PROJECT DEVELOPMENT PHASE

DELIVERY OF SPRINT 2

Date	06 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 II: Development of Web User Interface in NodeRED service of IBM

Outline of Sprint 2

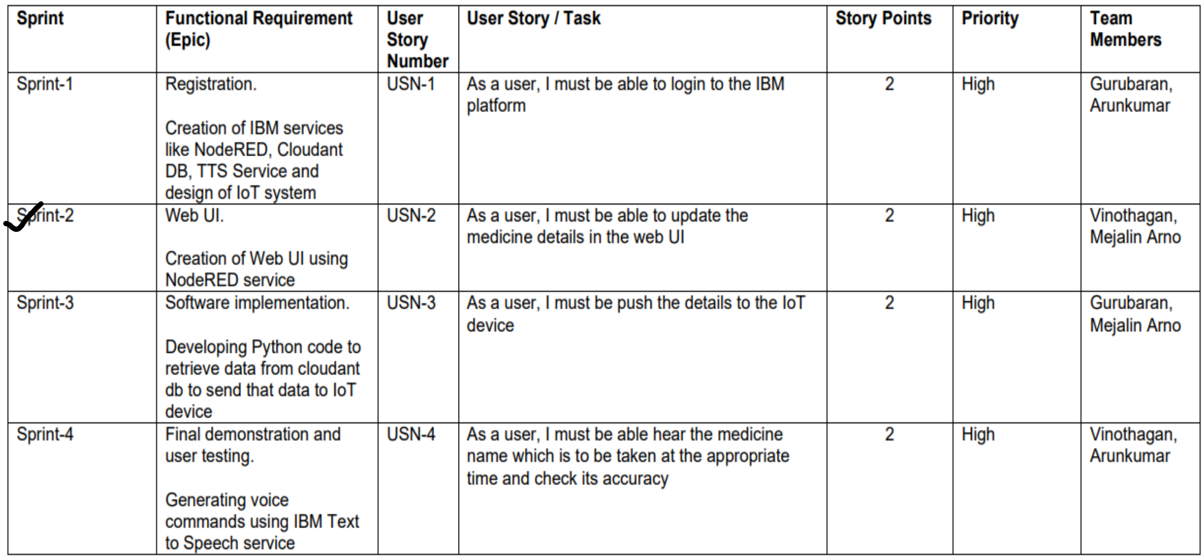
This sprint delivery document contains the following,

1)To create a form dashboard to enter the medicine details.

2)To send the medicine name at the right time to the IoT device.

3)Total node flow of the entire Web UI.

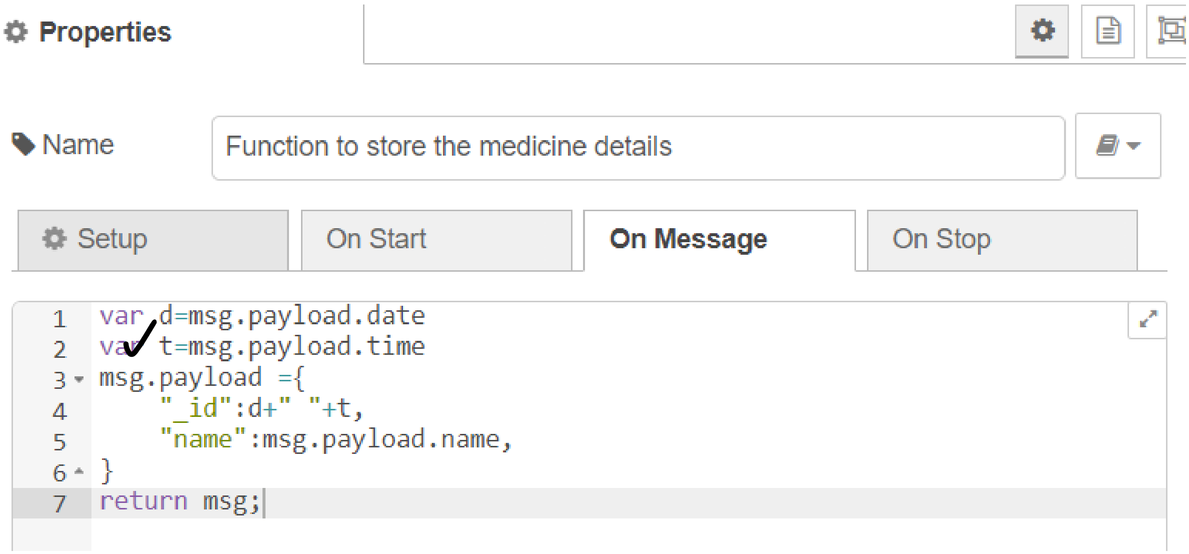
4)The results of the web UI after deploying.



