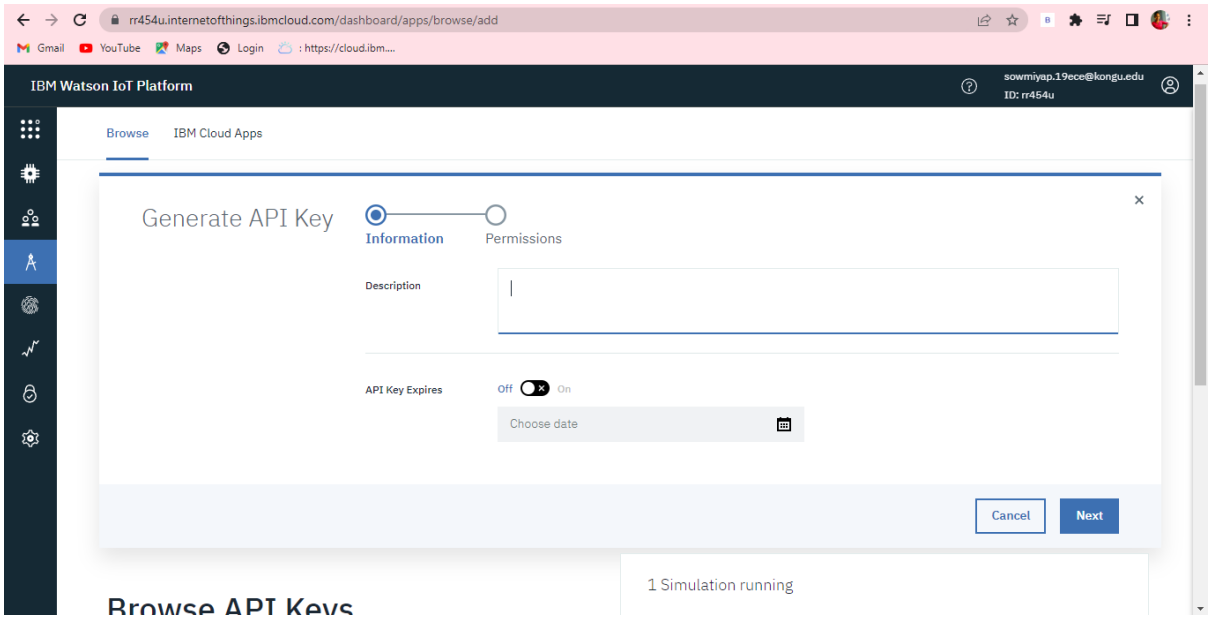
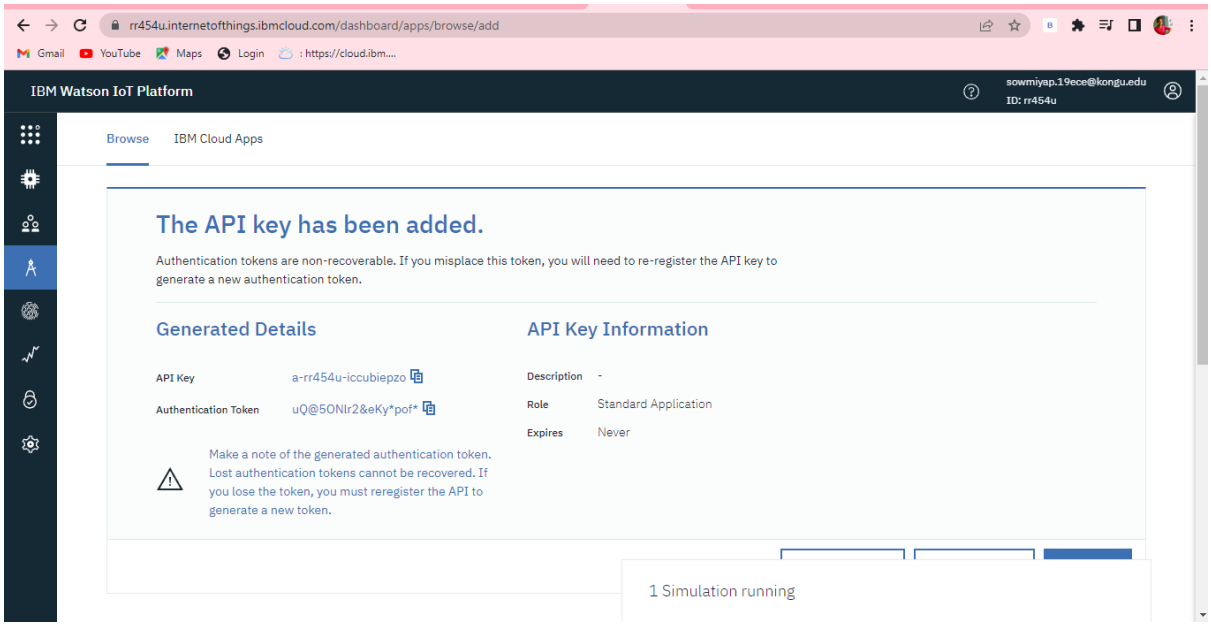
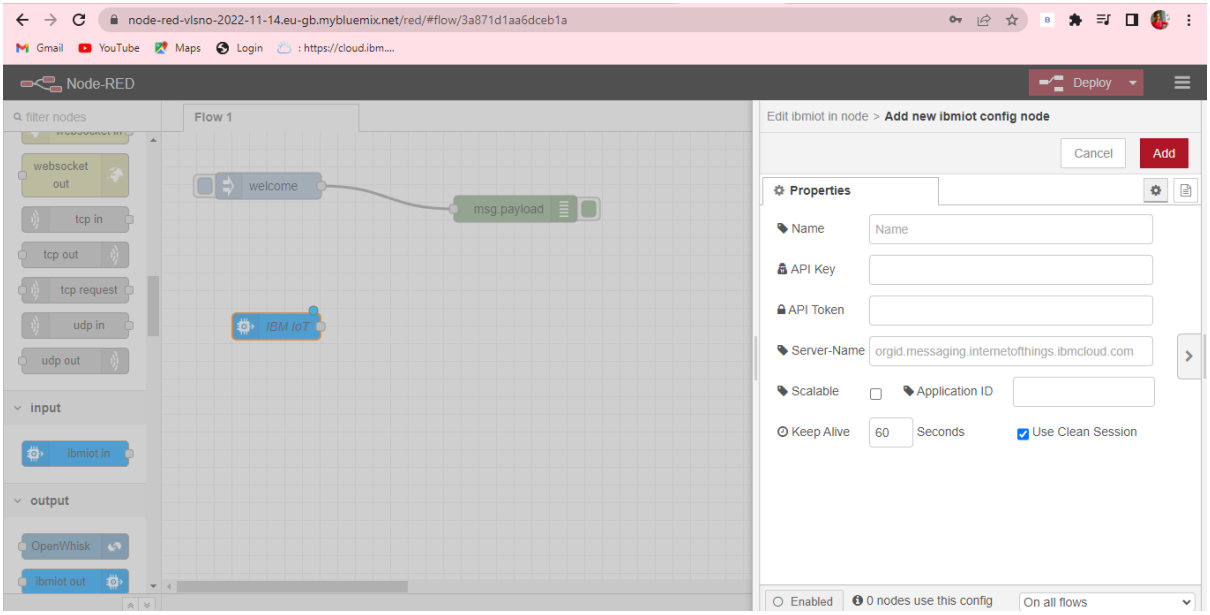
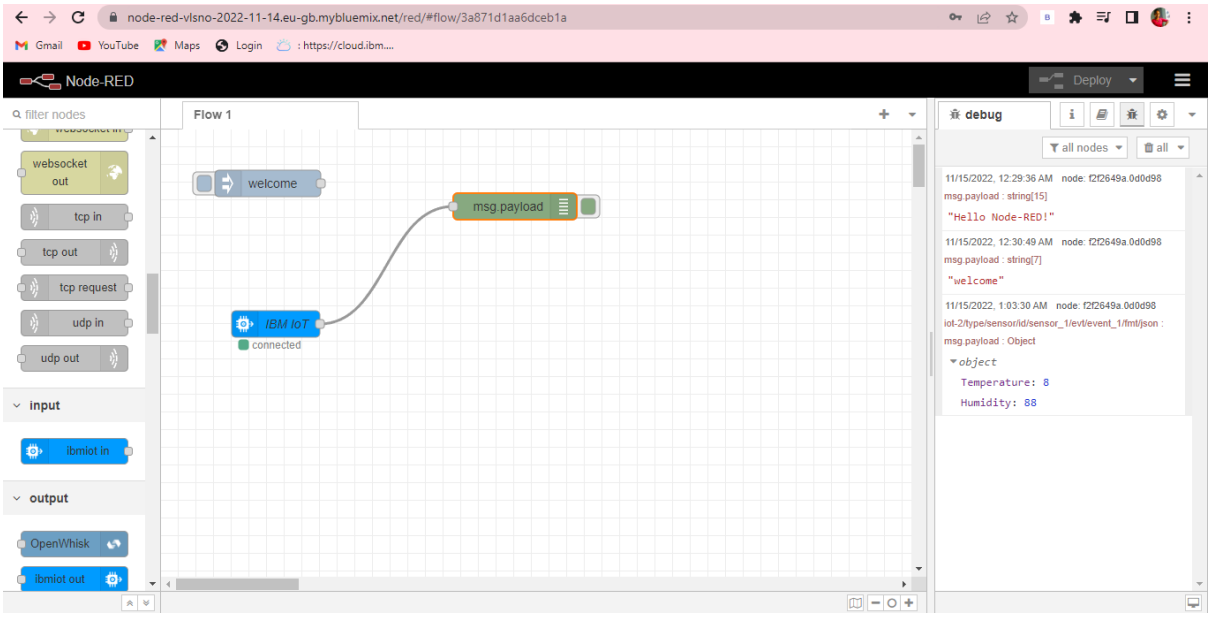
Build A Web Application Using Node-RED

