

PROJECT DEVELOPMENT PHASE

DELIVERY OF SPRINT 2

Date	06 November 2022
Team ID	PNT2022TMID27535
Project Name	Project – Personal Assistance for senior citizens who are self-reliant

SPRINT II: Development of Web User Interface in NodeRED service of IBM


Objectives:

- i) To create a form UI in Node-Red platform to enter the medicine name and time of intake.
- ii) To send the medicine name at the scheduled time.
- iii) Complete Web UI flow
- iv) Deploying Web UI

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	<u>Registration:</u> Creation of IBM services like NodeRED, Cloudant DB, TTS Service and design of IoT system	USN-1	As a user,I should login into my IBM Cloud account.	2	High	Mark Gerald, Kingston Leonard
Sprint-2	<u>Web UI:</u> Creating web UI using node-red and connect it to IBM Cloudant db	USN-2	As a user,I should be able to feed the medicine name and intake time in the web UI	2	High	Melodina Carnelian D, Rufus A.R
Sprint-3	<u>Software implementation:</u> Developing Python code to retrieve data from cloudant db to send that data to IoT device at the appropriate time	USN-3	As a user, I should be able to send the medicine name to the IoT device at the scheduled time	2	High	Melodina Carnelian D, Kingston Leonard
Sprint-4	<u>Hardware implementation:</u> Converting the data received from cloud as voice 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	2	High	Rufus A.R, Mark Gerald

i)Creating a form in Node-Red to enter medicine details:

- Web UI can be created by using form UI from Node-Red Dashboard
- The Dashboard can be installed from node-red palette
- The medicine name,intake time and day is entered in the form
- The medicine details are wired and stored to the IBM cloudant db database with the help of a function.


Name 

```

1 var d=msg.payload.date
2 var t=msg.payload.time
3 msg.payload={
4   "_id":d+" "+t,
5   "name": msg.payload.name,
6 }
7 return msg;

```

➤ The below function is used to reset the form after a delay to add more medicine details

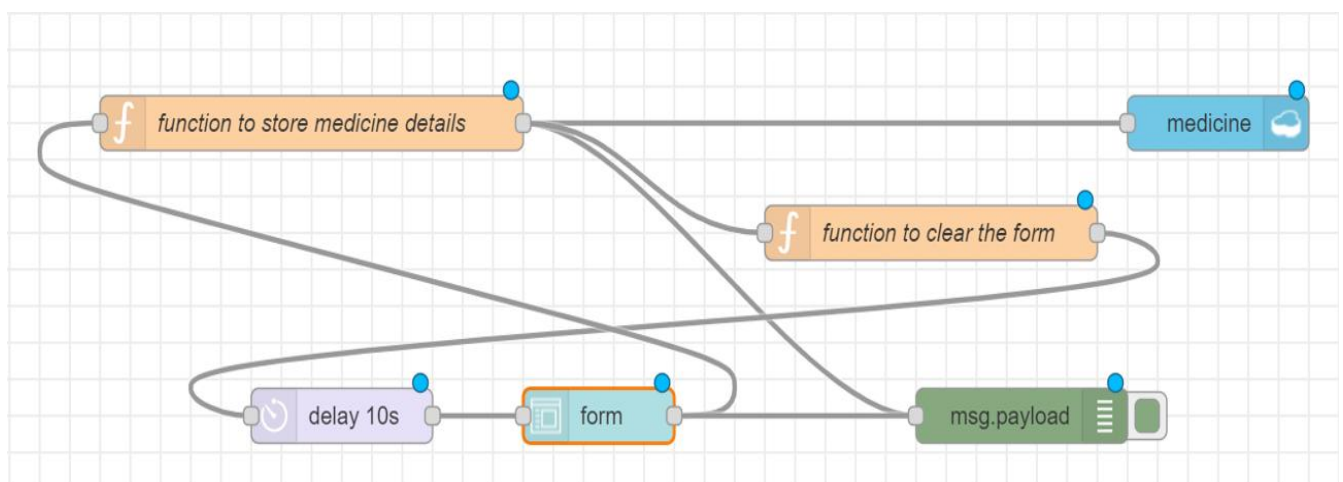
Name 

```

1 msg.payload={
2   "date":"","
3   "name":"","
4   "time":""
5 }
6 return msg;

```

➤ Node-Red Flow to create a form



➤ Web User Interface for entering medicine details

Home

Medicine Reminder

Enter medicine name *

Time(HH:MM) *

Date(YYYY:MM:DD) *

SUBMIT

CANCEL

ii) Sending the medicine name at the appropriate time:

- A function is created to compare the present time with the scheduled time.
- The function to get the present time is shown below.