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) To create a form dashboard to enter the medicine details.

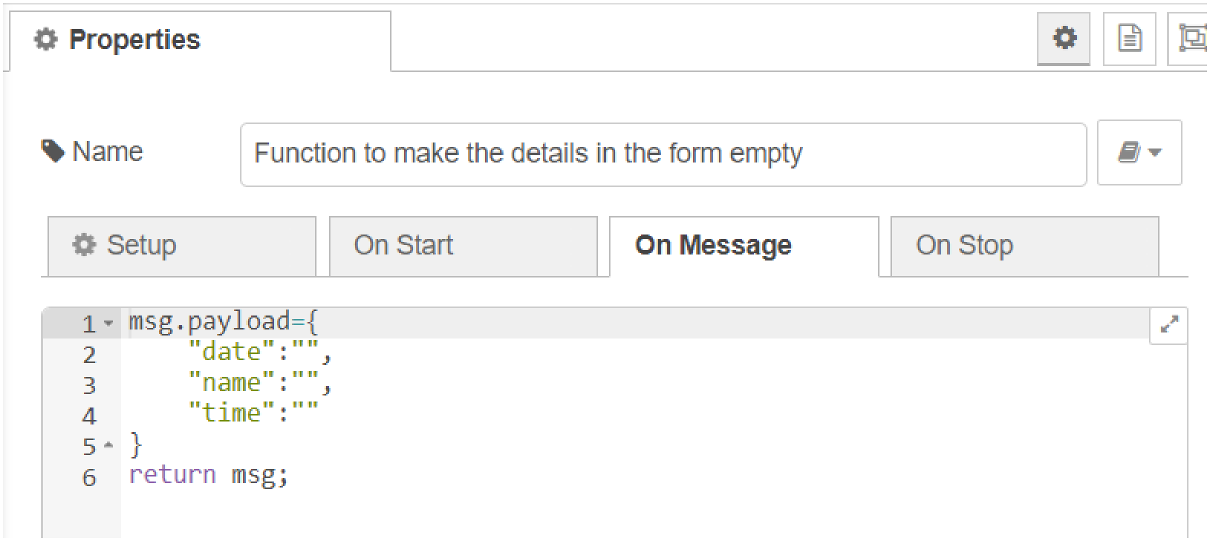
- The Web UI could be accomplished by creating a form by installing nodered dashboard in the manage palate option of the NodeRED platform
- Form allows the user to enter the medicine name, time in which the medicine has to be taken and the day.
- The medicine details entered in the form are stored in the cloudant db database service of the IBM by writing a suitable function



Name: Function to store the medicine details

```
var d=msg.payload.date
var t=msg.payload.time
msg.payload ={
    "_id":d+" "+t,
    "name":msg.payload.name,
}
return msg;
```

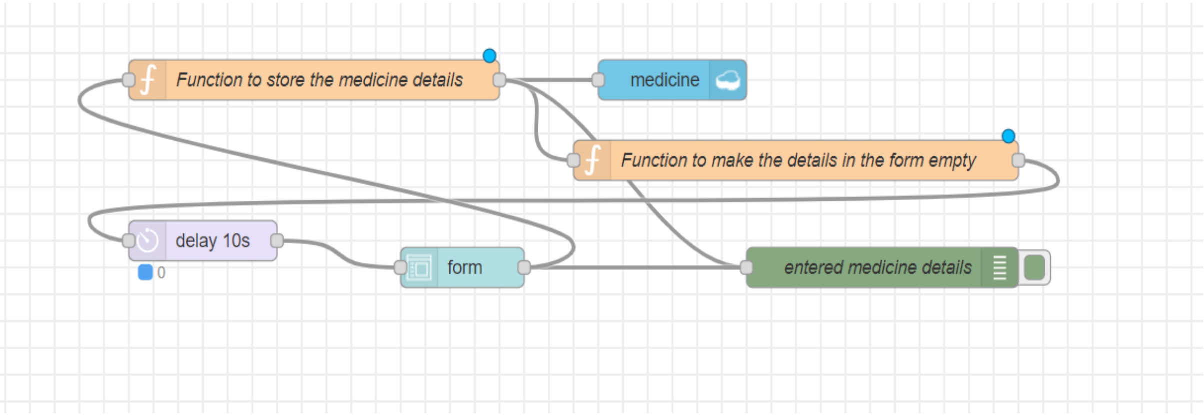
- Another function is written to make the contents of the form empty after a delay to facilitate the entry of the other medicine details