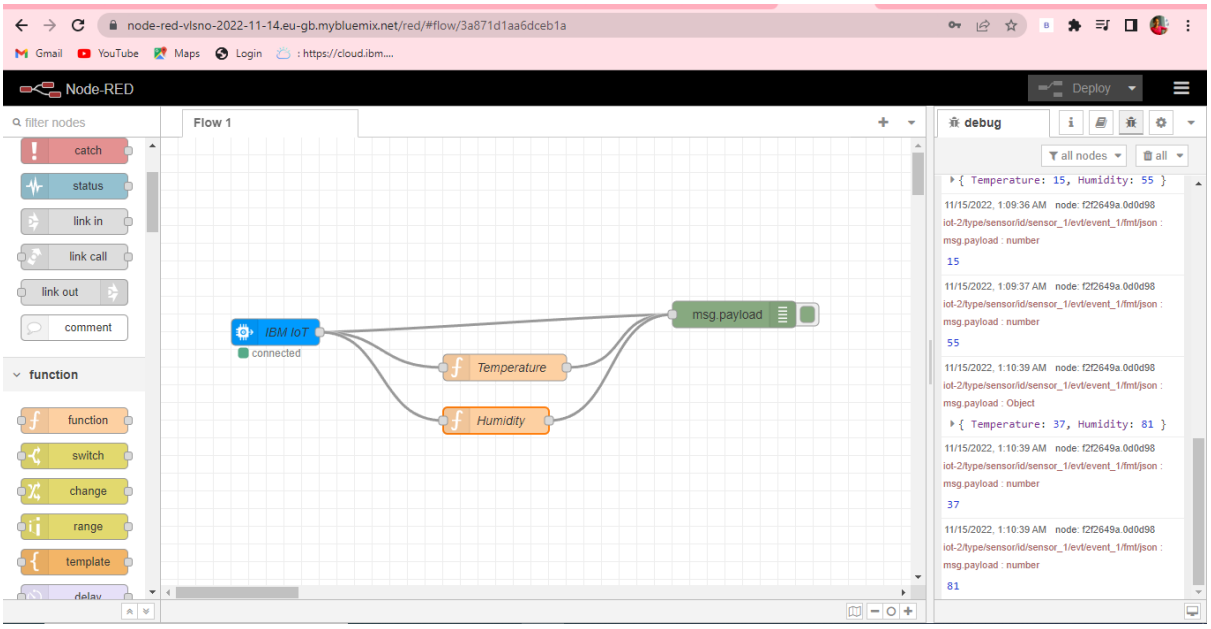
Team ID	PNT2022TMID04728
Project Name	Smart Farmer-IOT Enabled Smart FarmingApplication

