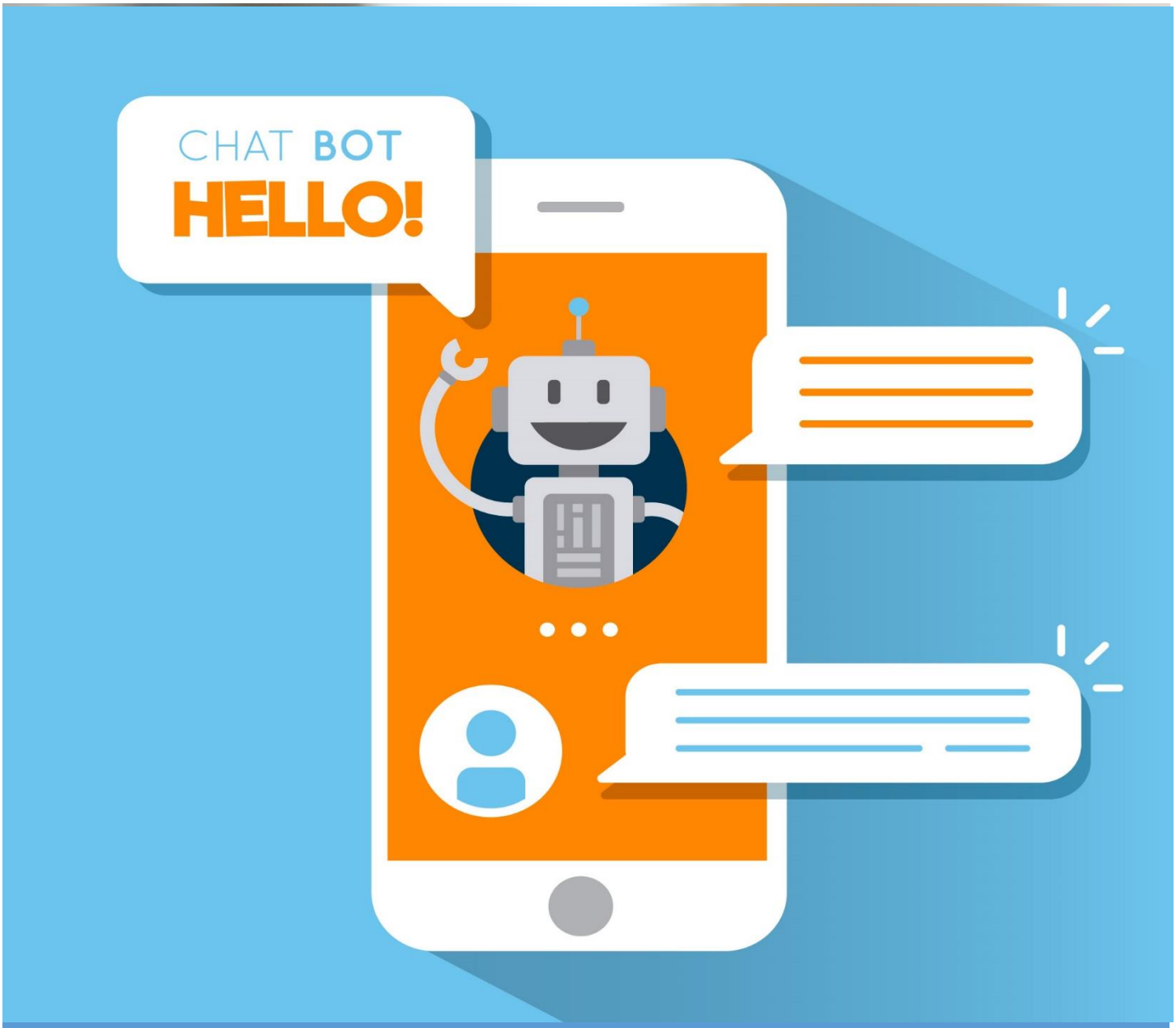


Smart Office Assistant

Powered by Watson Assistant

K. Kishore Anthuvan Sahayaraj 10/24/20 SmartInternz/Gurucool

1. INTRODUCTION

Routine tasks kill productivity and creativity in the office environment. It's an obvious fact, people spend up to 80 percent of their average workday on activities of little to zero value. The manager spends his time organizing meetings including many minor, yet time-consuming steps like syncing schedules of coworkers, checking the availability of rooms, and sending notifications to attendees. Tracking work report of Employees.

1.1 Overview

Chabot's can't replace project managers, creating tasks, assigning them to team members, building checklists, and sending alerts before the task due time. Employees spent time filling up work reports, writing emails to coordinate with the manager and team. The bot can help them to do these tasks whenever needed.

1.2 Purpose

The main aim of this project is to create a bot that takes care of employee-related tasks and management related tasks. A single Android app is built for both employees and managers; both can talk to the app to fulfill their daily routine tasks. This bot messages everyone on the team once a day asking a single question: "What did you work on today? Once it collected the responses, she would build automatic reports by time, project, and person.

Employees can use this App to schedule leaves and do some internal discussions. Employees can also talk to bot. (for example please ask X to tell about the status of shared work / is manager free to talk/ can I have a meeting with the manager

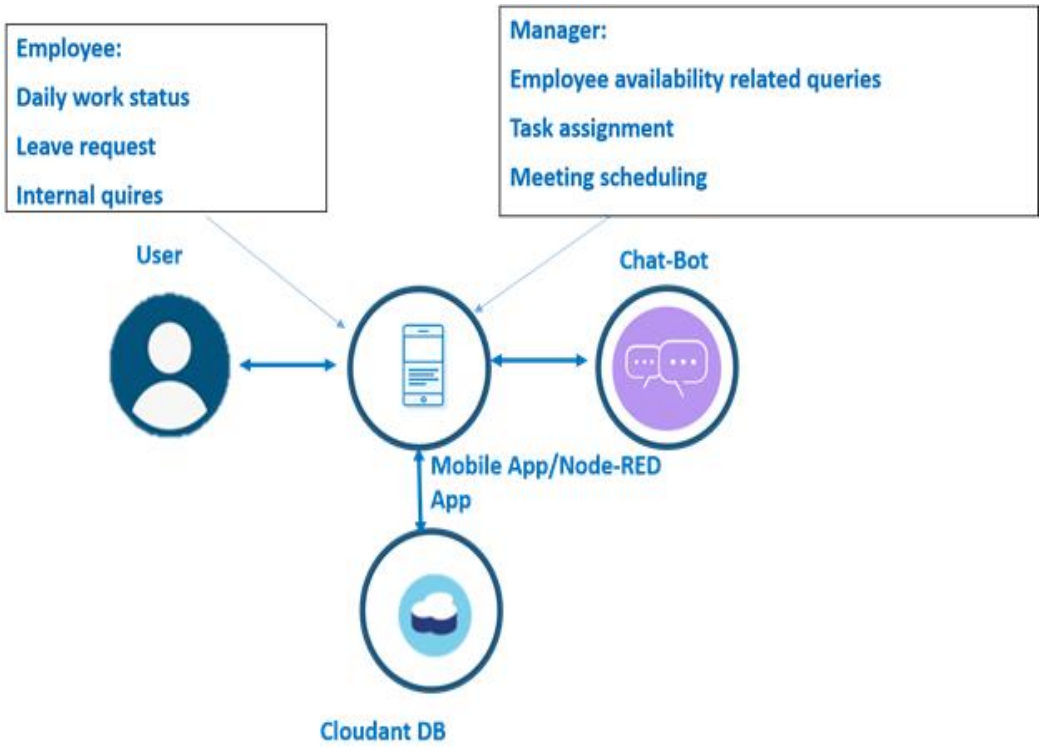
Managers can use this app to know the status of each employee in the team. He just asks the bot about the employee and it will display/ speak out all the related responses. (for example, a manager can question the bot like is person X in the office/ what is the work status of the employee X / please schedule a meeting appointment with X person. etc., the bot will speak out the response).

2. LITERATURE SURVEY

Chabot's began attracting attention in the formative days of artificial intelligence research [24] as a vehicle for demonstrating machine understanding [25]. While early experiments focused on free-form conversations [26], bots have recently become more popular as single purpose tools, performing a complex tasks for people via a conversational interface [11, 14]. We build on this more utilitarian take on bots, offering a convenient way for teams to track and manage their tasks from within a conversation.

TaskBot helps teams manage their tasks from within platforms they use to communicate. Although TaskBot is available on several different platforms, such as email, Skype for Business, and Slack, in this work we focus on Microsoft Teams, a group chat platform for the workplace.

2.1 Proposed solution



3. EXPERIMENTAL INVESTIGATIONS

3.1 Services used

1. IBM Watson Assistant
2. Cloudant DB
3. Node RED App
4. Text to Speech

3.1.1 Steps to train Watson Assistant

In IBM Watson Assistant major components to build chatbot are Intent, Entities & Dialogs. There are four intents made in proposed system each of which will separately take care of each goal of bot.

A. Intents

#General_Greetings

Hello I am looking for some help here
Hey how are you doing
Hey there
Hey there all
Hey twin
Looking good eve
How r u?
How is it going?

