PROJECT DEVELOPMENT PHASE

DELIVERY OF SPRINT 3

Date	12th November 2022
Team ID	PNT2022TMID35860
Project Name	Project – Personal Assistance for senior citizens who are self-reliant
Team members	K.Gurubaran B.Mejalin Arno J.Vinothagan R.Arunkumar

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

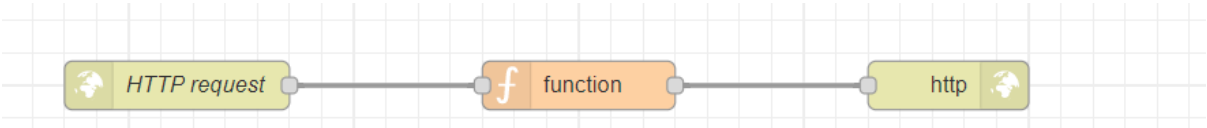
3)The results of the web UI after deploying.

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration. Creation of IBM services like NodeRED, Cloudant DB, TTS Service and design of IoT system	USN-1	As a user, I must be able to login to the IBM platform	2	High	Gurubaran, Arunkumar
Sprint-2	Web UI. Creation of Web UI using NodeRED service	USN-2	As a user, I must be able to update the medicine details in the web UI	2	High	Vinothagan, Mejalin Arno
Sprint-3	Software implementation. Developing Python code to retrieve data from cloudant db to send that data to IoT device	USN-3	As a user, I must be push the details to the IoT device	2	High	Gurubaran, Mejalin Arno
Sprint-4	Final demonstration and user testing. Generating voice commands using IBM Text to Speech service	USN-4	As a user, I must be able hear the medicine name which is to be taken at the appropriate time and check its accuracy	2	High	Vinothagan, Arunkumar

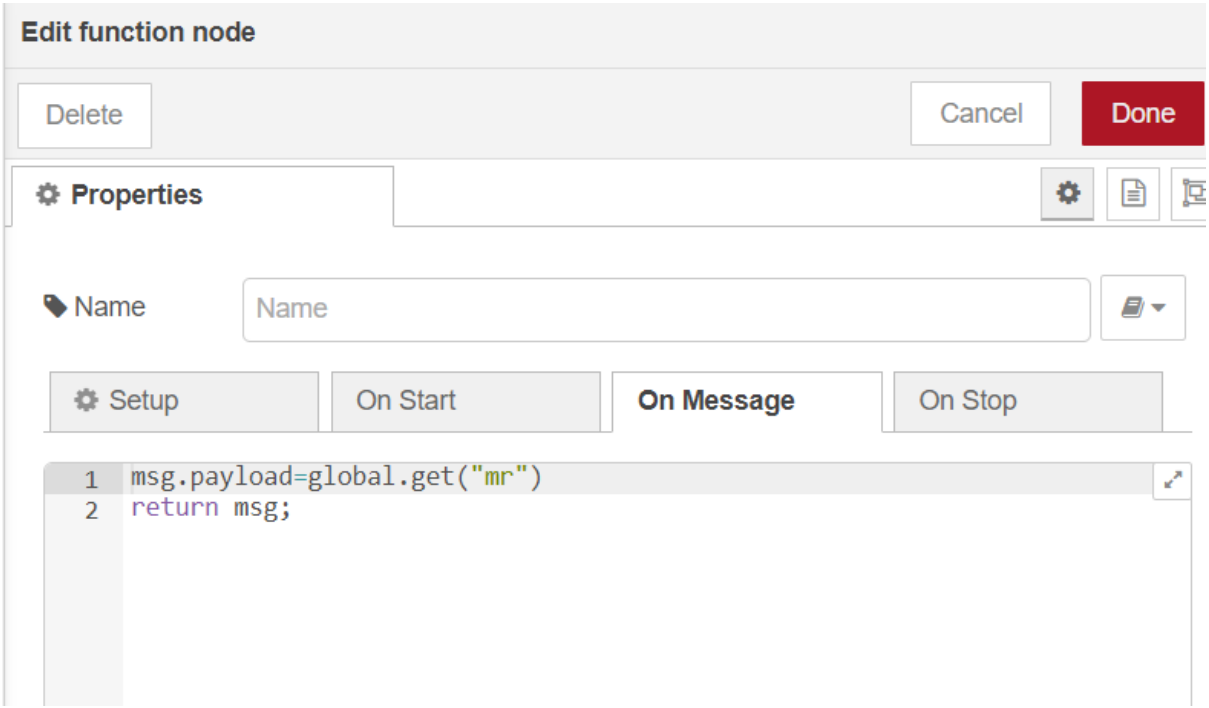
1)Python code to receive data from node red and send to IoT Watson platform

```
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= "jchm38"
            DEVICE_TYPE ="MR"
            DEVICE_ID ="2019504037"
            TOKEN ="()!xRUci*BCpeso-rk"
            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"
            #pubTopic3 = "iot-2/evt/wf/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(pubTopic1,json.dumps(value))
            print("Published Successfully!")
        except Exception as error:
            print(error.args[0])
            print("Error!")
mqttc.loop_forever()
```