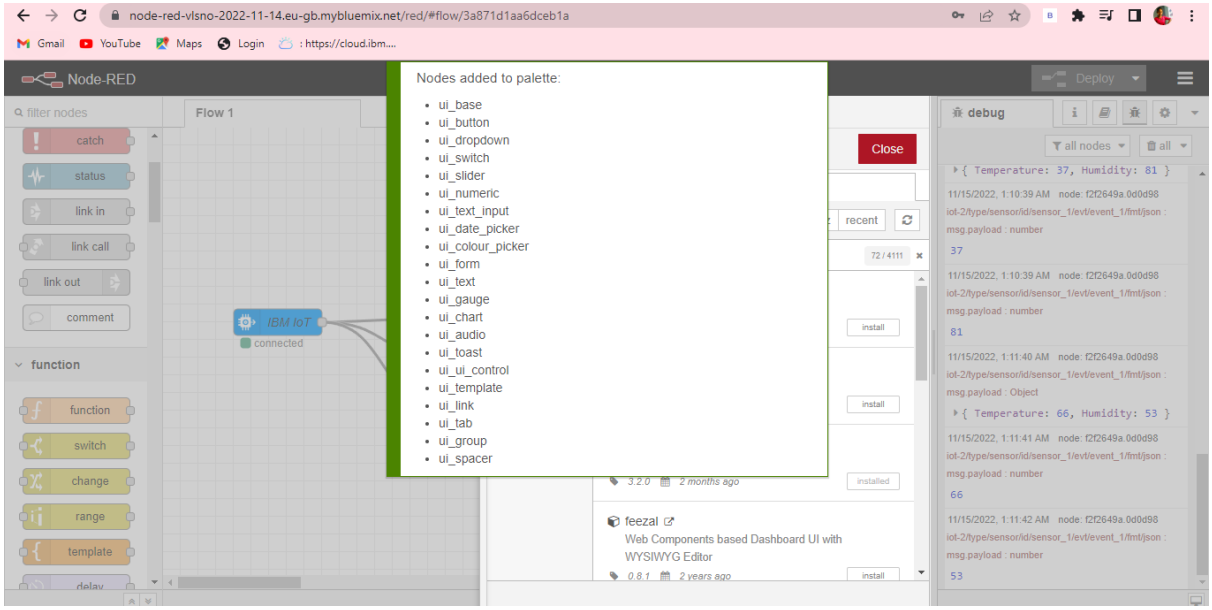


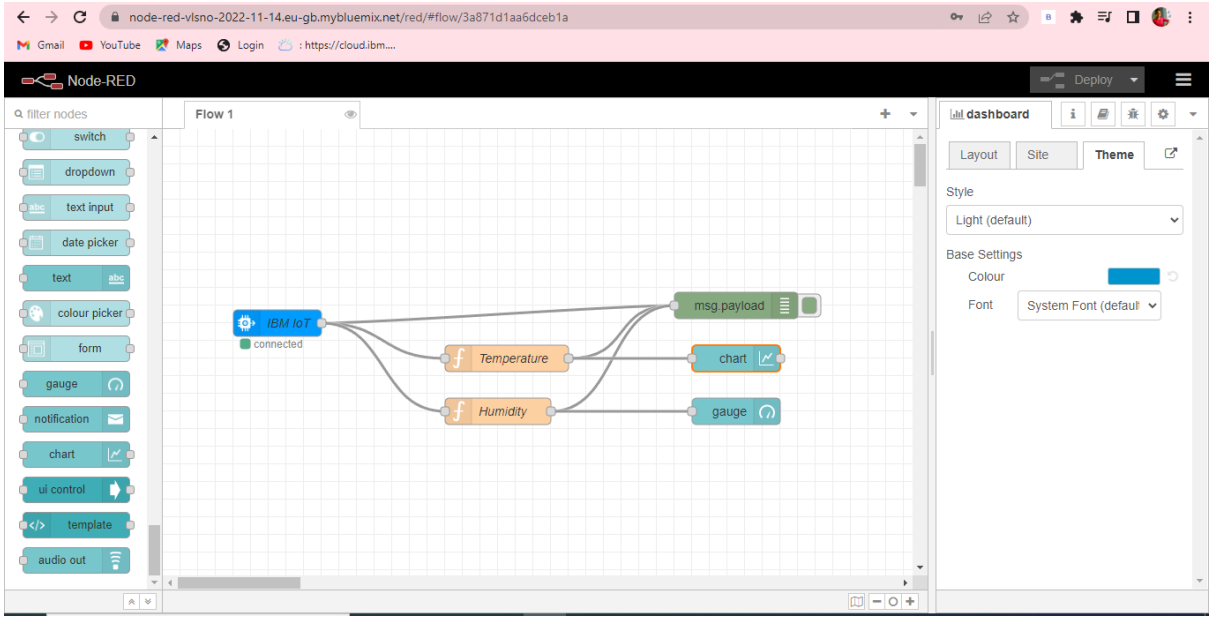


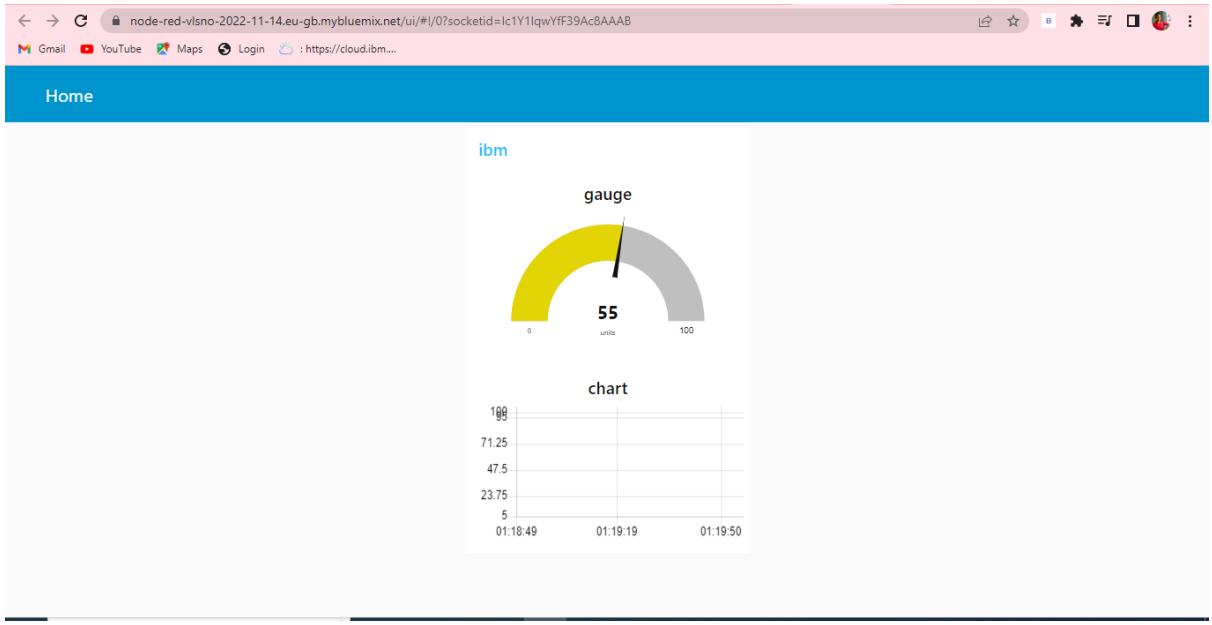

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
welcome
msg.payload
IBM IoT
Edit ibmiot in node > Add new ibmiot config node
Cancel
Add
Properties
Name
API Key
API Token
Server-Name
orgid.messaging.internetofthings.ibmcloud.com
Scalable
Application ID
Keep Alive
60
Seconds
Use Clean Session
Enabled
0 nodes use this config
On all flows