Name

function to compare time

Setup

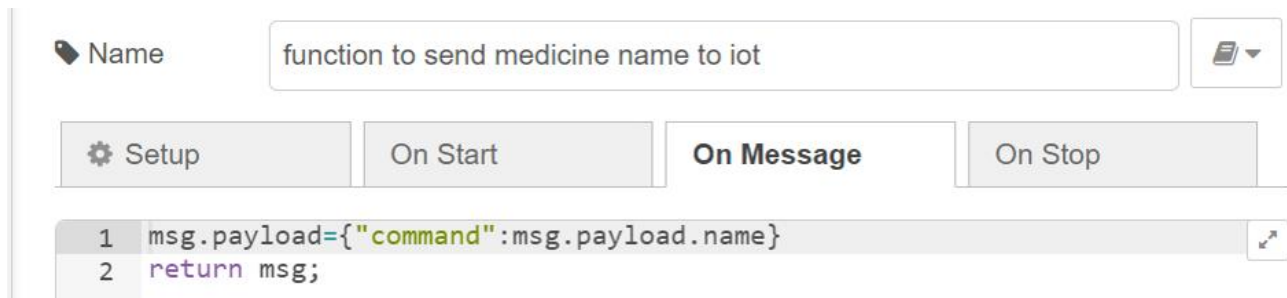
On Start

On Message

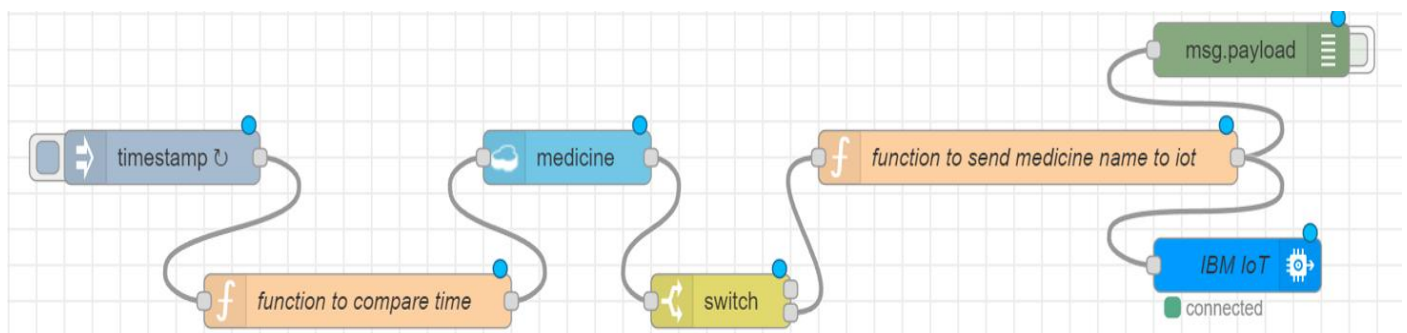
On Stop

```
1 var d= new Date();
2 var utc= d.getTime() + (d.getTimezoneOffset() * 60000);
3 var offset=5.5;
4 newDate = new Date(utc + (3600000*offset));
5 var n=newDate.toISOString()
6 var date= n.slice(0,10)
7 var time = n.slice(11,16)
8 global.set('time', time)
9 msg.payload=date+" "+time
10 return msg;
```