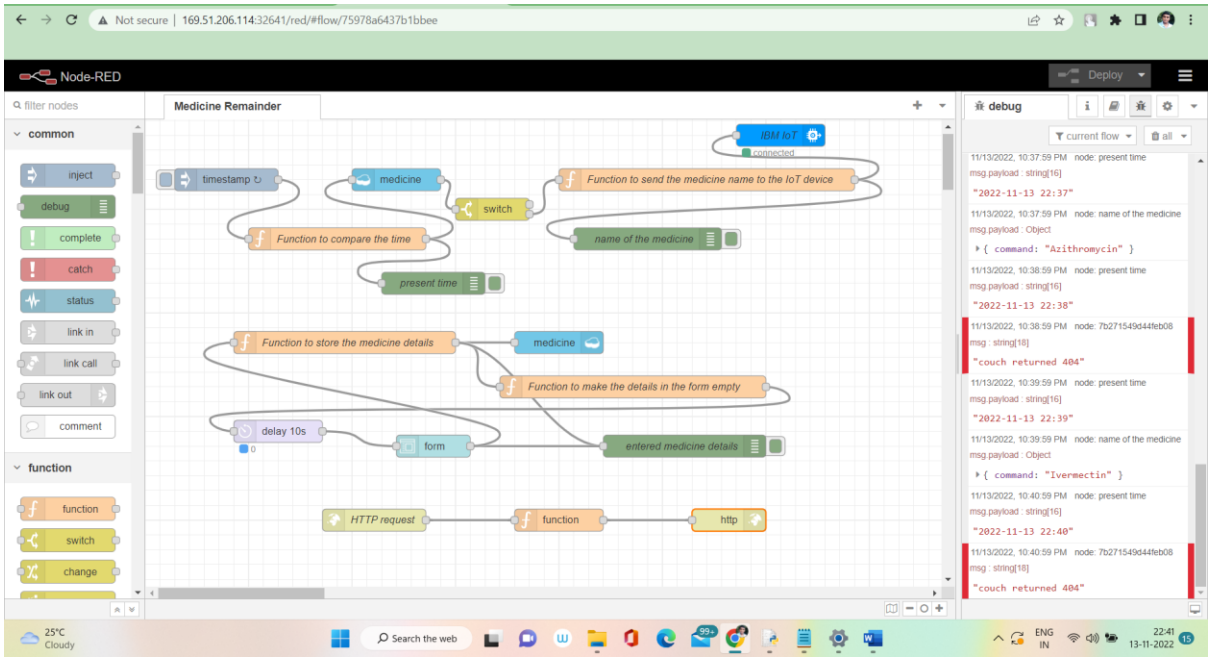
2)Updation of nodes in the node-red platform