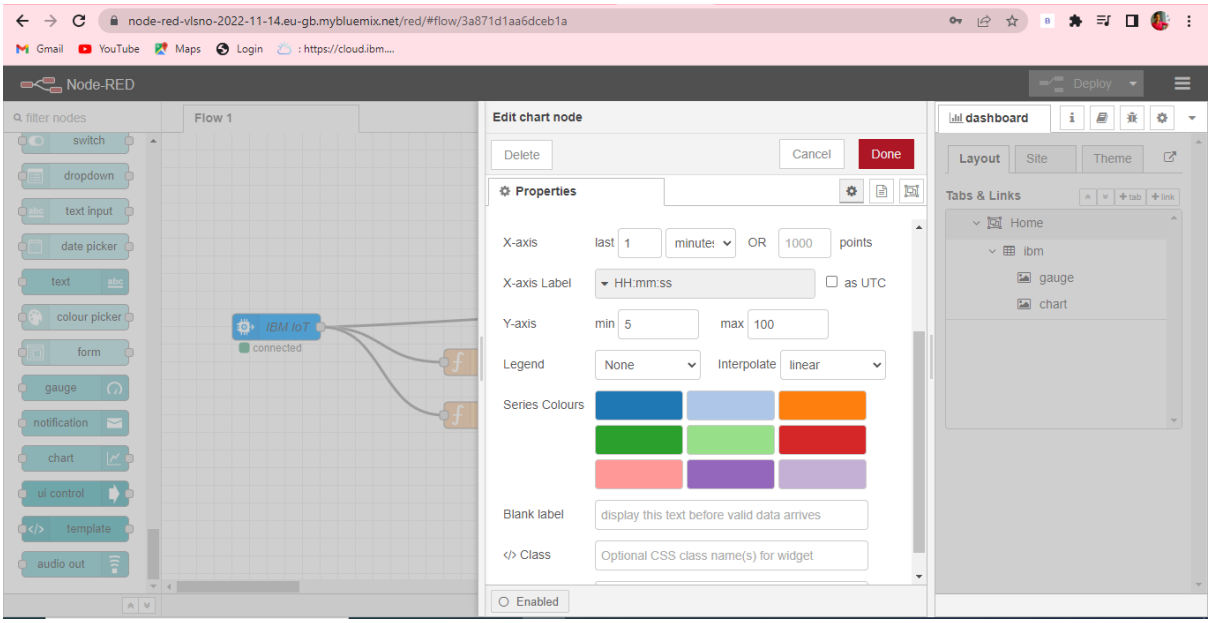

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
debug
welcome
msg.payload
IBM IoT
connected
"Hello Node-RED!"
"welcome"
Temperature: 8
Humidity: 88

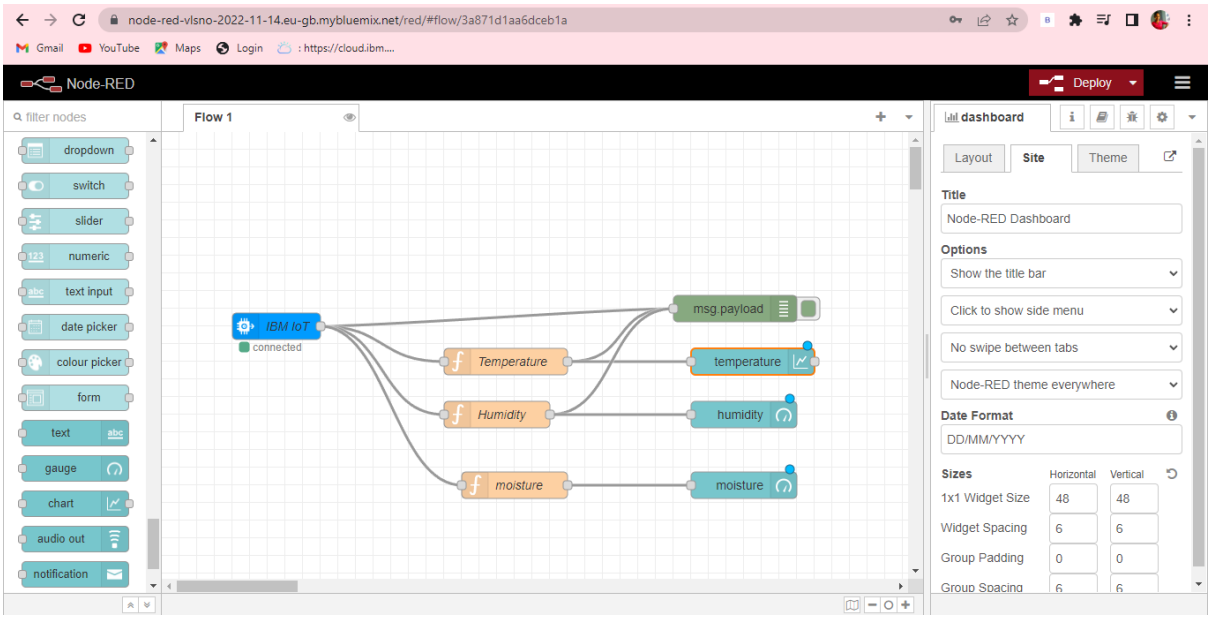

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
debug
IBM IoT
connected
msg.payload
Temperature
Humidity
{ Temperature: 15, Humidity: 55 }
{ Temperature: 37, Humidity: 81 }

