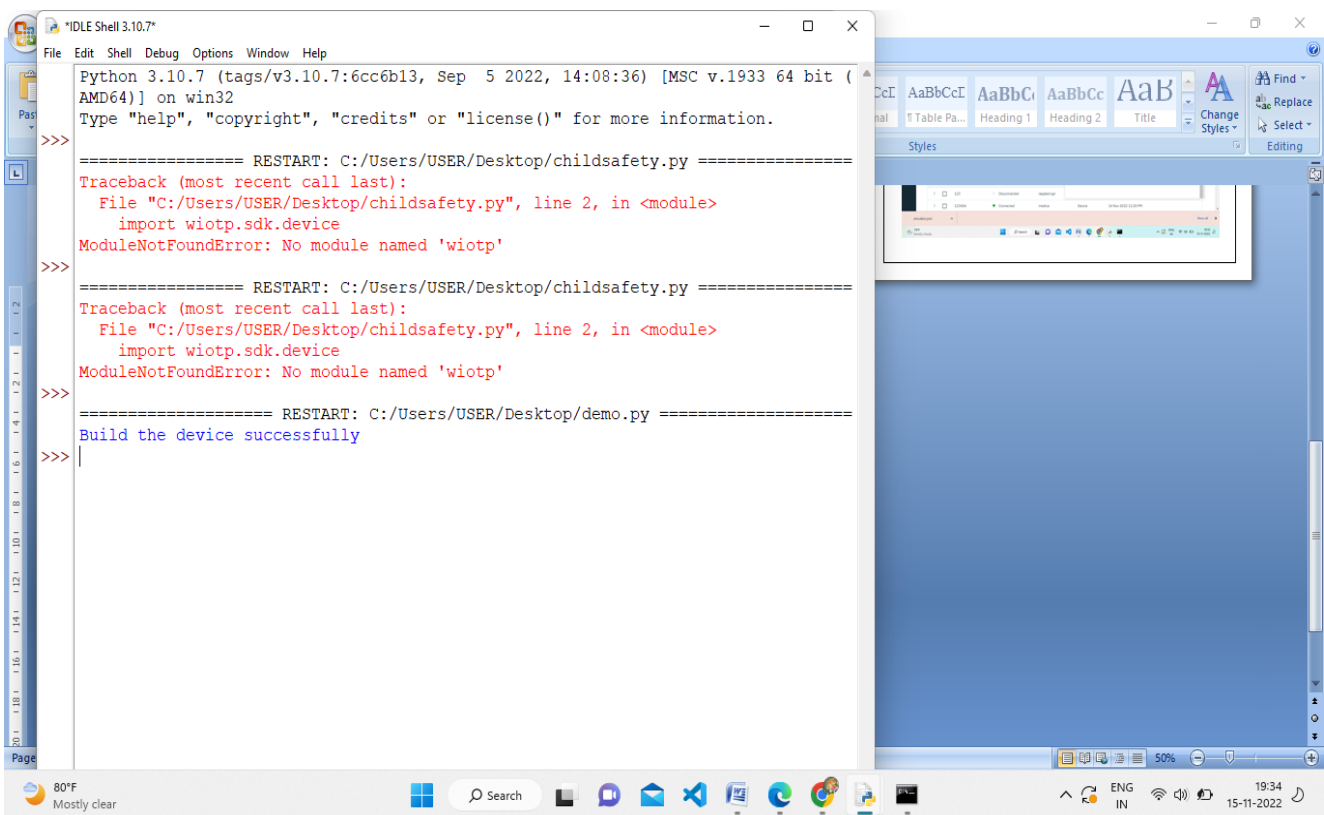
```
{ 0: { 1: "randomNumber": random(0, 100), 2: "medicine": Amitriptyline, 3: "time": 20:00, 4: } }
```

2) The results of the web UI after deploying.

The above result reveals that the medicine name is sent to the IoT Watson platform using the above developed python code.

The medicine name “Ofloxacin” is scheduled to be taken at 23:00. The name of the medicine is displayed in the IoT platform at 23:00

The next step would be implementing TTS service to spell out the medicine name at the appropriate time.



The screenshot displays a Windows desktop environment. On the left, an 'IDLE Shell 3.10.7*' window is open, showing a Python 3.10.7 shell. The shell contains several lines of code and error messages. The first part shows a restart of 'childsafety.py' with a 'ModuleNotFoundError: No module named 'wiotp'' error. The second part shows another restart of 'childsafety.py' with the same error. The third part shows a restart of 'demo.py' with the message 'Build the device successfully'. On the right, a web browser window is partially visible, showing a blue background. The Windows taskbar at the bottom includes the Start button, a search bar, and several application icons. The system tray shows the date and time as 15-11-2022, 19:34.

```
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/USER/Desktop/childsafety.py =====
Traceback (most recent call last):
  File "C:/Users/USER/Desktop/childsafety.py", line 2, in <module>
    import wiotp.sdk.device
ModuleNotFoundError: No module named 'wiotp'
>>>
===== RESTART: C:/Users/USER/Desktop/childsafety.py =====
Traceback (most recent call last):
  File "C:/Users/USER/Desktop/childsafety.py", line 2, in <module>
    import wiotp.sdk.device
ModuleNotFoundError: No module named 'wiotp'
>>>
===== RESTART: C:/Users/USER/Desktop/demo.py =====
Build the device successfully
>>>
```