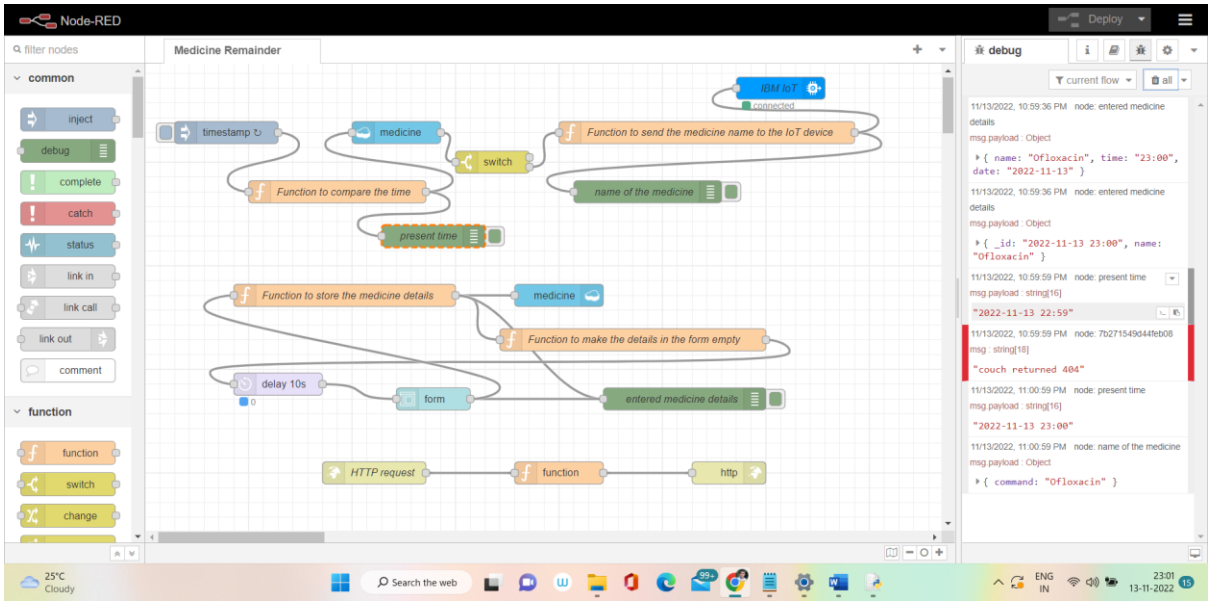
The following function is returned in order to store get the medicine name in http to facilitate request and response via python code