#General_Ending

That's everything
Thank you for your time
Thanks very much, bye!
Thanks, bye!
Stop talking to me
Stop doing this
Shut up
See you later

#Yes

You've got it right.
do it
yup
yes
yeah
correct
Yes, I'd like to go ahead with that.
You've got it right.

#No

Please do not
No way
Please dont
That's not what I want
No
No thanks
Please do not
No way

#Work_report

Task Completed
work report
report
Finished
Accomplished
Over
completed task
done with task

#Work_allotment

allot project
set task
allot work
assign
assign work
work assign
allot project
set task

#Schedule

meeting
discuss
project meet
group discuss
schedule
team meet
meeting
discuss

#leave_request

request 2 days off for me?
requesting to approve my leave?
casual leave
start a leave request
taking off tomorrow
vacation
unaviailable
I'm unavailable tomorrow

#exit

Wait, Cancel this
Exit
cancel this process
I want to stop
I changed my mind
Stop the leave
Nevermind
Wait, Cancel this

#Collect_name

Kishore here
I am John
People call me David
My name Raja
My name is Priyanka Devi
bingo
You can call me Michael
Usha Devi

B. Entities

@ename

Priya
Pooja
Michael
Mary
Maria
Maraia
Linda
kishore

@taskid (Pattern)

/[A-Z]{2}\d{5}/

@emailid (pattern)

\b([a-zA-Z0–9._-]+@([a-zA-Z0–9_-]+\.)+[a-zA-Z0–9_-]+)\b

@leave

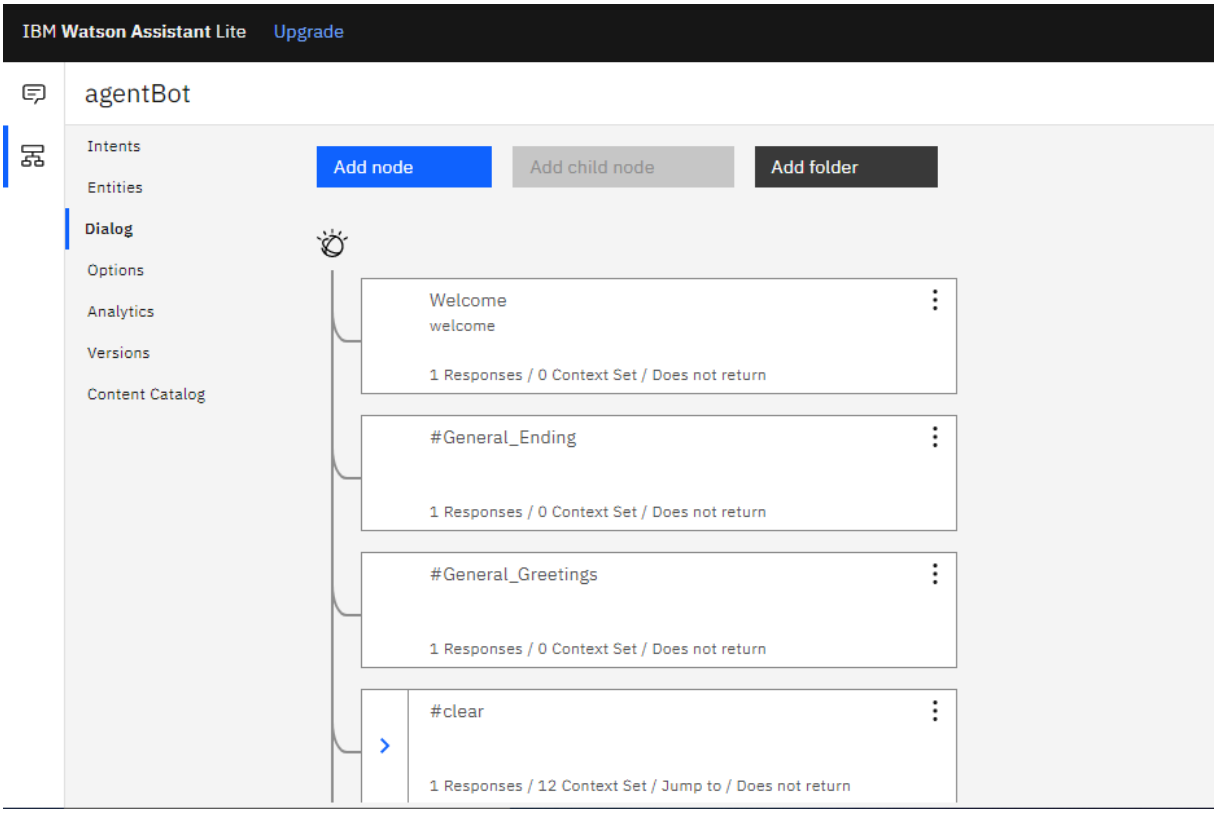
Medical Leave
Funeral
Child Care Leave
Casual Leave