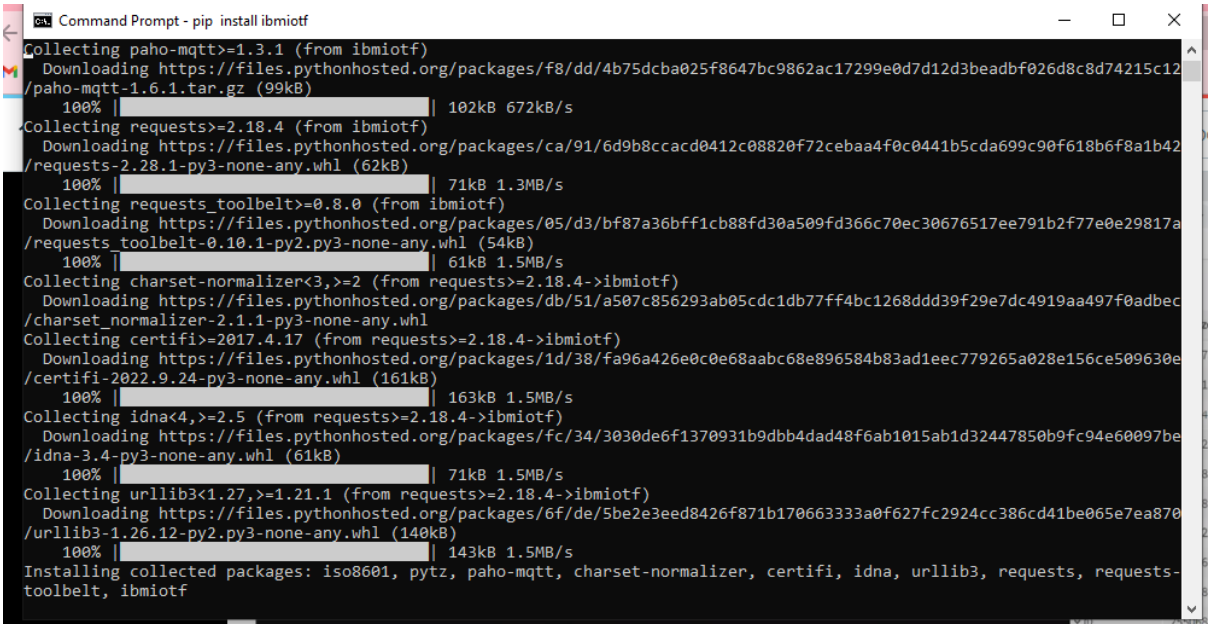

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Nodes added to palette:
ui_base
ui_button
ui_dropdown
ui_switch
ui_slider
ui_numeric
ui_text_input
ui_date_picker
ui_colour_picker
ui_form
ui_text
ui_gauge
ui_chart
ui_audio
ui_toast
ui_ui_control
ui_template
ui_link
ui_tab
ui_group
ui_spacer
Close
Flow 1
debug
IBM IoT
connected
feezal
Web Components based Dashboard UI with WYSIWYG Editor


node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
dashboard
Layout
Site
Theme
Style
Light (default)
Base Settings
Colour
Font
IBM IoT
connected
Temperature
Humidity
msg.payload
chart
gauge


node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/ui/#!/0?socketid=lc1Y1IqwYfF39Ac8AAAB
Home
ibm
gauge
55
chart
100
71.25
47.5
23.75
5
01:18:49
01:19:19
01:19:50


node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
Edit chart node
Delete
Cancel
Done
Properties
X-axis
last 1 minute OR 1000 points
X-axis Label
HH:mm:ss
as UTC
Y-axis
min 5 max 100
Legend
None
Interpolate
linear
Series Colours
Blank label
display this text before valid data arrives
Class
Optional CSS class name(s) for widget
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Home
ibm
gauge
chart
IBM IoT
connected

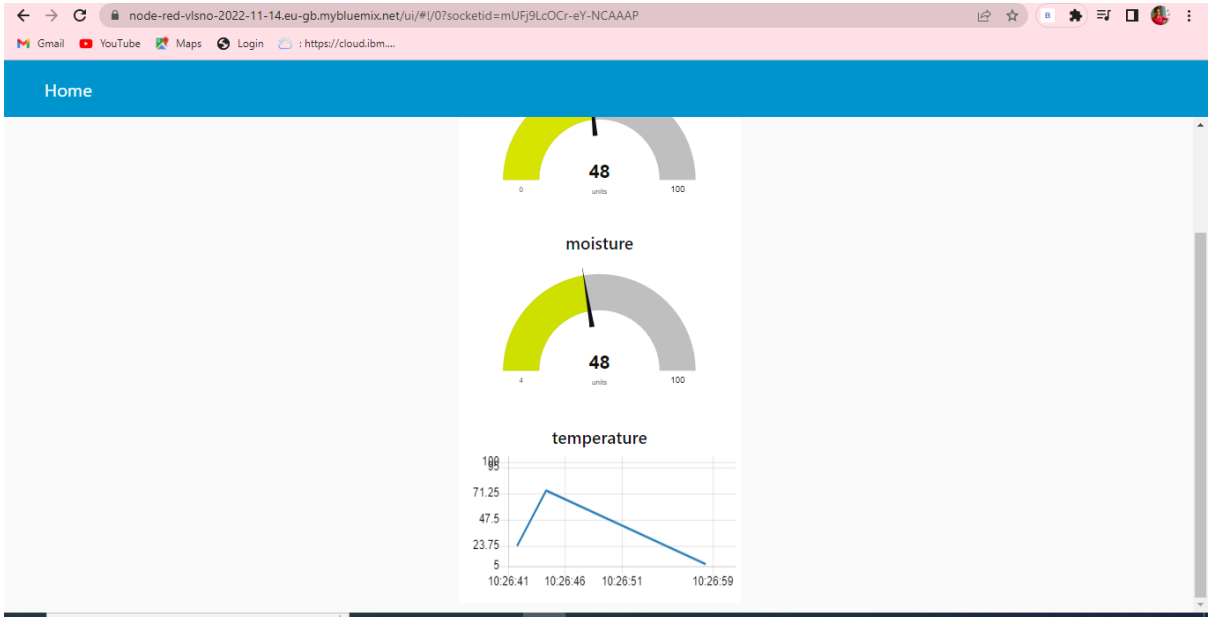

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
dashboard
Layout
Site
Theme
Title
Node-RED Dashboard
Options
Show the title bar
Click to show side menu
No swipe between tabs
Node-RED theme everywhere
Date Format
DD/MM/YYYY
Sizes
Horizontal
Vertical
1x1 Widget Size
Widget Spacing
Group Padding
Group Spacing
IBM IoT
connected
Temperature
Humidity
moisture
msg.payload
temperature
humidity
moisture