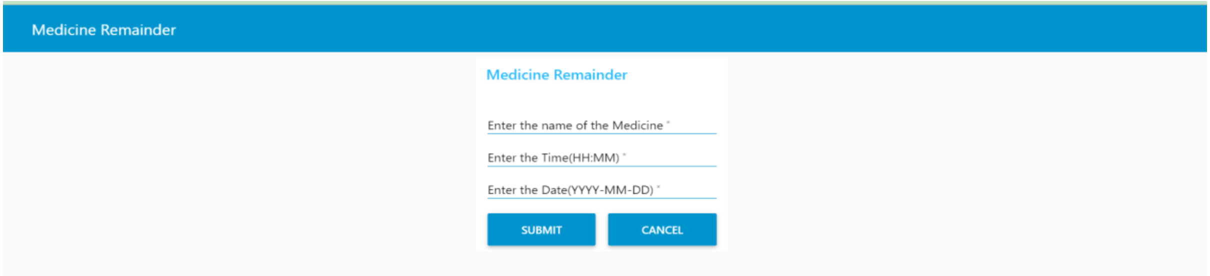
Name: Function to make the details in the form empty

```
msg.payload={
    "date":"",
    "name":"",
    "time":""
}
return msg;
```

- Node flow for the creation of the form


Function to store the medicine details
medicine
Function to make the details in the form empty
delay 10s
0
form
entered medicine details