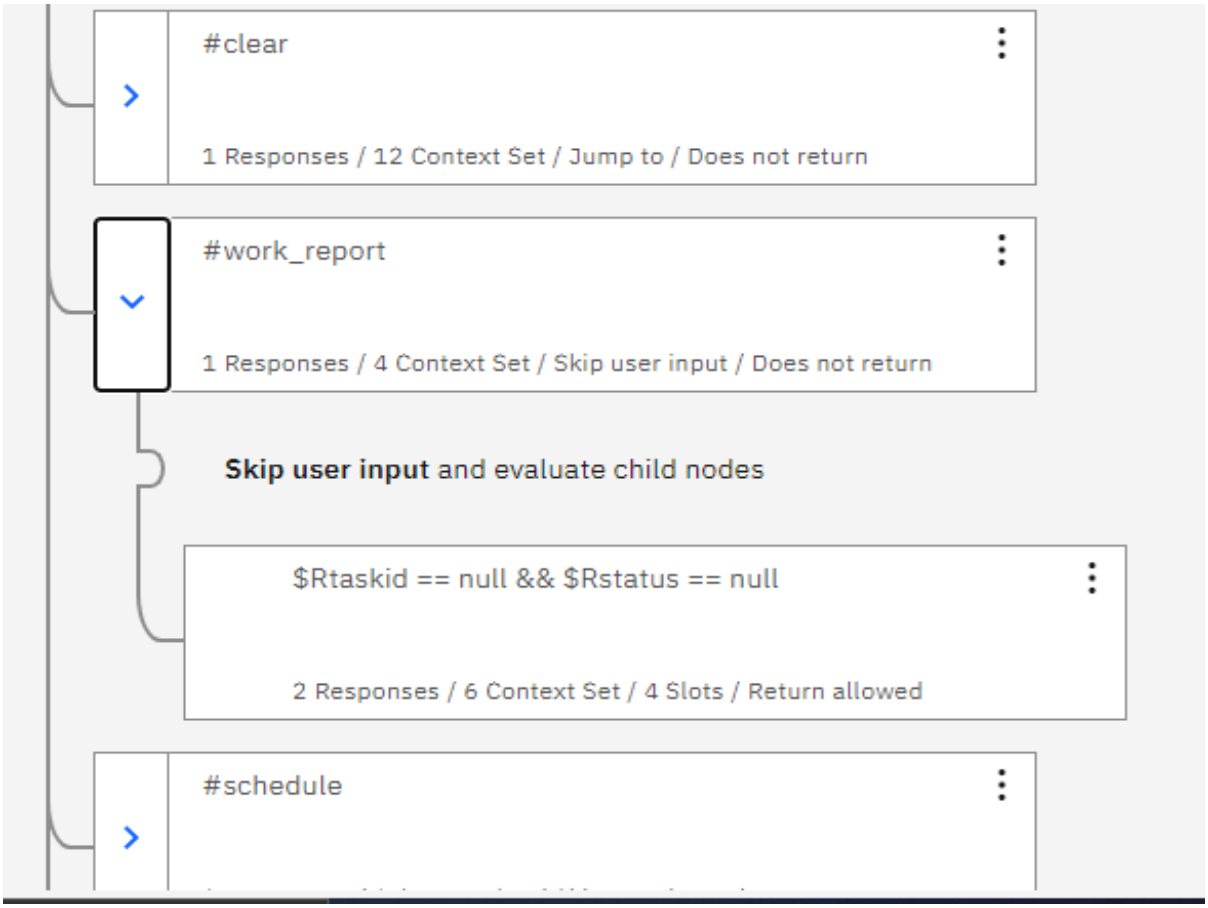
@sys-date

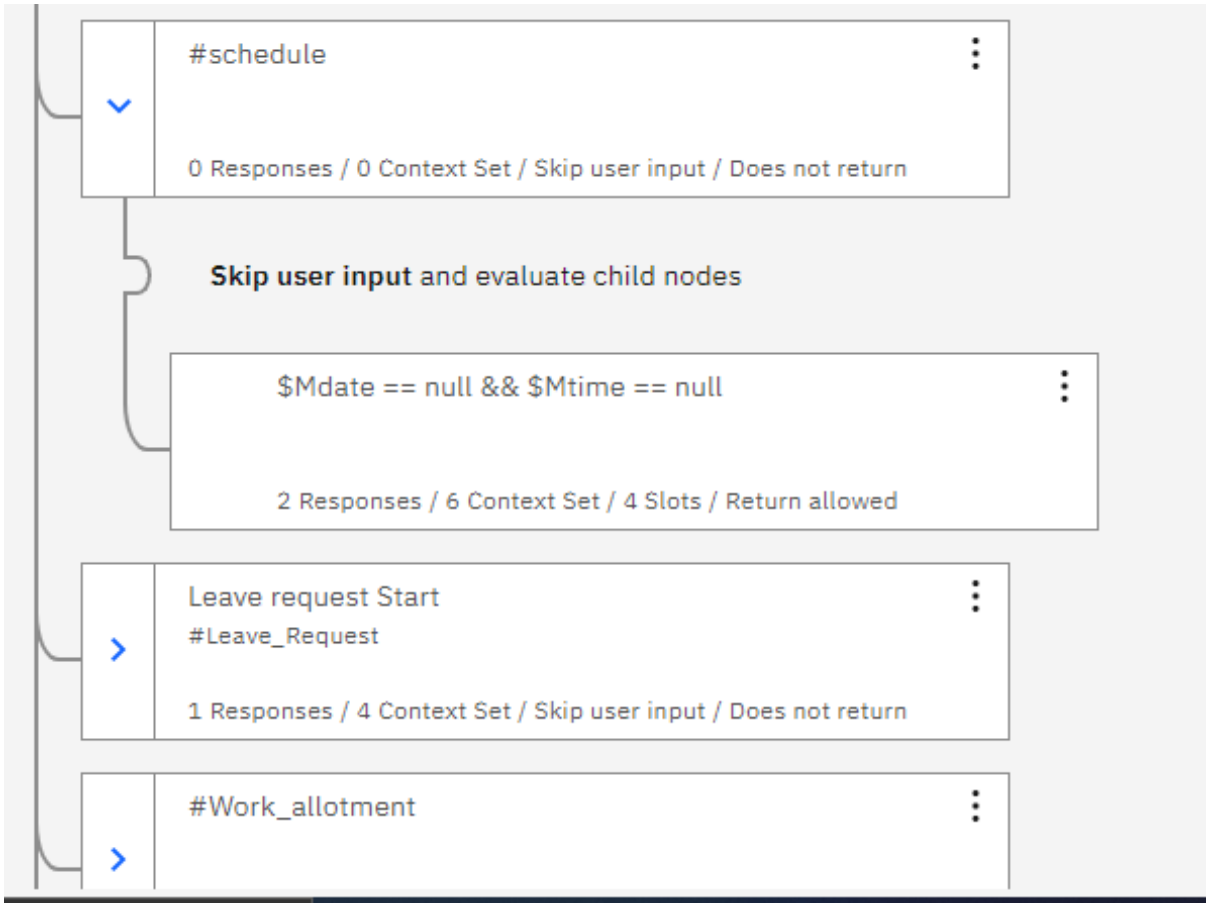
@sys-time

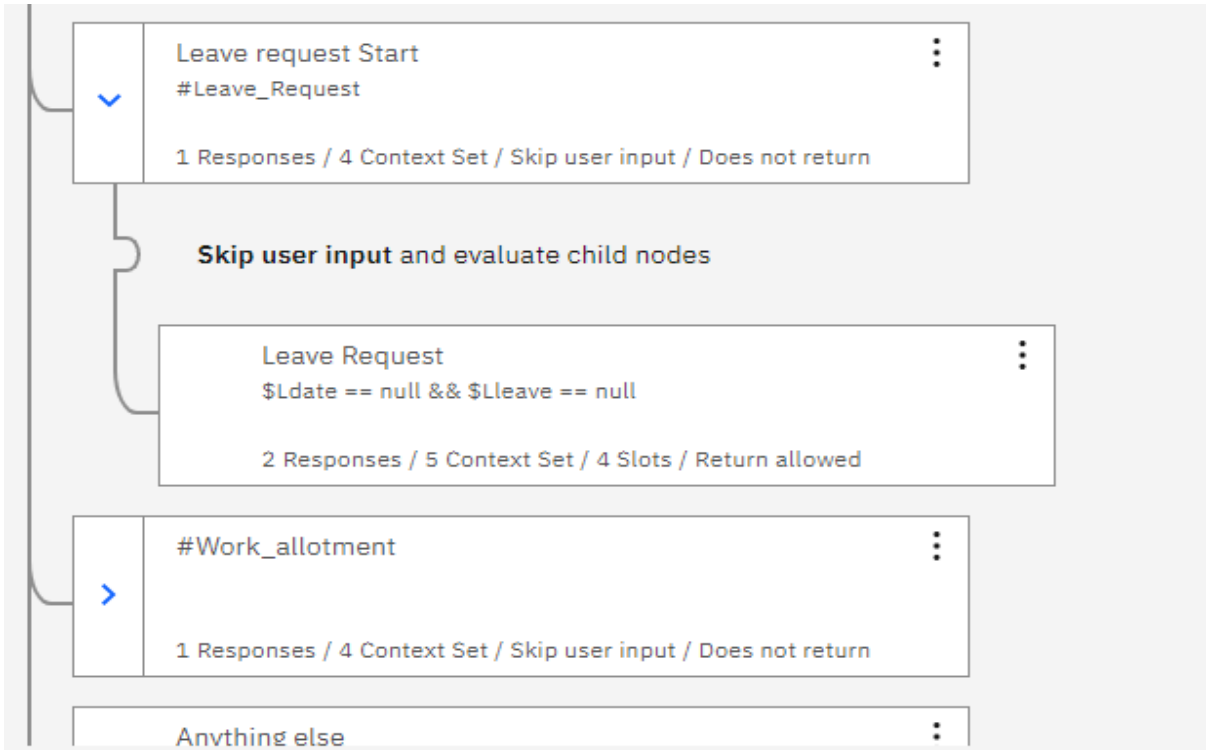
@sys-percentage

C. Dialog


IBM Watson Assistant Lite
Upgrade
agentBot
Intents
Entities
Dialog
Options
Analytics
Versions
Content Catalog
Add node
Add child node
Add folder
Welcome
welcome
1 Responses / 0 Context Set / Does not return
#General_Ending
1 Responses / 0 Context Set / Does not return
#General_Greetings
1 Responses / 0 Context Set / Does not return
#clear
1 Responses / 12 Context Set / Jump to / Does not return

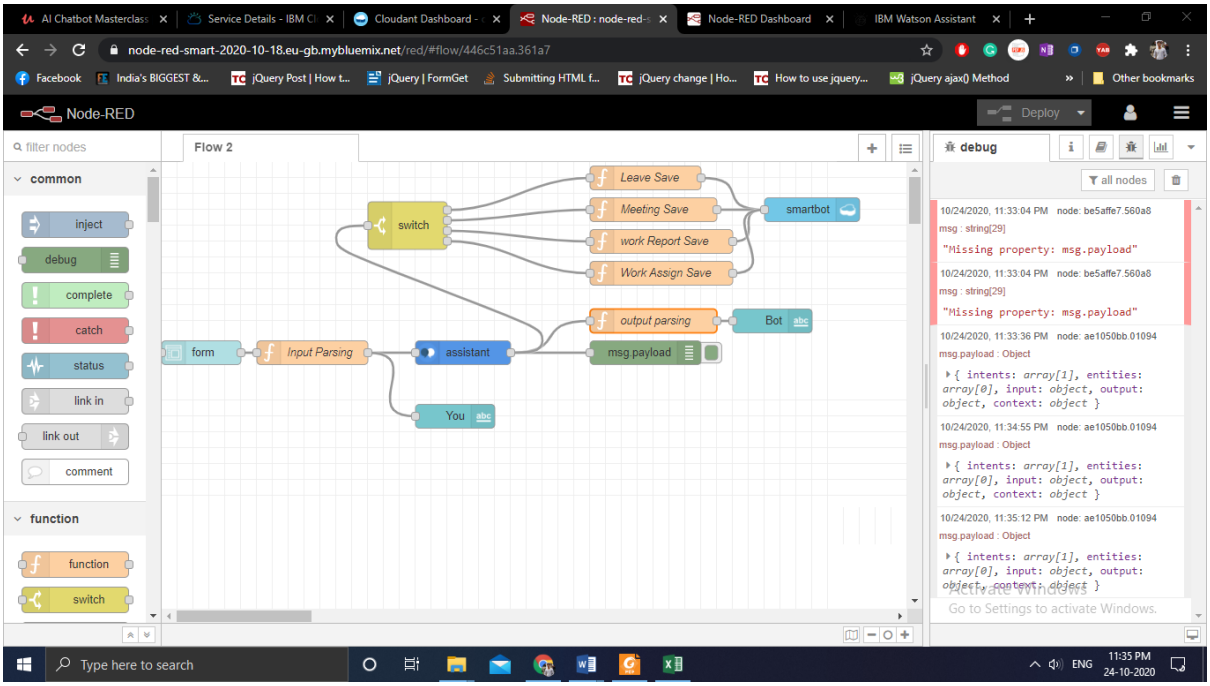

#clear
1 Responses / 12 Context Set / Jump to / Does not return
#work_report
1 Responses / 4 Context Set / Skip user input / Does not return
Skip user input and evaluate child nodes
$Rtaskid == null && $Rstatus == null
2 Responses / 6 Context Set / 4 Slots / Return allowed
#schedule