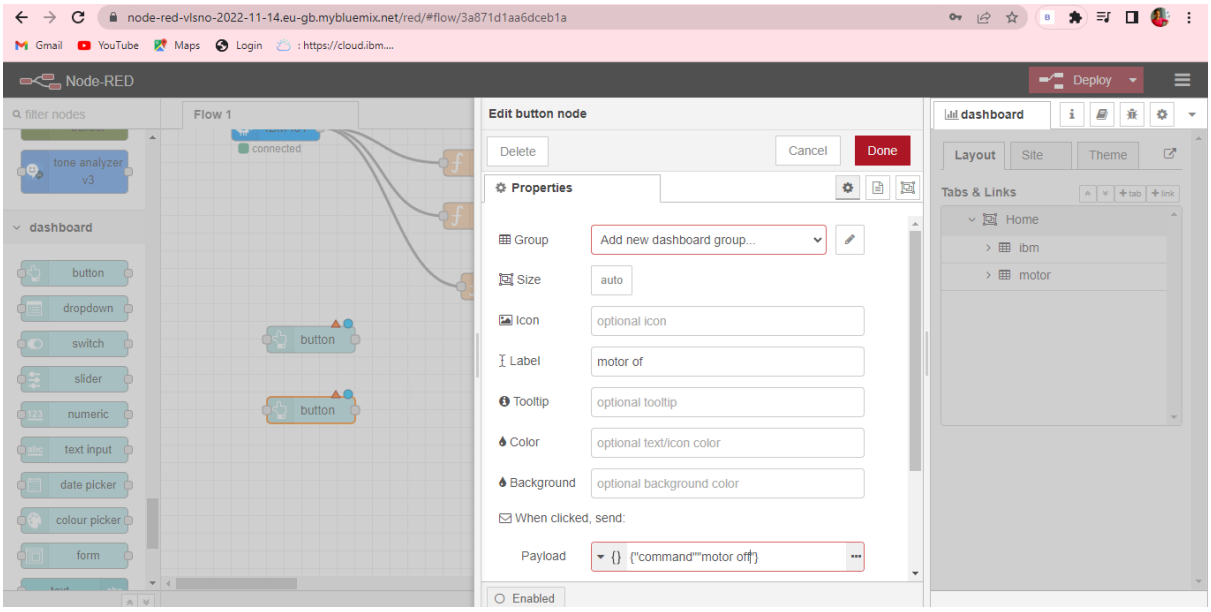

Command Prompt - pip install ibmiotf
Collecting paho-mqtt>=1.3.1 (from ibmiotf)
Downloading https://files.pythonhosted.org/packages/f8/dd/4b75dcba025f8647bc9862ac17299e0d7d12d3beadbf026d8c8d74215c12/paho-mqtt-1.6.1.tar.gz (99kB)
100% | 102kB 672kB/s
Collecting requests>=2.18.4 (from ibmiotf)
Downloading https://files.pythonhosted.org/packages/ca/91/6d9b8ccacd0412c08820f72cebaa4f0c0441b5cda699c90f618b6f8a1b42/requests-2.28.1-py3-none-any.whl (62kB)
100% | 71kB 1.3MB/s
Collecting requests_toolbelt>=0.8.0 (from ibmiotf)
Downloading https://files.pythonhosted.org/packages/05/d3/bf87a36bff1cb88fd30a509fd366c70ec30676517ee791b2f77e0e29817a/requests_toolbelt-0.10.1-py2.py3-none-any.whl (54kB)
100% | 61kB 1.5MB/s
Collecting charset-normalizer<3,>=2 (from requests>=2.18.4->ibmiotf)
Downloading https://files.pythonhosted.org/packages/db/51/a507c856293ab05cdc1db77ff4bc1268ddd39f29e7dc4919aa497f0adbec/charset_normalizer-2.1.1-py3-none-any.whl
Collecting certifi>=2017.4.17 (from requests>=2.18.4->ibmiotf)
Downloading https://files.pythonhosted.org/packages/1d/38/fa96a426e0c0e68aabc68e896584b83ad1eec779265a028e156ce509630e/certifi-2022.9.24-py3-none-any.whl (161kB)
100% | 163kB 1.5MB/s
Collecting idna<4,>=2.5 (from requests>=2.18.4->ibmiotf)
Downloading https://files.pythonhosted.org/packages/fc/34/3030de6f1370931b9dbb4dad48f6ab1015ab1d32447850b9fc94e60097be/idna-3.4-py3-none-any.whl (61kB)
100% | 71kB 1.5MB/s
Collecting urllib3<1.27,>=1.21.1 (from requests>=2.18.4->ibmiotf)
Downloading https://files.pythonhosted.org/packages/6f/de/5be2e3eed8426f871b170663333a0f627fc2924cc386cd41be065e7ea870/urllib3-1.26.12-py2.py3-none-any.whl (140kB)
100% | 143kB 1.5MB/s
Installing collected packages: iso8601, pytz, paho-mqtt, charset-normalizer, certifi, idna, urllib3, requests, requests-toolbelt, ibmiotf

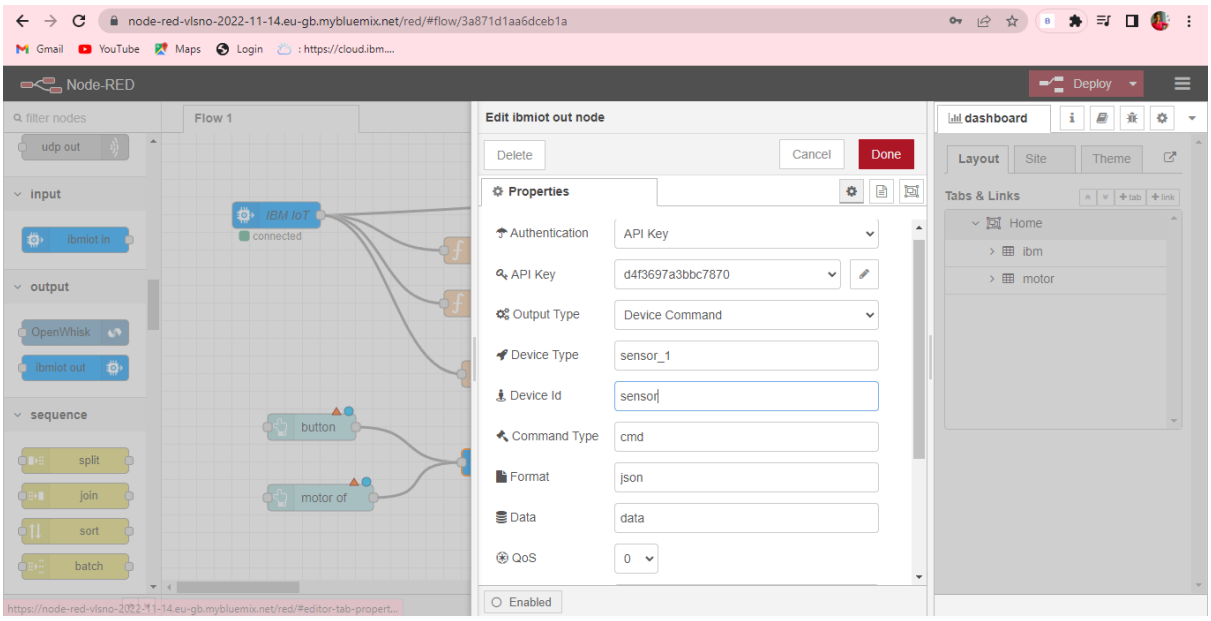
py ibm.py - F:\py ibm.py (3.7.0)