- UI for entering the medicine details



Medicine Remainder

Medicine Remainder

Enter the name of the Medicine *

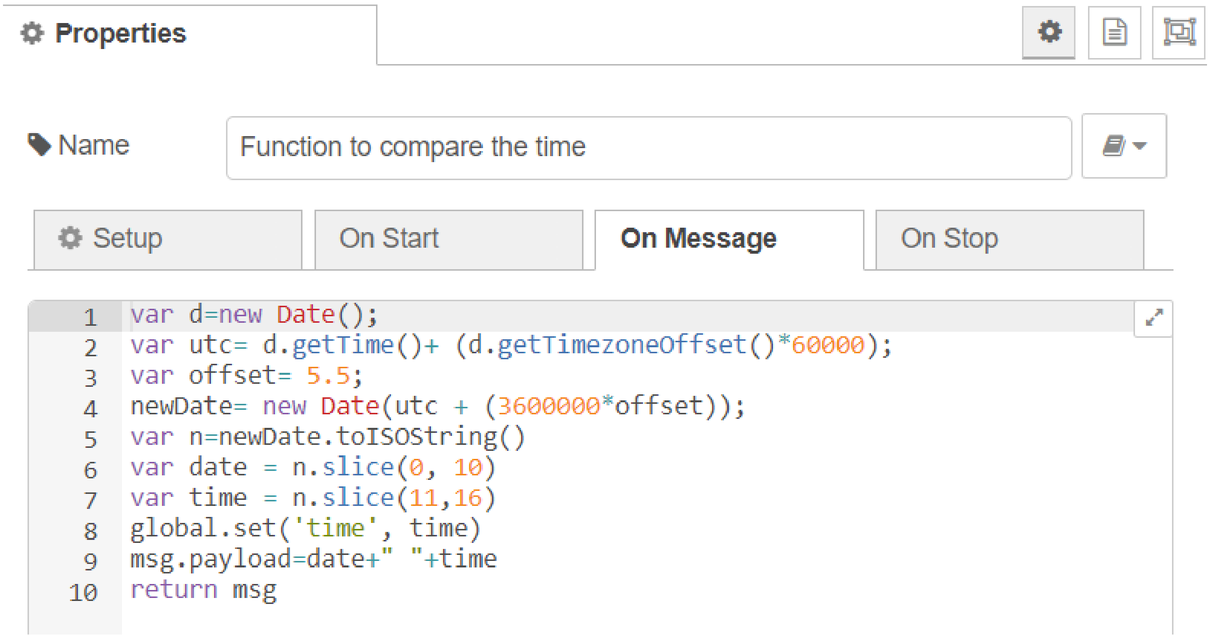
Enter the Time(HH:MM) *

Enter the Date(YYYY-MM-DD) *

SUBMIT CANCEL

2)To send the medicine name at the right time to the IoT device.

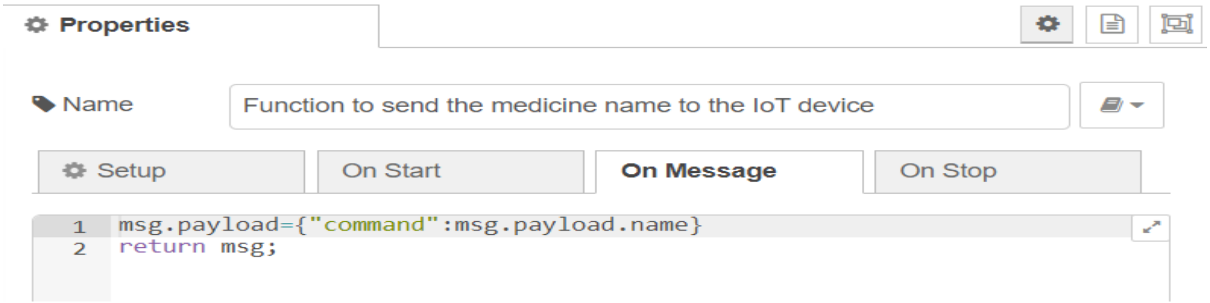
- To accomplish this we need to write a function to compare the present time with the time entered in the form.
- The following function will obtain the present time



Name: Function to compare the time

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

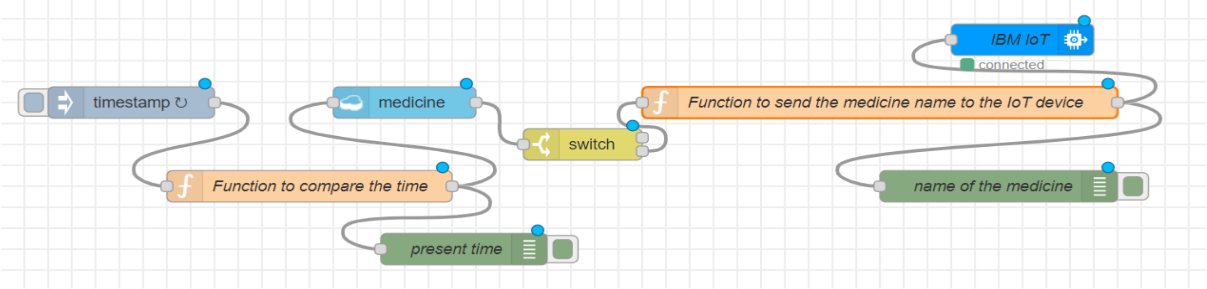
- After obtaining the present time, cloudant in node is connected to it in order facilitate searching by _id
- If the present time and time in the database matches, then the name of the medicine will be sent to the IoT device using switch node and function following that node