#schedule
0 Responses / 0 Context Set / Skip user input / Does not return
Skip user input and evaluate child nodes
$Mdate == null && $Mtime == null
2 Responses / 6 Context Set / 4 Slots / Return allowed
Leave request Start
#Leave_Request
1 Responses / 4 Context Set / Skip user input / Does not return
#Work_allotment


Leave request Start
#Leave_Request
1 Responses / 4 Context Set / Skip user input / Does not return
Skip user input and evaluate child nodes
Leave Request
$Ldate == null && $Lleave == null
2 Responses / 5 Context Set / 4 Slots / Return allowed
#Work_allotment
1 Responses / 4 Context Set / Skip user input / Does not return
Anything else


Anything else
anything_else
1 Responses / 0 Context Set / Does not return

Node RED Flow



Input parsing

```
msg.payload= msg.payload.input;
return msg;
```

Output parsing

```
var a=msg.payload.output.text[0] + "<br>";
var b=msg.payload.output.text[1] + "<br>";
if(b===undefined)
{
msg.payload=a+b;
}
else
{
  msg.payload=a; }
return msg
```

Leave Save

```
var str1 = "L_";
 var str2 = Math.floor((Math.random() * 60000) + 1);
 var str3 = " Have a nice day!";
 var res = str1+str2;
msg.payload={
_id:res,
Email:msg.payload.context.email,
LeaveDate:msg.payload.context.Ldate,
Reason: msg.payload.context.Lleave
}
return msg
```

Task Assign

```
var str1 = "T_";
 var str2 = Math.floor((Math.random() * 60000) + 1);
 var str3 = " Have a nice day!";
 var res = str1+str2;
msg.payload={
_id:res,
tname:msg.payload.context.Tname,
taskid:msg.payload.context.Ttaskid,
duedate: msg.payload.context.Tdate
}
return msg
```

Report Save

```
var str1 = "R_";
 var str2 = Math.floor((Math.random() * 60000) + 1);
 var str3 = " Have a nice day!";
 var res = str1+str2;

msg.payload={
_id:res,
```

```
Email:msg.payload.context.email,
taskid:msg.payload.context.Rtaskid,
Rstatus:msg.payload.context.Rstatus
}
return msg
```

Meeting Save

```
var str1 = "M_";
 var str2 = Math.floor((Math.random() * 60000) + 1);
 var str3 = " Have a nice day!";
 var res = str1+str2;
msg.payload={
_id:res,
Mname:msg.payload.context.Mname,
Mdate:msg.payload.context.Mdate,
Mtime:msg.payload.context.Mtime
}
return msg
```

Cloudant DB

Smartbot - database

Document

1. **Leave DB**

```
{
 "_id": "L_13875",
 "_rev": "1-c78e8e0cdfb6d7d308553bd2ece741f8",
 "Email": "david@gmail.com",
 "LeaveDate": "Monday, October 26",
 "Reason": "Casual Leave"
}
```

2. **Work Report DB**

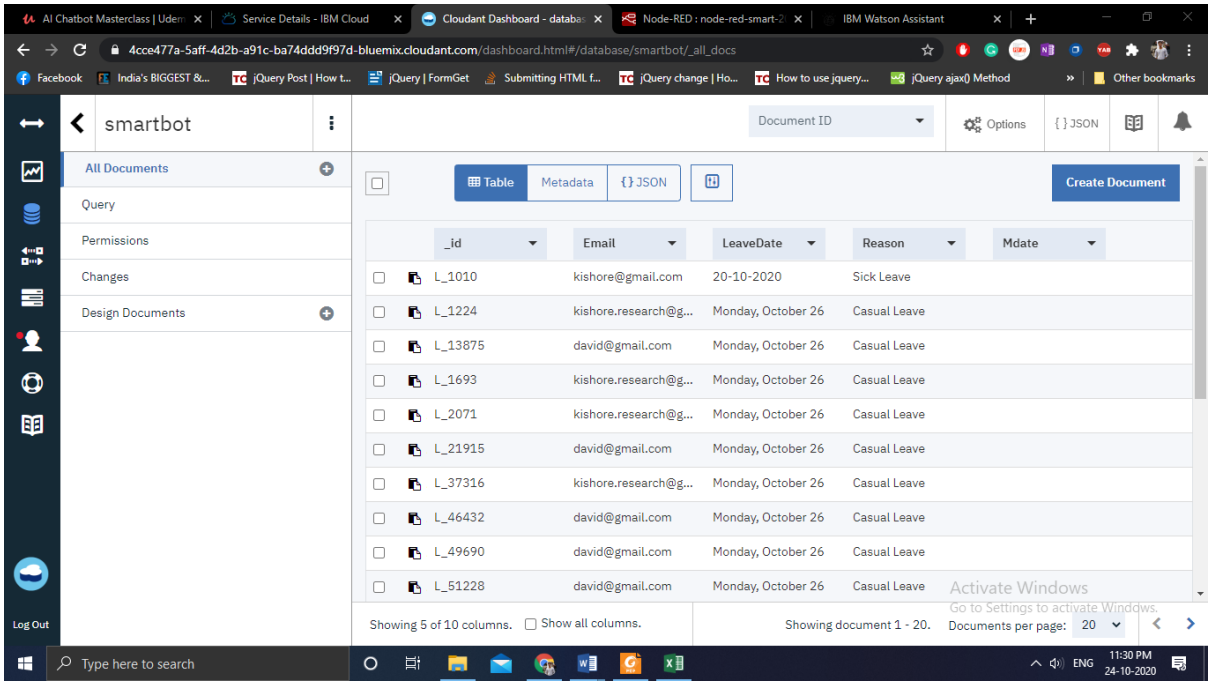

```
{
 "_id": "R_16130",
 "_rev": "1-8017c07383e4f8f96cb68f0dbccf8bc2",
 "Email": "kishore.research@gmail.com",
 "taskid": "YU12345",
 "Rstatus": 90
}
```


3. **Task Assign DB**


```
{
 "_id": "T_31430",
 "_rev": "1-c99df0495234c33e55a3cd039ad291d7",
 "tname": "Kishore, David,",
 "taskid": "YU12345",
 "duedate": "Monday, October 26"
}
```

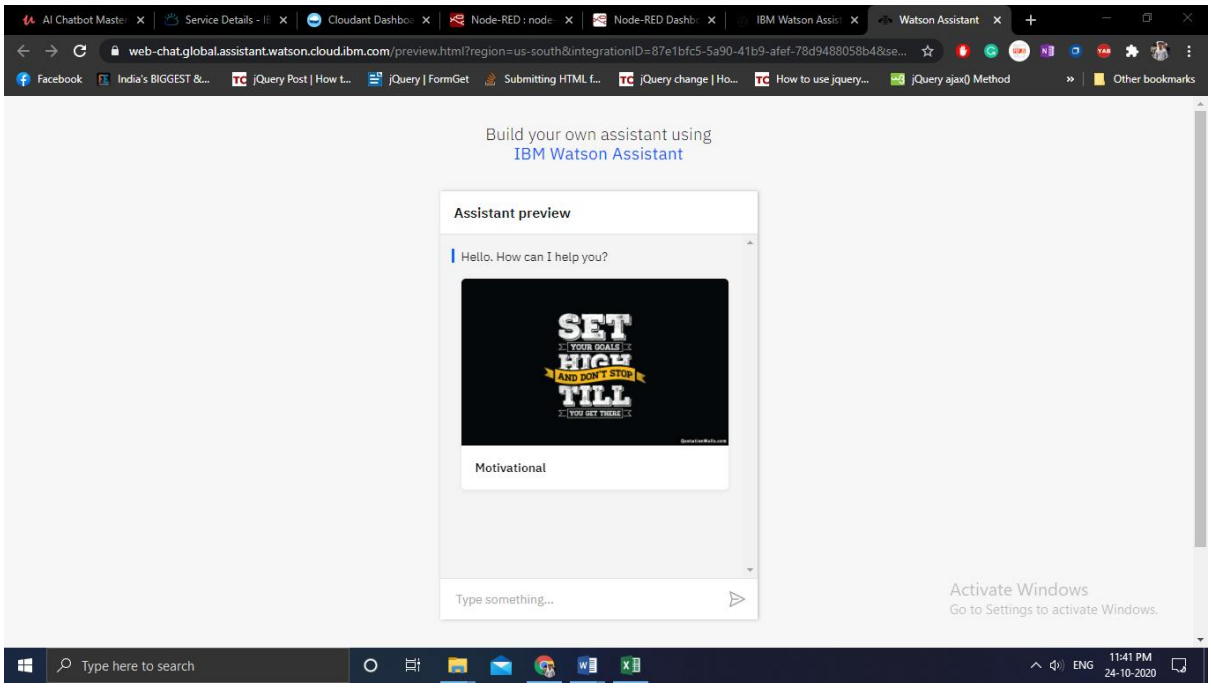

4. **Meeting Schedule DB**


```
{
 "_id": "M_26385",
 "_rev": "1-72f1d02c1284f798c8d64482a8c5ba10",
 "Mname": "David, Maria, Mary",
 "Mdate": "Monday, October 26",
 "Mtime": "3:00 PM"
}
```