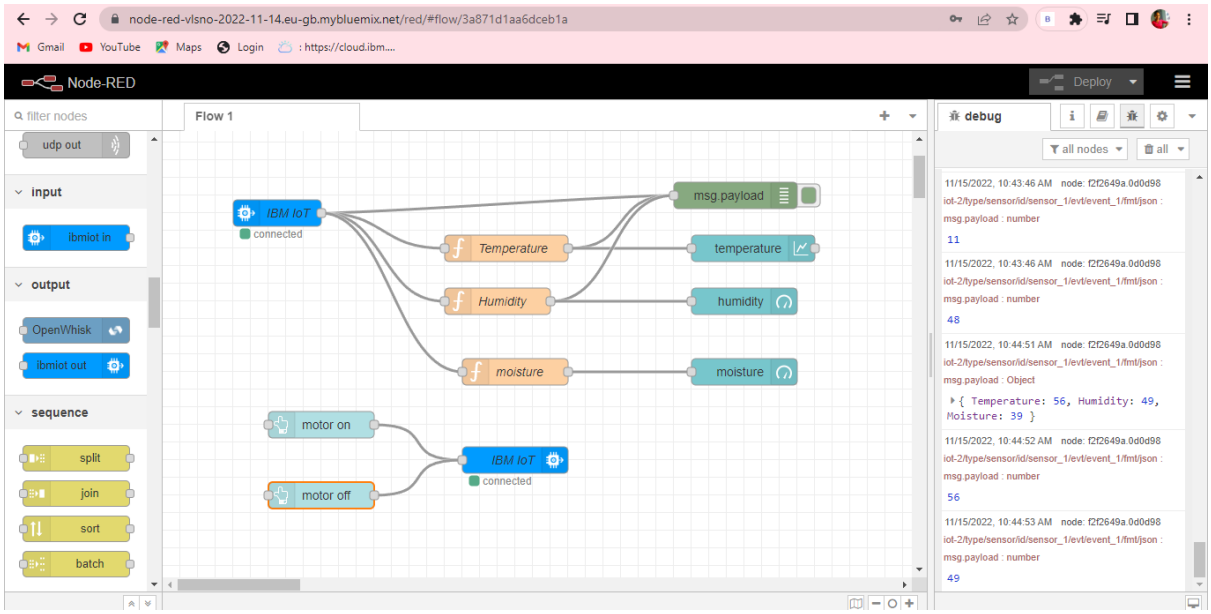
File Edit Format Run Options Window Help

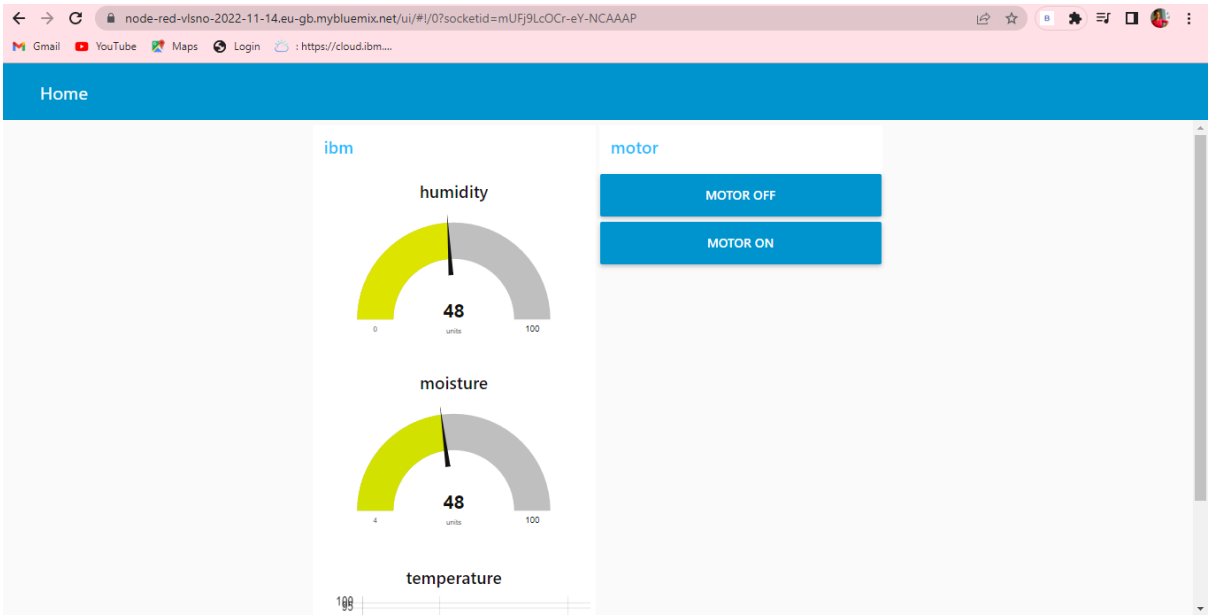
```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> import time
    import sys
    import ibmiotf.application
   import ibmiotf.device
    import random

#Provide your IBM Watson Device Credentials
organization = "rr454u"
deviceType = "sensor_1"
deviceId = "sensor"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO
def myCommandCallback (cmd):
   print ("Command received: %s" cmd.data['command'])
   status=cmd.data['command']
   if status=="lighton":
       print ("led is on")
   elif status == "lightoff":
       print ("led is off")
   else :
       print ("please send proper command")
try:
       deviceOptions s = ="org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod,"auth-token":authToken
       deviceCli = ibmiotf.device.Client (deviceOptions)
except Exception as e:
```