Name: Function to send the medicine name to the IoT device

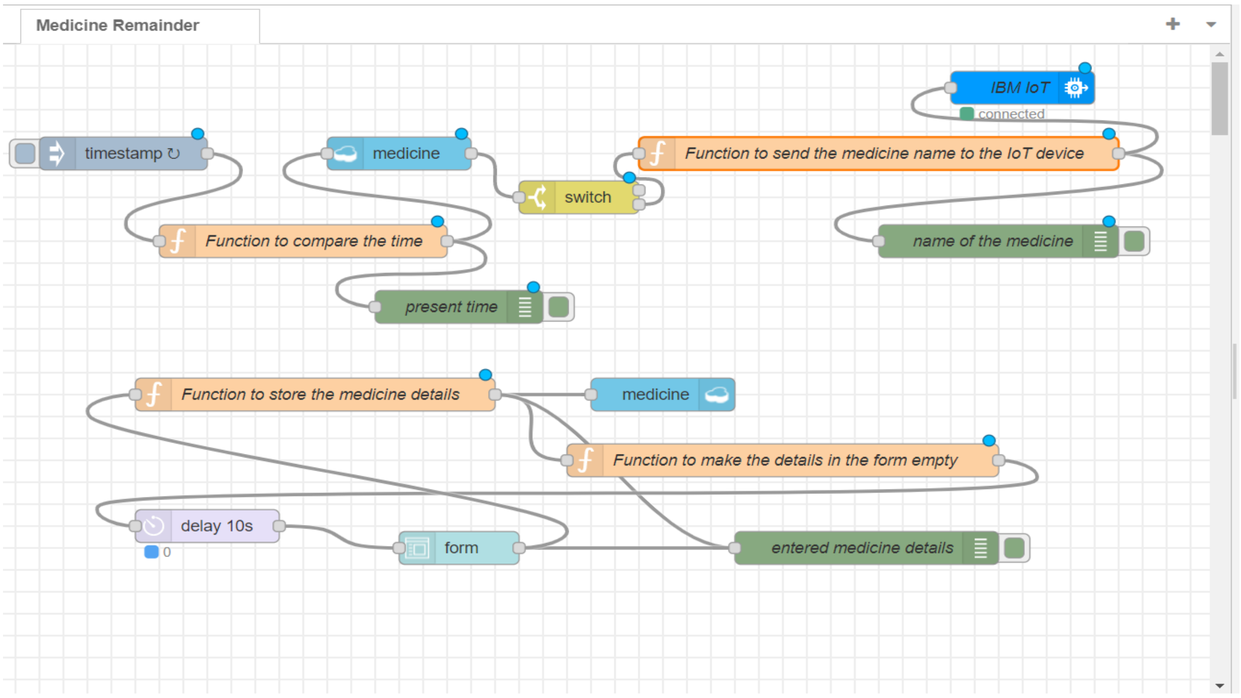
```
msg.payload={"command":msg.payload.name}
return msg;
```

- Node flow for sending the name of the medicine to the IoT device



IBM IoT
connected
timestamp ↻
medicine
Function to send the medicine name to the IoT device
switch
Function to compare the time
name of the medicine
present time

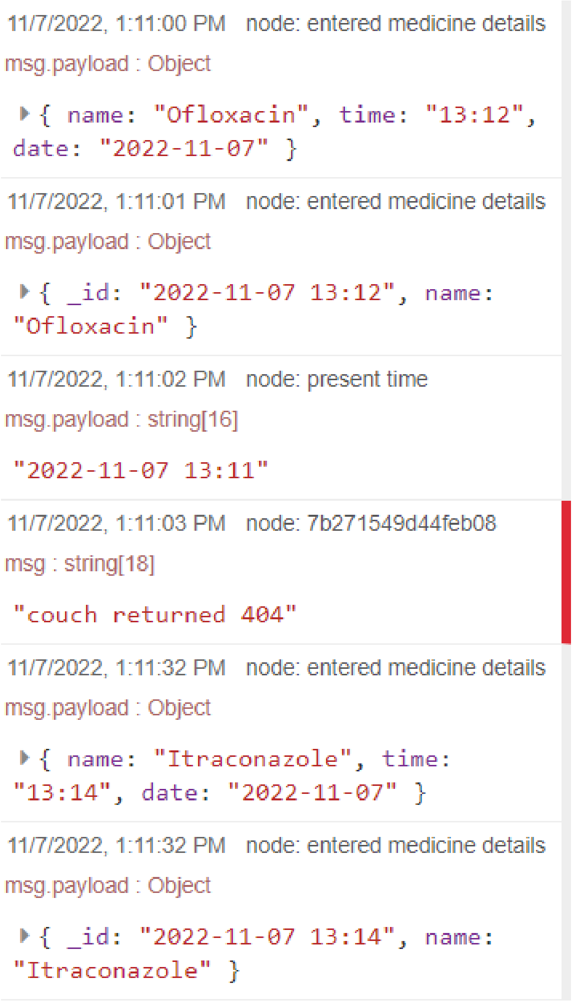
3)Total node flow of the entire Web UI



Medicine Remainder
IBM IoT
connected
timestamp ↻
medicine
Function to send the medicine name to the IoT device
switch
Function to compare the time
name of the medicine
present time
Function to store the medicine details
medicine
Function to make the details in the form empty
delay 10s
0
form
entered medicine details