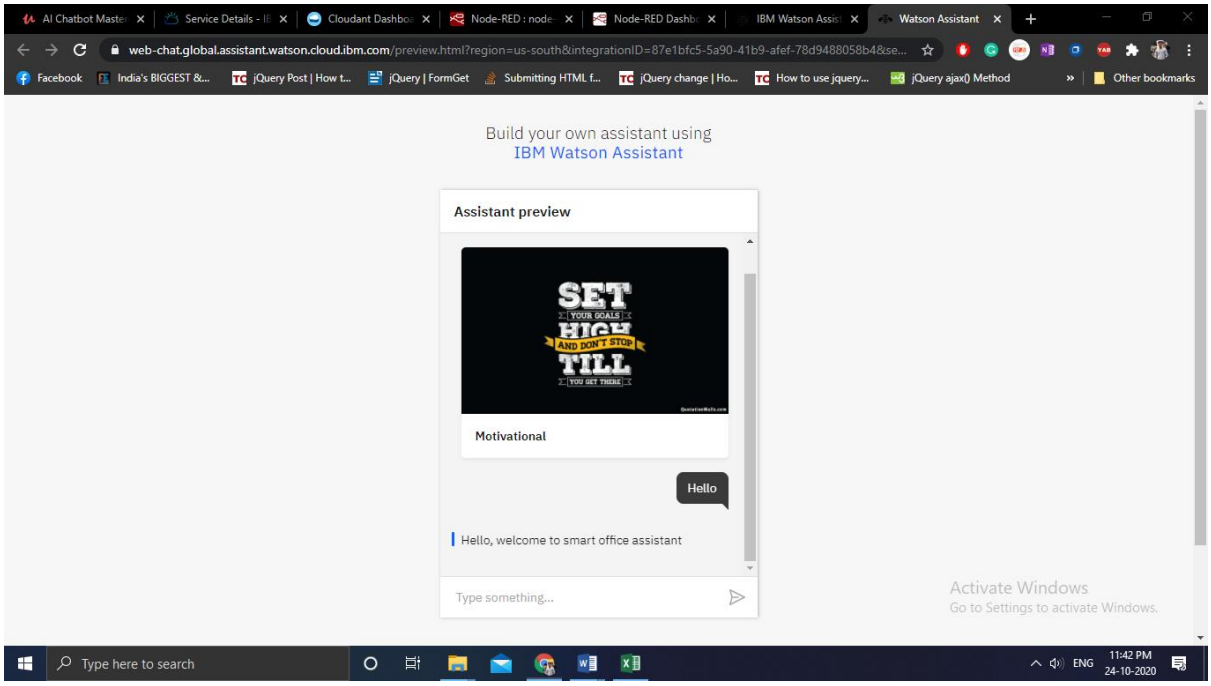


Output

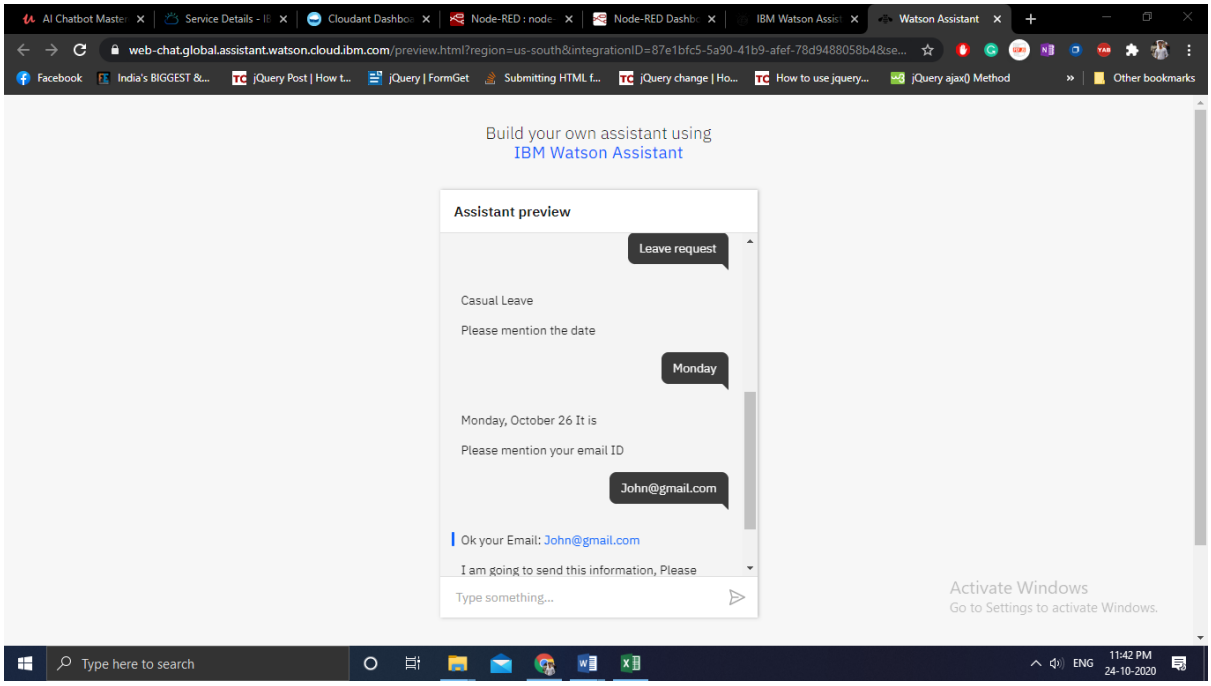
Welcome

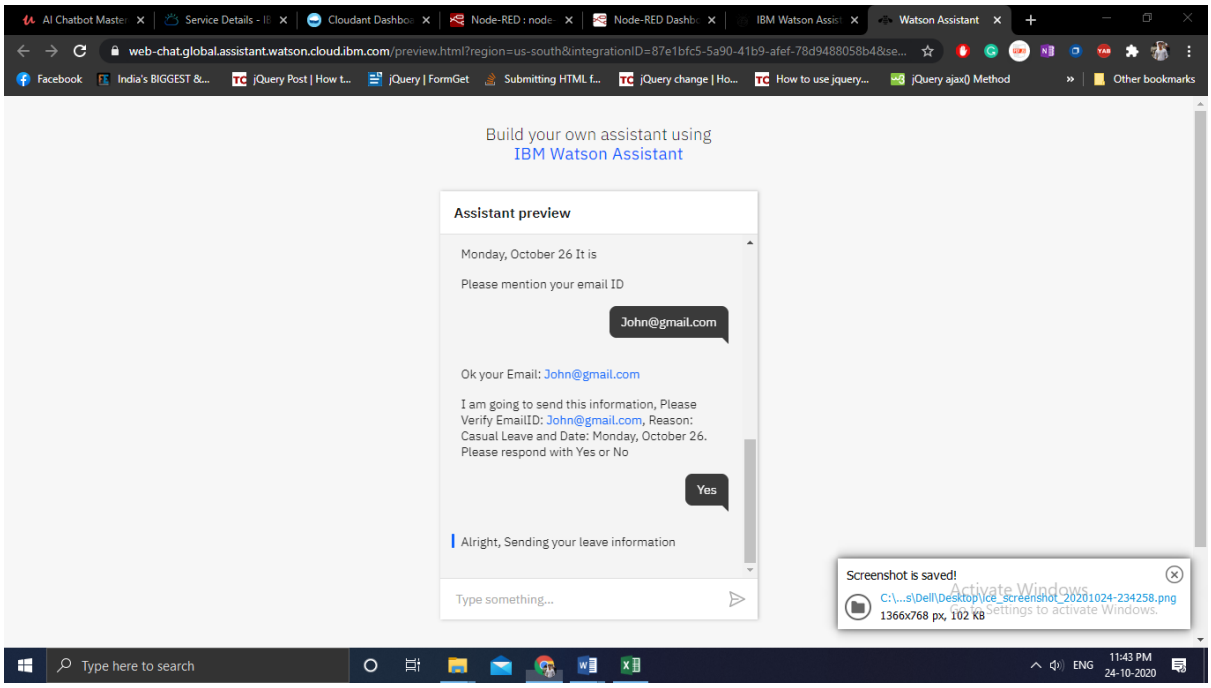


Hello

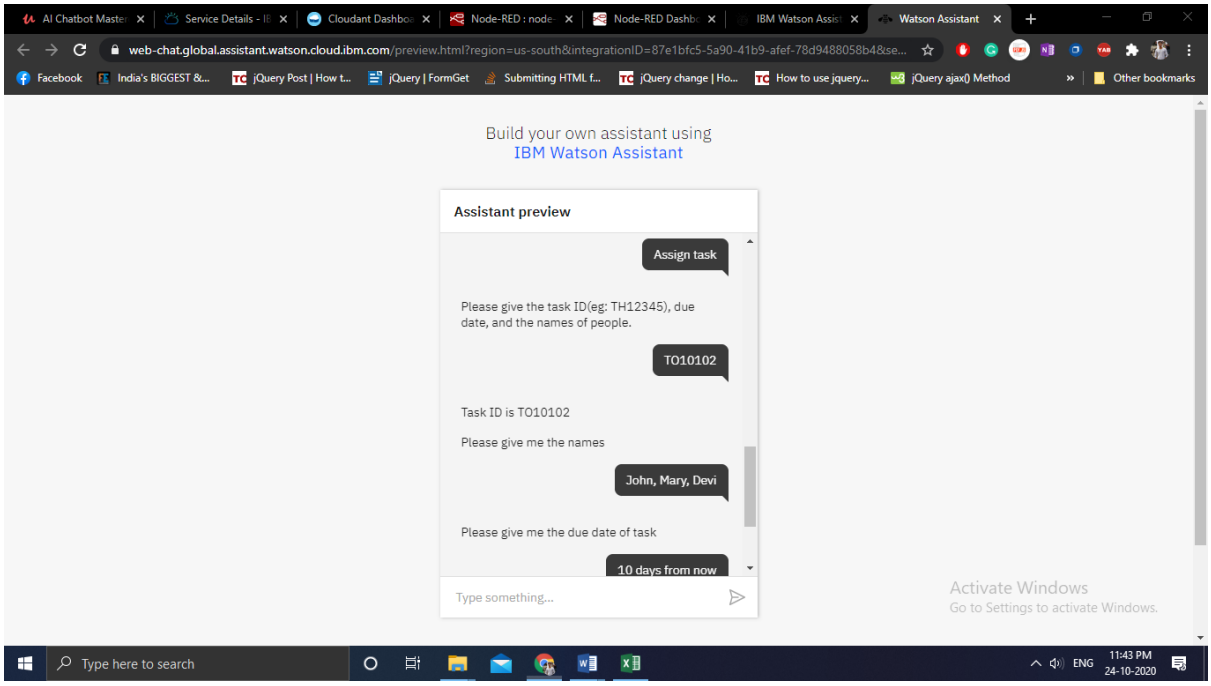


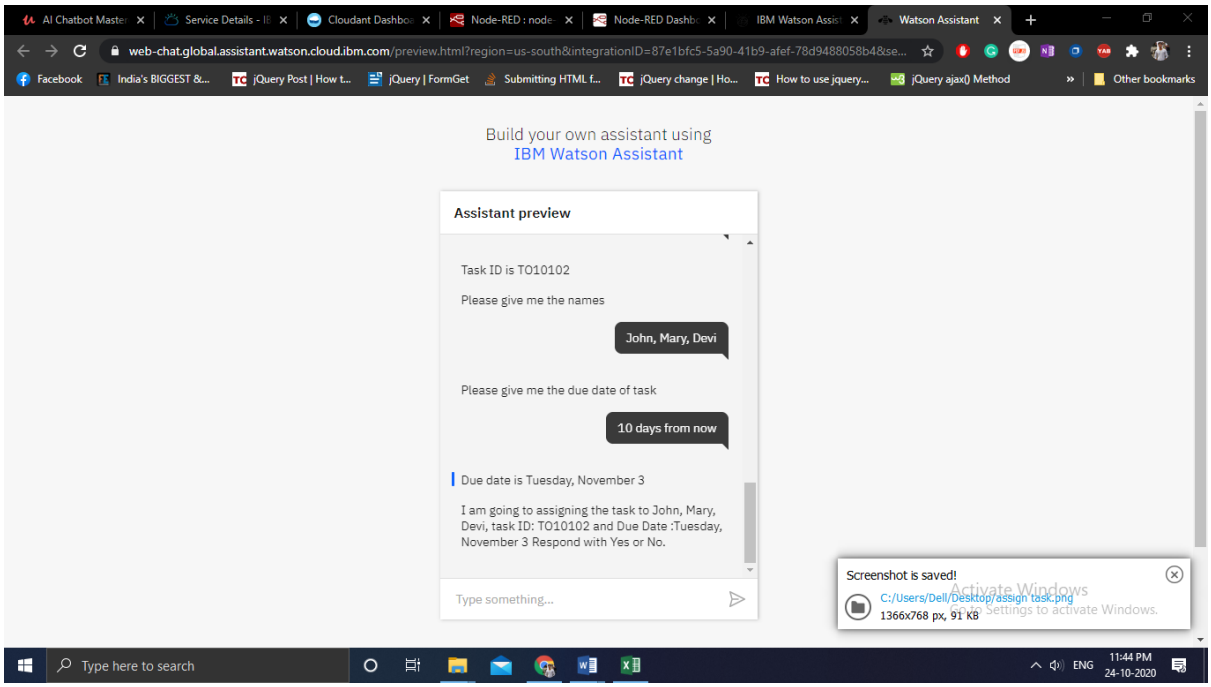
Leave request

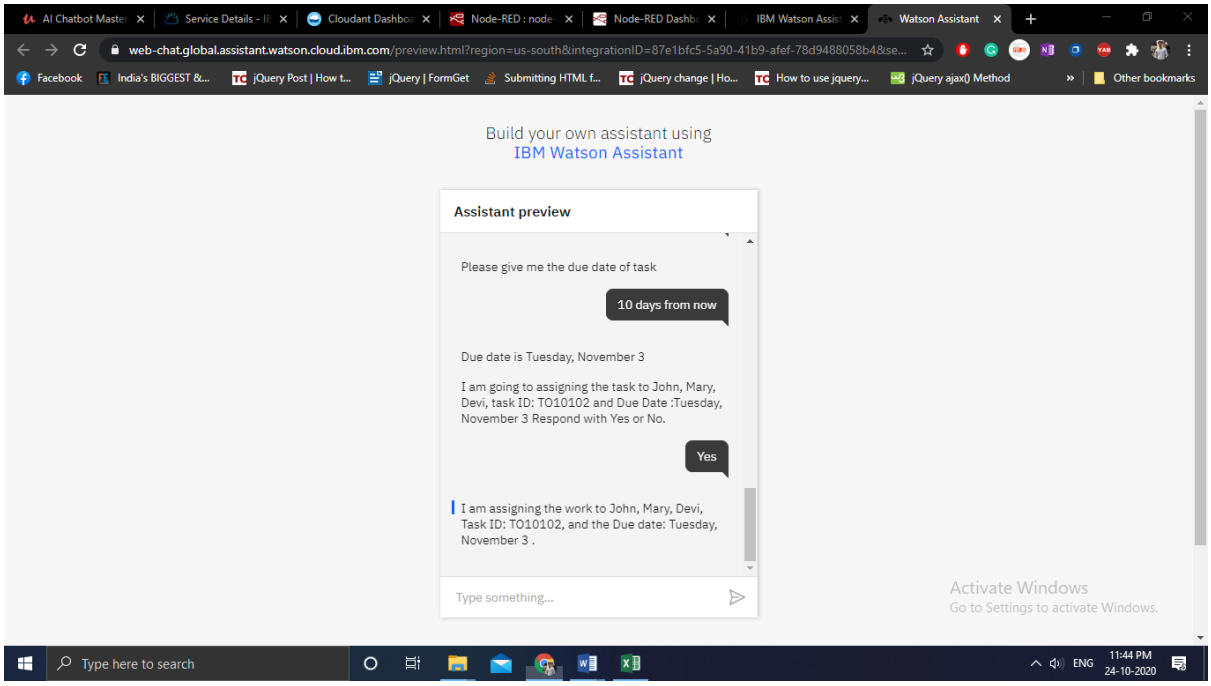

Build your own assistant using
IBM Watson Assistant
Assistant preview
Leave request
Casual Leave
Please mention the date
Monday
Monday, October 26 It is
Please mention your email ID
John@gmail.com
Ok your Email: John@gmail.com
I am going to send this information, Please
Type something...
Activate Windows
Go to Settings to activate Windows.


Build your own assistant using
IBM Watson Assistant
Assistant preview
Monday, October 26 It is
Please mention your email ID
John@gmail.com
Ok your Email: John@gmail.com
I am going to send this information, Please Verify EmailID: John@gmail.com, Reason: Casual Leave and Date: Monday, October 26. Please respond with Yes or No
Yes
Alright, Sending your leave information
Type something...
Screenshot is saved!
C:\...s\Dell\Desktop\ice_screenshot_20201024-234258.png
1366x768 px, 102 KB