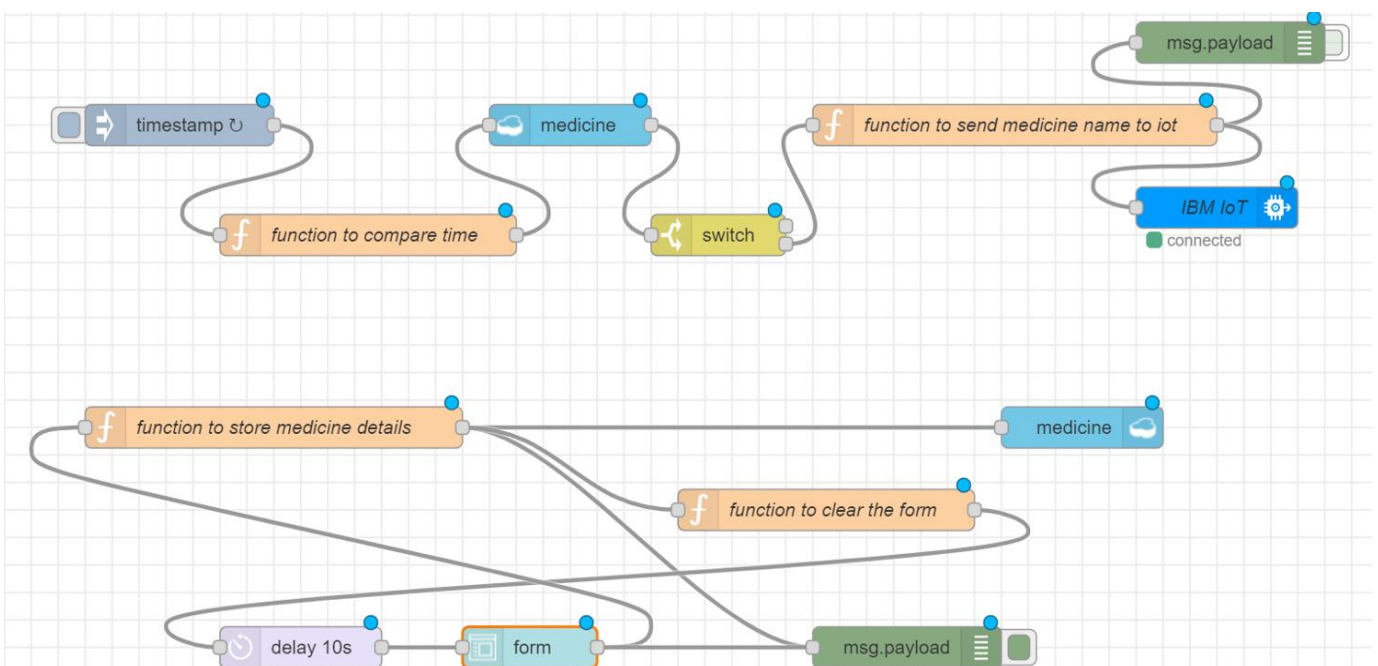
- After obtaining the present time, cloudant node is connected to the function in order search the scheduled time by _id
- The cloudant node is connected to the IBM cloudant database.
- If the present time and scheduled time in the database matches, then the name of the medicine will be sent to the IoT device using switch node and a function following that node



- Overall node flow for sending the medicine name to IoT device.



iii) Complete Web UI flow:



iv)Deploying Web UI:

The debug window in Node-Red depicts the medicine details.

```
msg.payload : Object
  ▶ { command: "Dolo-650" }

11/11/2022, 8:17:03 AM node: 3deb0adea99203f0
msg : string[18]
"couch returned 404"

11/11/2022, 8:17:11 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { name: "Cetirizine", time: "20:18",
    date: "2022-11-11" }

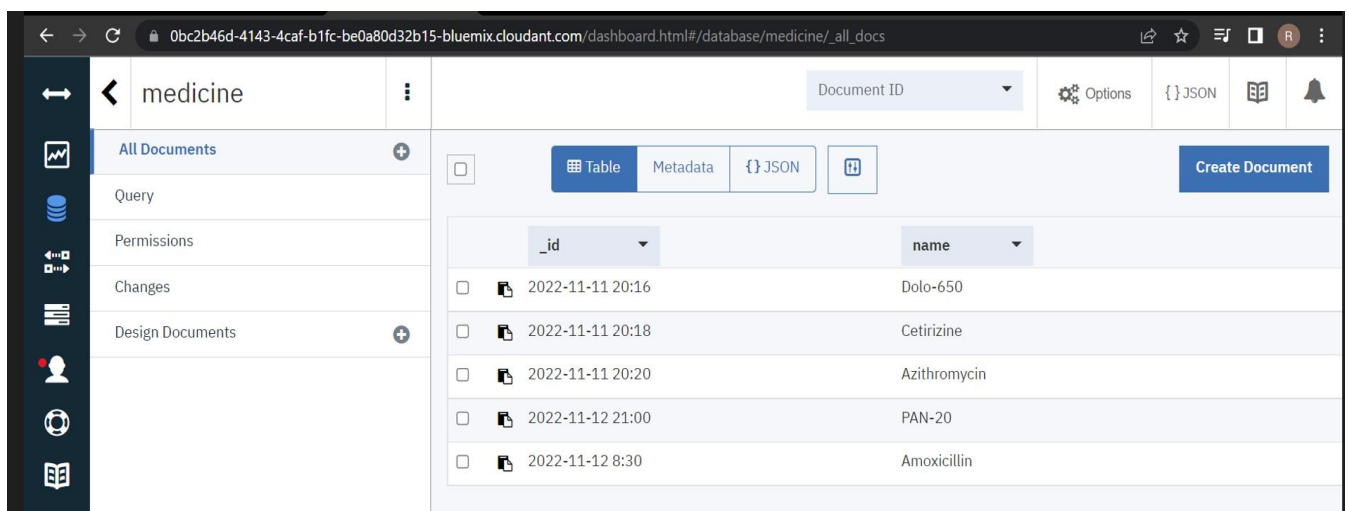
11/11/2022, 8:17:11 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { _id: "2022-11-11 20:18", name:
    "Cetirizine" }

11/11/2022, 8:18:03 AM node: 93e43a4beff1447f
msg.payload : Object
  ▶ { command: "Cetirizine" }

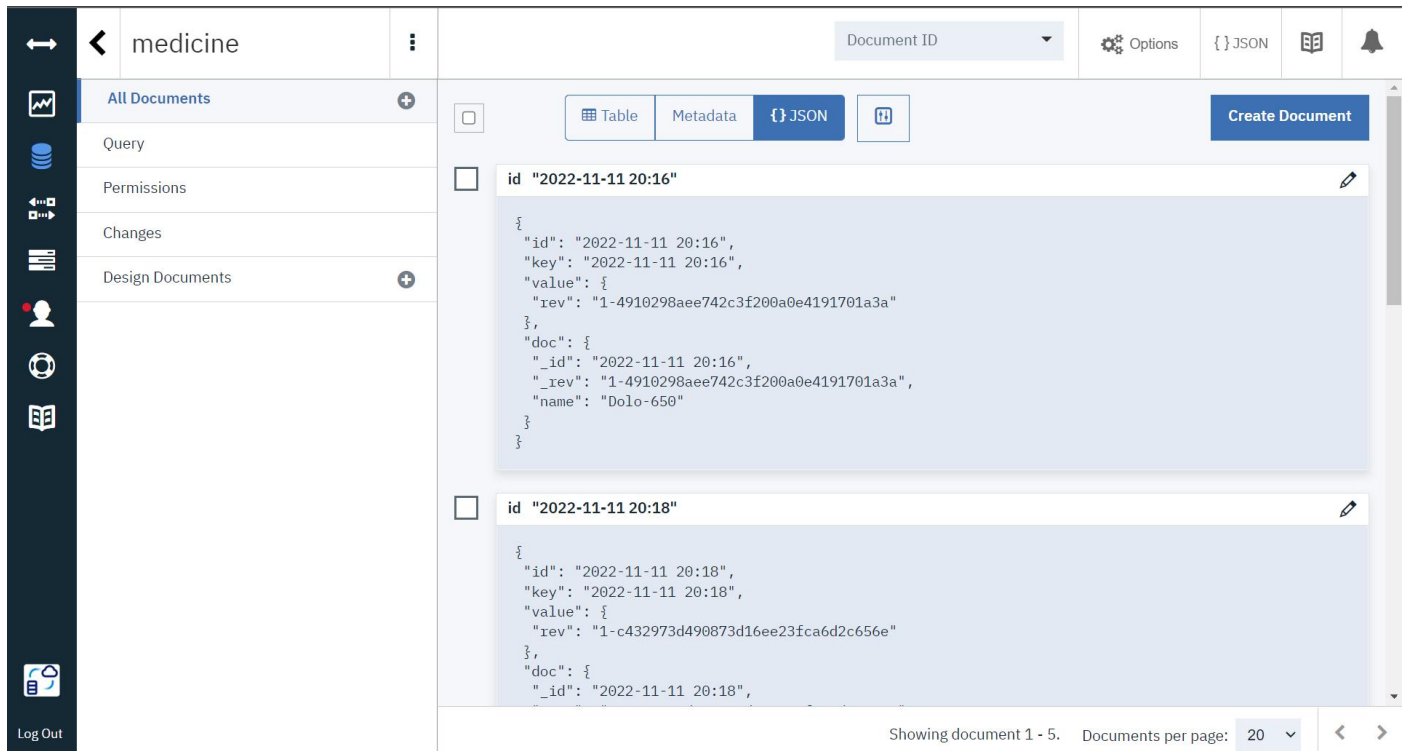
11/11/2022, 8:18:43 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { name: "Azithromycin", time:
    "20:20", date: "2022-11-11" }

11/11/2022, 8:18:44 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { _id: "2022-11-11 20:20", name:
    "Azithromycin" }
```

➤ The following image shows the details of the medicine which is stored in the cloudant db under the medicine database.



- The following image shows the details of the medicine in the medicine database in JSON format



- The medicine reminder operation is depicted below:

- ✓ The medicine name Cetirizine and it's intake time 20:18 and date 11.11.2022 is stored in the database.

```
11/11/2022, 8:17:11 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { name: "Cetirizine", time: "20:18",
    date: "2022-11-11" }

11/11/2022, 8:17:11 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { _id: "2022-11-11 20:18", name:
    "Cetirizine" }
```

- ✓ When it's time to take the medicine, the medicine name is sent as a command to the IoT device.

```
11/11/2022, 8:17:11 AM node: 79156875bd5e0858
msg.payload : Object
  ▶ { _id: "2022-11-11 20:18", name:
    "Cetirizine" }

11/11/2022, 8:18:03 AM node: 93e43a4beff1447f
msg.payload : Object
  ▶ { command: "Cetirizine" }
```