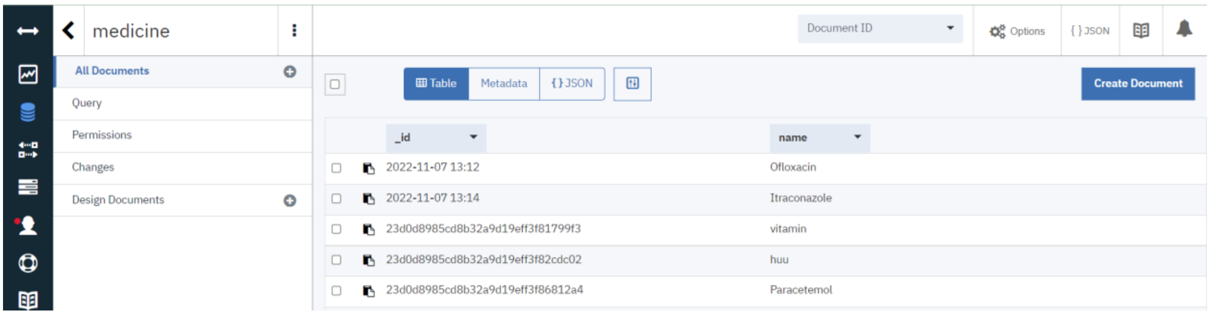
4)After deploying the following are the results

- The following image shows the details of the medicine entered



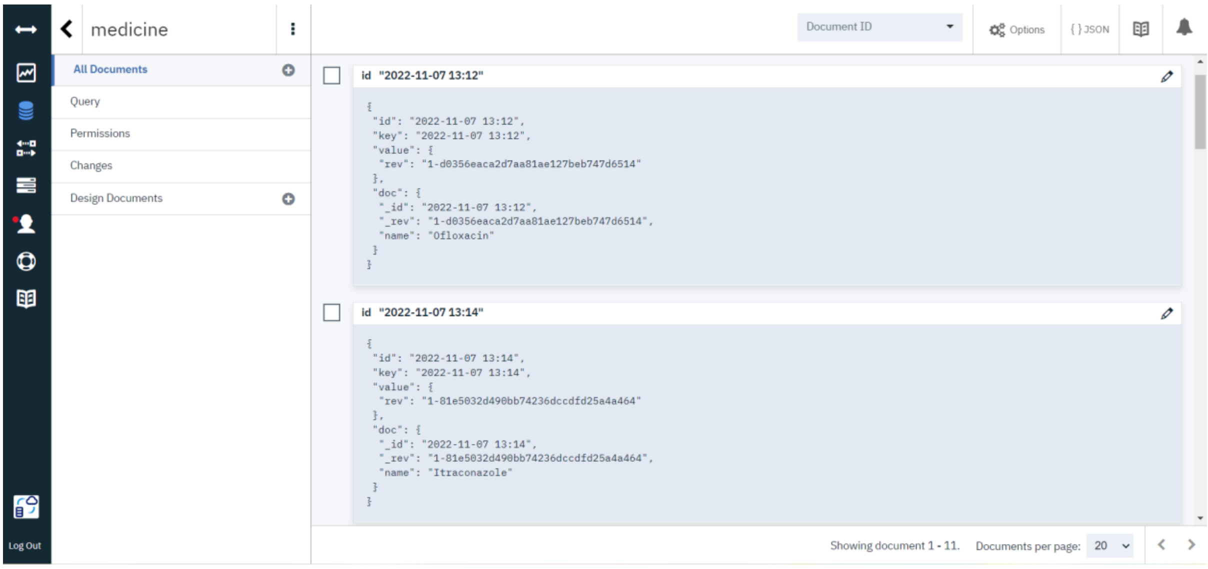
```
11/7/2022, 1:11:00 PM   node: entered medicine details
msg.payload : Object
▸{ name: "Ofloxacin", time: "13:12",
date: "2022-11-07" }

11/7/2022, 1:11:01 PM   node: entered medicine details
msg.payload : Object
▸{ _id: "2022-11-07 13:12", name:
"Ofloxacin" }

11/7/2022, 1:11:02 PM   node: present time
msg.payload : string[16]
"2022-11-07 13:11"

11/7/2022, 1:11:03 PM   node: 7b271549d44feb08
msg : string[18]
"couch returned 404"

11/7/2022, 1:11:32 PM   node: entered medicine details
msg.payload : Object
▸{ name: "Itraconazole", time:
"13:14", date: "2022-11-07" }

11/7/2022, 1:11:32 PM   node: entered medicine details
msg.payload : Object
▸{ _id: "2022-11-07 13:14", name:
"Itraconazole" }
```