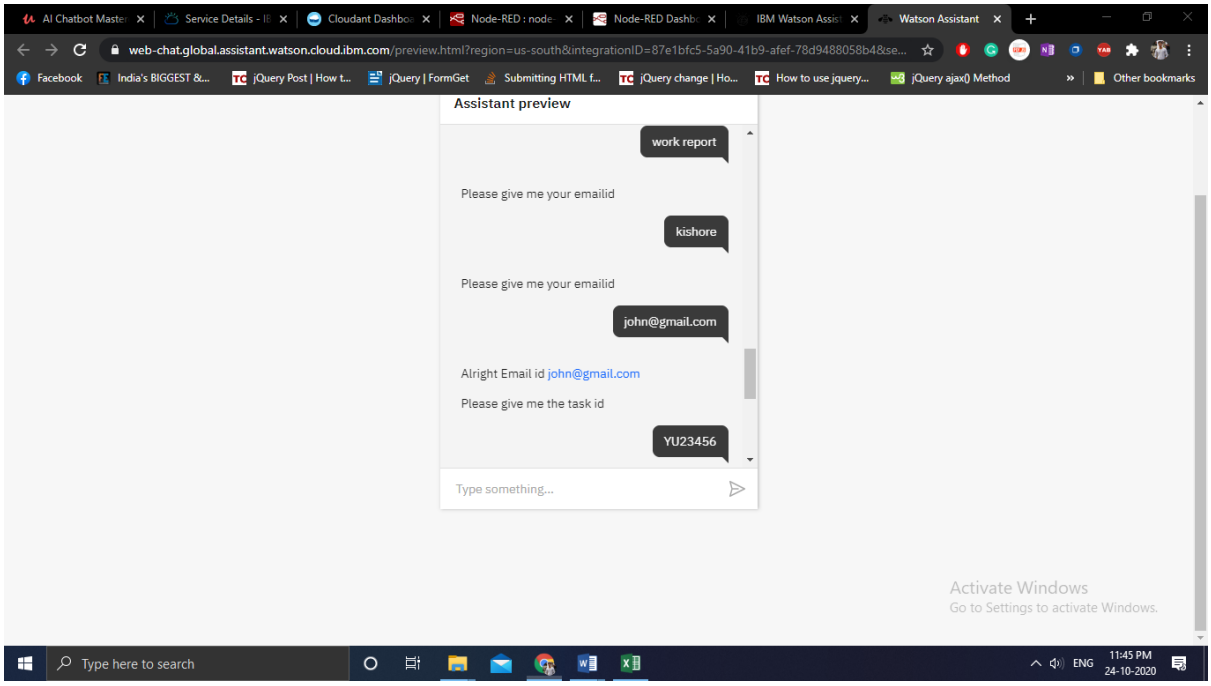
Assign task

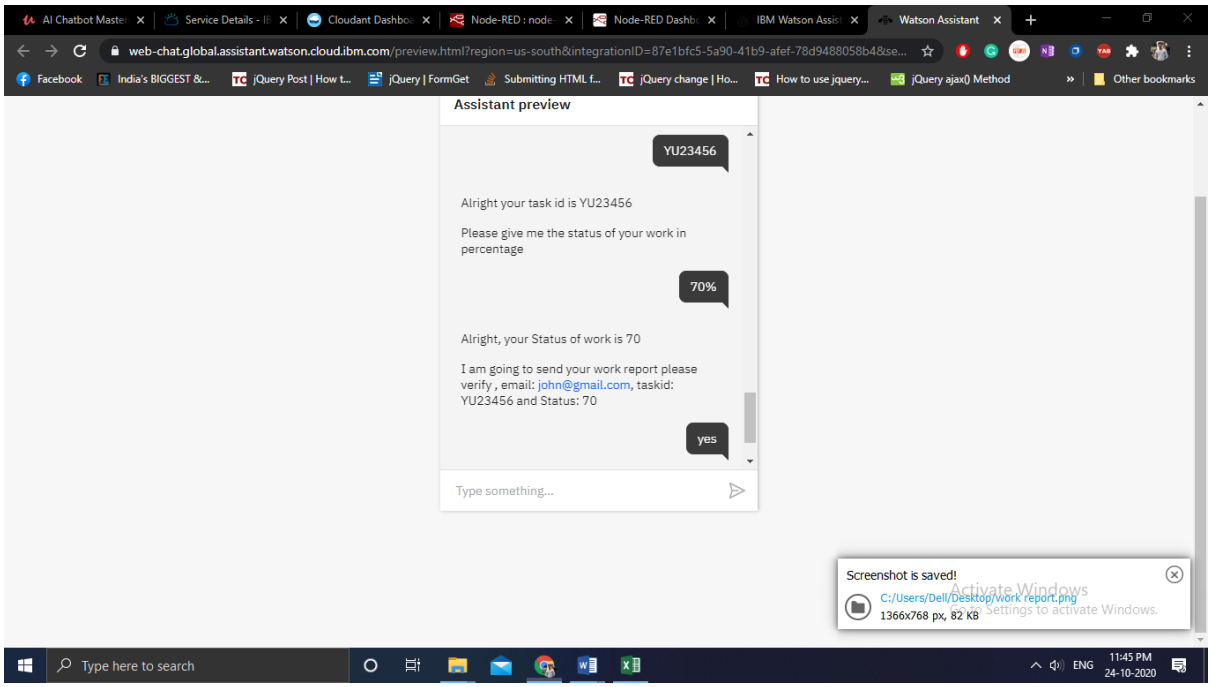

Watson Assistant
web-chat.global.assistant.watson.cloud.ibm.com/preview.html?region=us-south&integrationID=87e1bfc5-5a90-41b9-afef-78d9488058b4&se...
Build your own assistant using
IBM Watson Assistant
Assistant preview
Assign task
Please give the task ID(eg: TH12345), due date, and the names of people.
TO10102
Task ID is TO10102
Please give me the names
John, Mary, Devi
Please give me the due date of task
10 days from now
Type something...
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
11:43 PM
24-10-2020

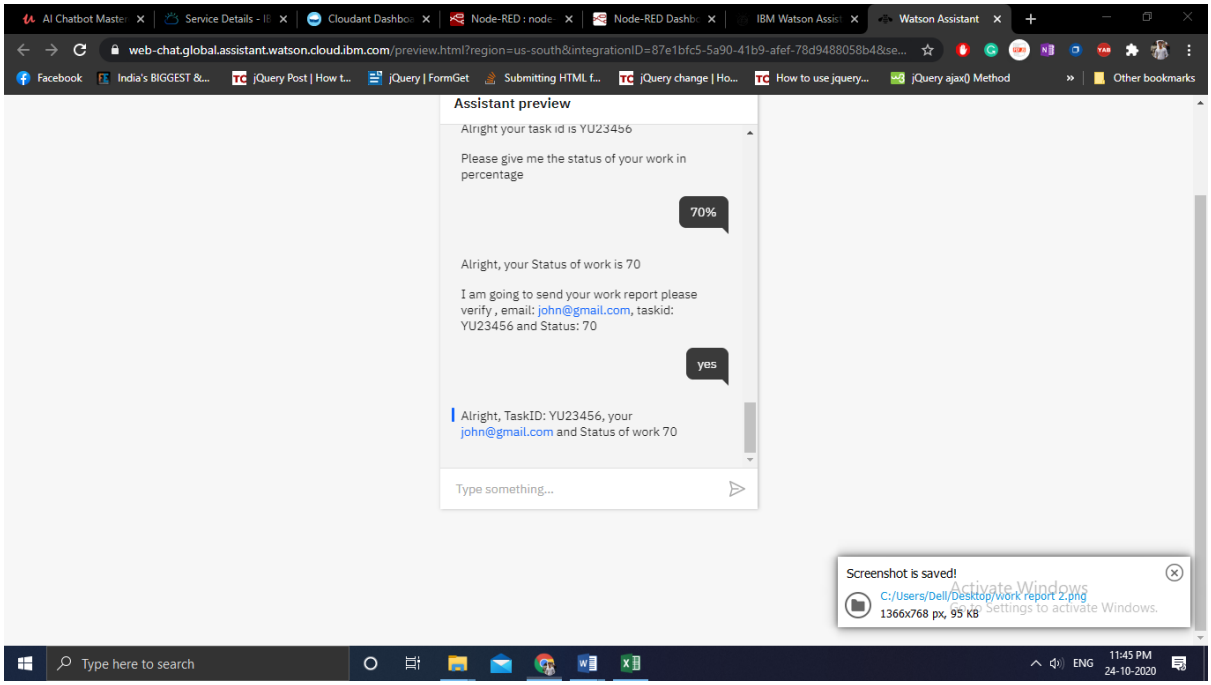

Watson Assistant
web-chat.global.assistant.watson.cloud.ibm.com/preview.html?region=us-south&integrationID=87e1bfc5-5a90-41b9-afef-78d9488058b4&se...
Build your own assistant using
IBM Watson Assistant
Assistant preview
Task ID is TO10102
Please give me the names
John, Mary, Devi
Please give me the due date of task
10 days from now
Due date is Tuesday, November 3
I am going to assigning the task to John, Mary, Devi, task ID: TO10102 and Due Date :Tuesday, November 3 Respond with Yes or No.
Type something...
Screenshot is saved!
C:/Users/Dell/Desktop/assign task.png
1366x768 px, 91 KB
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
11:44 PM
24-10-2020


AI Chatbot Master
Service Details - IB
Cloudant Dashboa
Node-RED : node
Node-RED Dashbo
IBM Watson Assist
Watson Assistant
web-chat.global.assistant.watson.cloud.ibm.com/preview.html?region=us-south&integrationID=87e1bfc5-5a90-41b9-afef-78d9488058b4&se...
Facebook
India's BIGGEST &...
jQuery Post | How t...
jQuery | FormGet
Submitting HTML f...
jQuery change | Ho...
How to use jquery...
jQuery ajax() Method
Other bookmarks
Build your own assistant using
IBM Watson Assistant
Assistant preview
Please give me the due date of task
10 days from now
Due date is Tuesday, November 3
I am going to assigning the task to John, Mary, Devi, task ID: TO10102 and Due Date :Tuesday, November 3 Respond with Yes or No.
Yes
I am assigning the work to John, Mary, Devi, Task ID: TO10102, and the Due date: Tuesday, November 3 .
Type something...
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
11:44 PM
24-10-2020