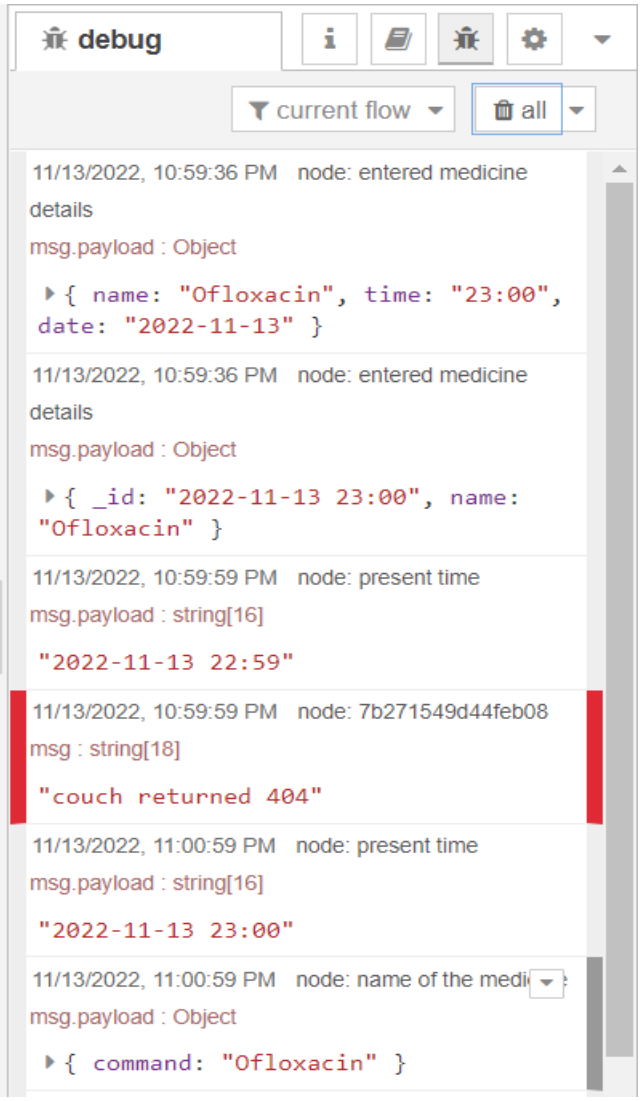


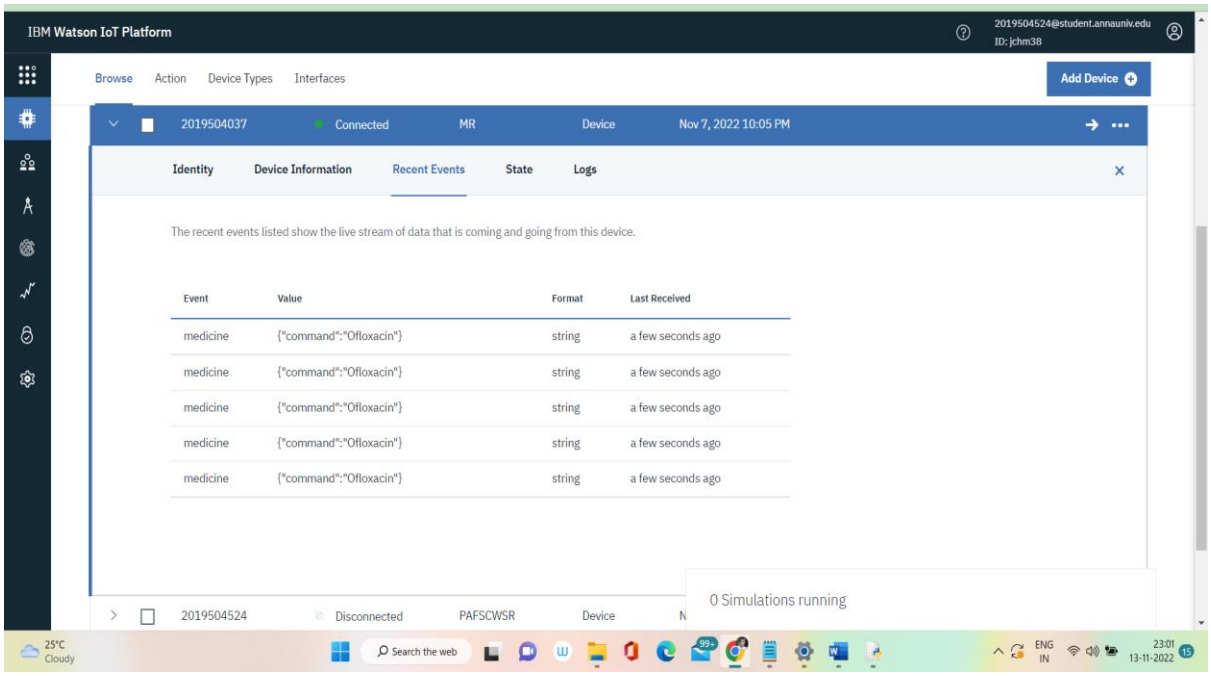
The Updated node red flow diagram

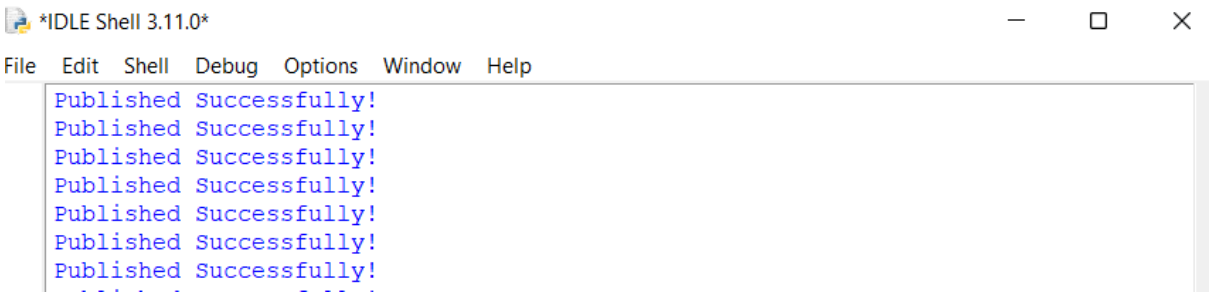


3)The results of the web UI after deploying.









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 took 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.

****************************END OF REPORT********************************