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



	_id	name
□	2022-11-07 13:12	Ofloxacin
□	2022-11-07 13:14	Itraconazole
□	23d0d8985cd8b32a9d19eff3f81799f3	vitamin
□	23d0d8985cd8b32a9d19eff3f82cdc02	huu
□	23d0d8985cd8b32a9d19eff3f86812a4	Paracetemol

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



id "2022-11-07 13:12"

```
{
 "id": "2022-11-07 13:12",
 "key": "2022-11-07 13:12",
 "value": {
  "rev": "1-d0356eaca2d7aa81ae127beb747d6514"
 },
 "doc": {
  "_id": "2022-11-07 13:12",
  "_rev": "1-d0356eaca2d7aa81ae127beb747d6514",
  "name": "Ofloxacin"
 }
}
```

id "2022-11-07 13:14"

```
{
 "id": "2022-11-07 13:14",
 "key": "2022-11-07 13:14",
 "value": {
  "rev": "1-81e5032d490bb74236dccdfd25a4a464"
 },
 "doc": {
  "_id": "2022-11-07 13:14",
  "_rev": "1-81e5032d490bb74236dccdfd25a4a464",
  "name": "Itraconazole"
 }
}
```

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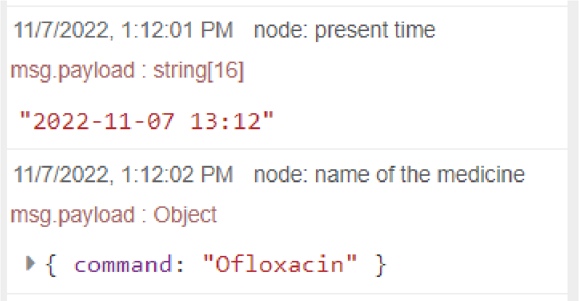
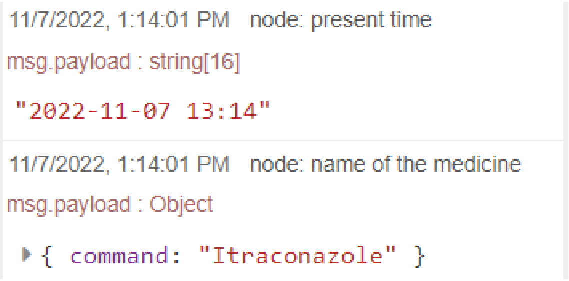
- The following image shows the name of the medicine which is sent to the IoT device at the prescribed time
- The medicine name Ofloxacin is sent to the IoT device as a command at the time 1:12PM



```
11/7/2022, 1:12:01 PM   node: present time
msg.payload : string[16]
 "2022-11-07 13:12"
11/7/2022, 1:12:02 PM   node: name of the medicine
msg.payload : Object
 ▸{ command: "Ofloxacin" }
```

- The medicine name Itraconazole is sent to the IoT device as a command at the time 1:14PM



```
11/7/2022, 1:14:01 PM   node: present time
msg.payload : string[16]
 "2022-11-07 13:14"
11/7/2022, 1:14:01 PM   node: name of the medicine
msg.payload : Object
 ▸{ command: "Itraconazole" }
```

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