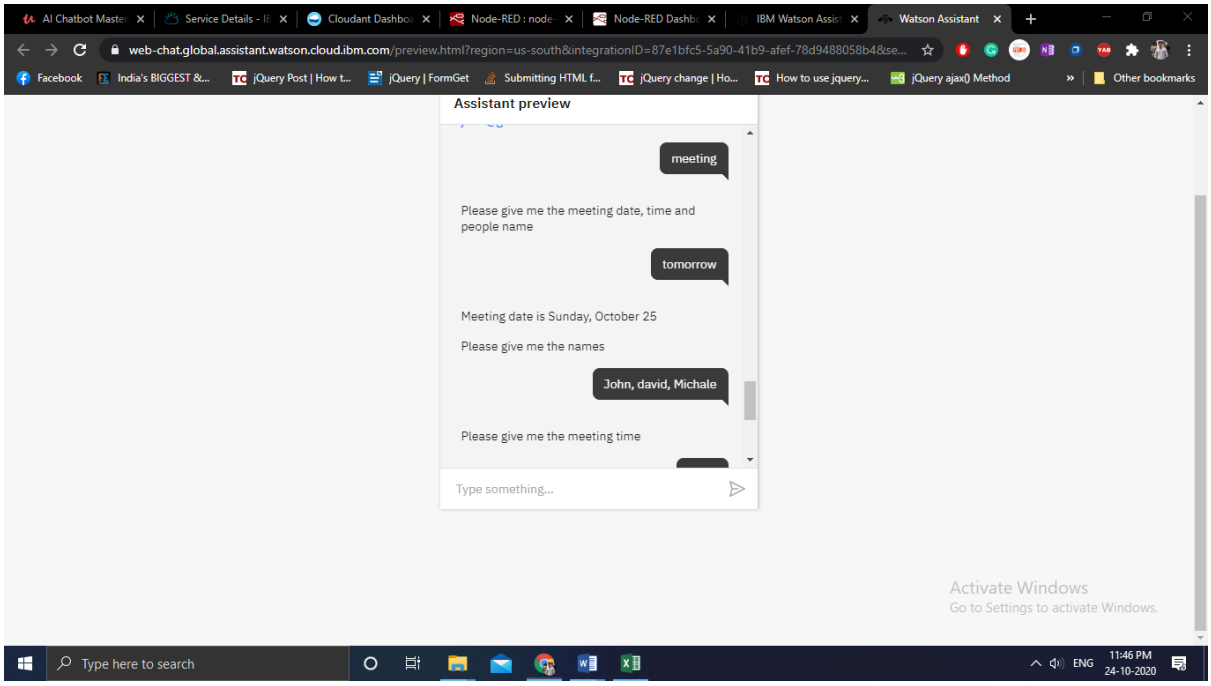
Work report

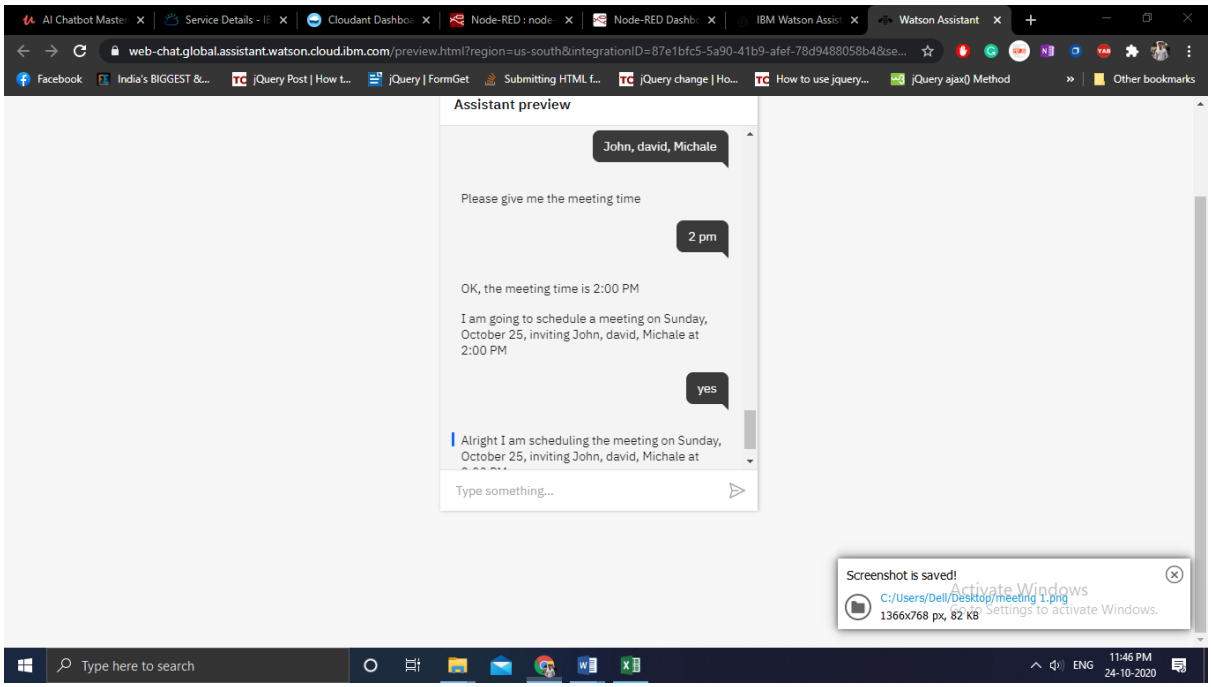

Assistant preview
work report
Please give me your emailid
kishore
Please give me your emailid
john@gmail.com
Alright Email id john@gmail.com
Please give me the task id
YU23456
Type something...
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
11:45 PM
24-10-2020

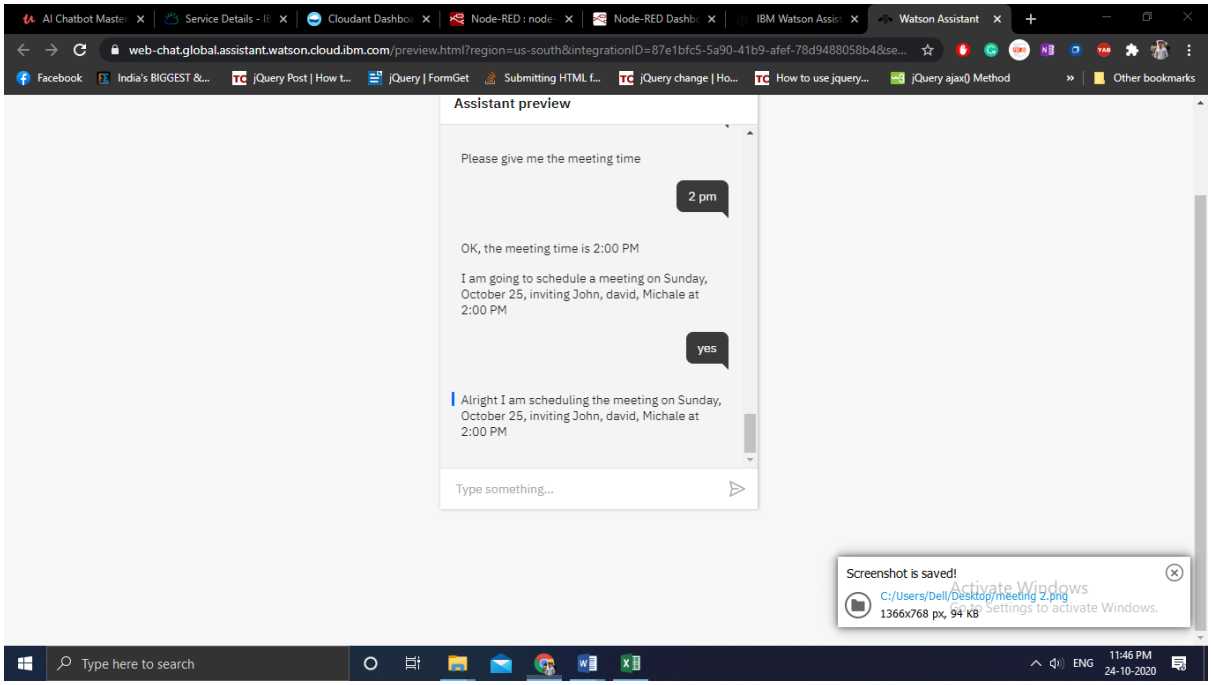

Assistant preview
YU23456
Alright your task id is YU23456
Please give me the status of your work in percentage
70%
Alright, your Status of work is 70
I am going to send your work report please verify , email: john@gmail.com, taskid: YU23456 and Status: 70
yes
Type something...
Screenshot is saved!
C:/Users/Dell/Desktop/work report.png
1366x768 px, 82 KB
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
11:45 PM
24-10-2020



Meeting Schedule


Assistant preview
meeting
Please give me the meeting date, time and people name
tomorrow
Meeting date is Sunday, October 25
Please give me the names
John, david, Michale
Please give me the meeting time
Type something...
Activate Windows
Go to Settings to activate Windows.


Assistant preview
John, david, Michale
Please give me the meeting time
2 pm
OK, the meeting time is 2:00 PM
I am going to schedule a meeting on Sunday, October 25, inviting John, david, Michale at 2:00 PM
yes
Alright I am scheduling the meeting on Sunday, October 25, inviting John, david, Michale at
Type something...
Screenshot is saved!
C:/Users/Dell/Desktop/meeting 1.png
1366x768 px, 82 KB



Node red output