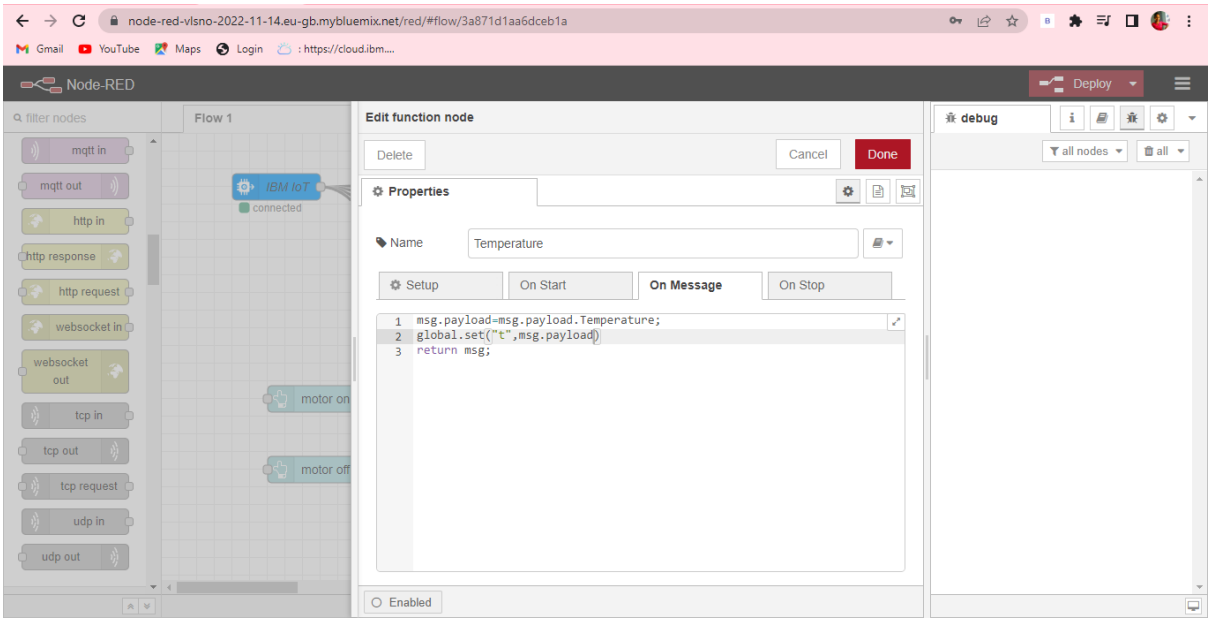




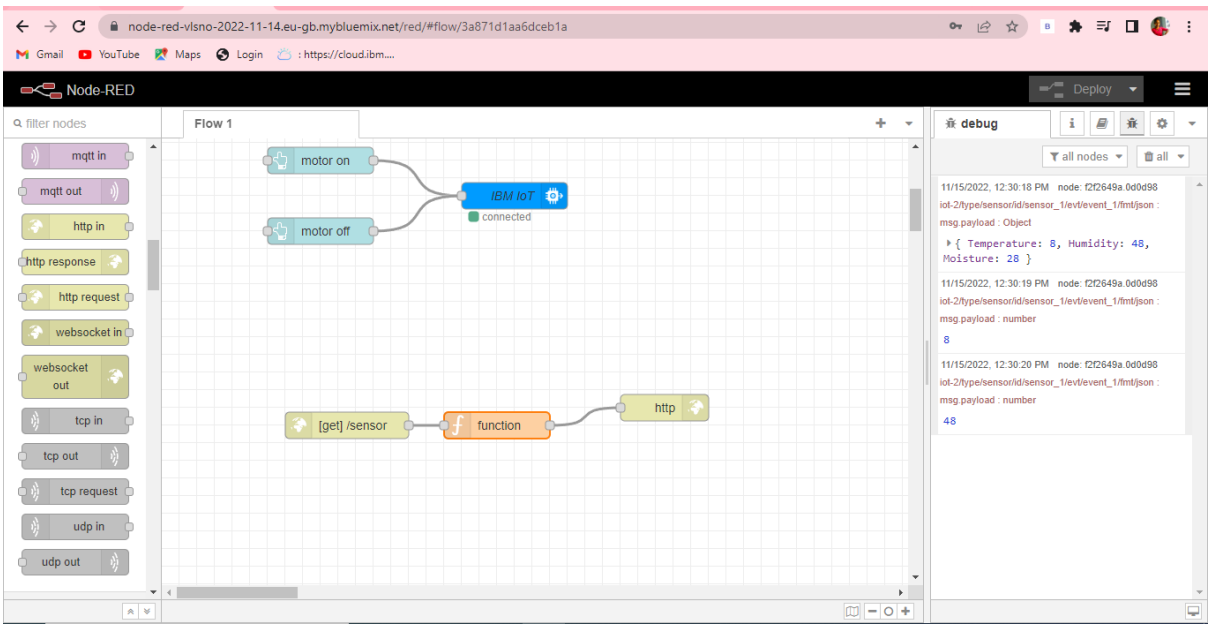

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
Edit ibmiot out node
Delete
Cancel
Done
Properties
Authentication
API Key
API Key
d4f3697a3bbc7870
Output Type
Device Command
Device Type
sensor_1
Device Id
sensor
Command Type
cmd
Format
json
Data
data
QoS
0
Enabled
dashboard
Layout
Site
Theme
Tabs & Links
Home
ibm
motor
udp out
input
ibmiot in
output
OpenWhisk
ibmiot out
sequence
split
join
sort
batch
IBM IoT
connected
button
motor of

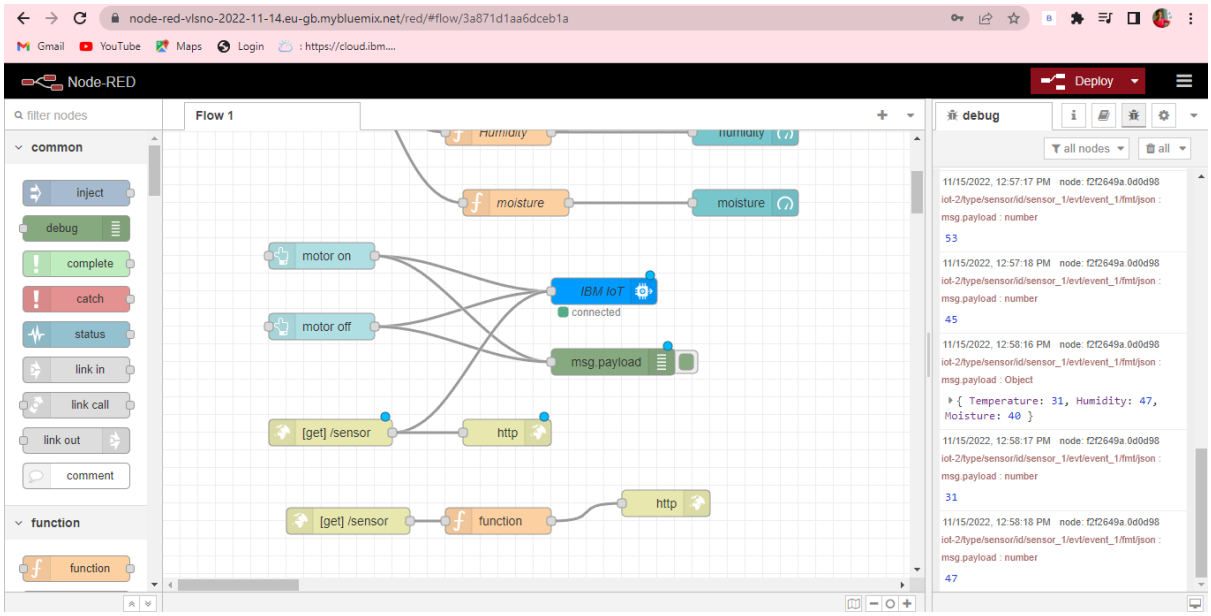

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
debug
all nodes
all
IBM IoT
connected
Temperature
Humidity
moisture
msg.payload
temperature
humidity
moisture
motor on
motor off
11/15/2022, 10:43:46 AM node: f2f2649a.0d0d98
iot-2/type/sensor/id/sensor_1/evt/event_1/fmt/json : msg.payload : number
11
48
{ Temperature: 56, Humidity: 49, Moisture: 39 }
56
49

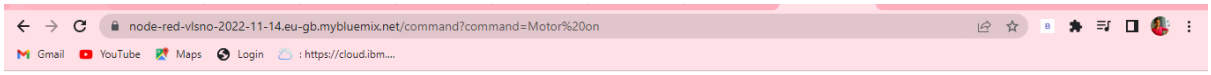

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/ui/#!/0?socketid=mUFj9LcOCr-eY-NCAAAP
Home
ibm
humidity
48
moisture
48
temperature
motor
MOTOR OFF
MOTOR ON

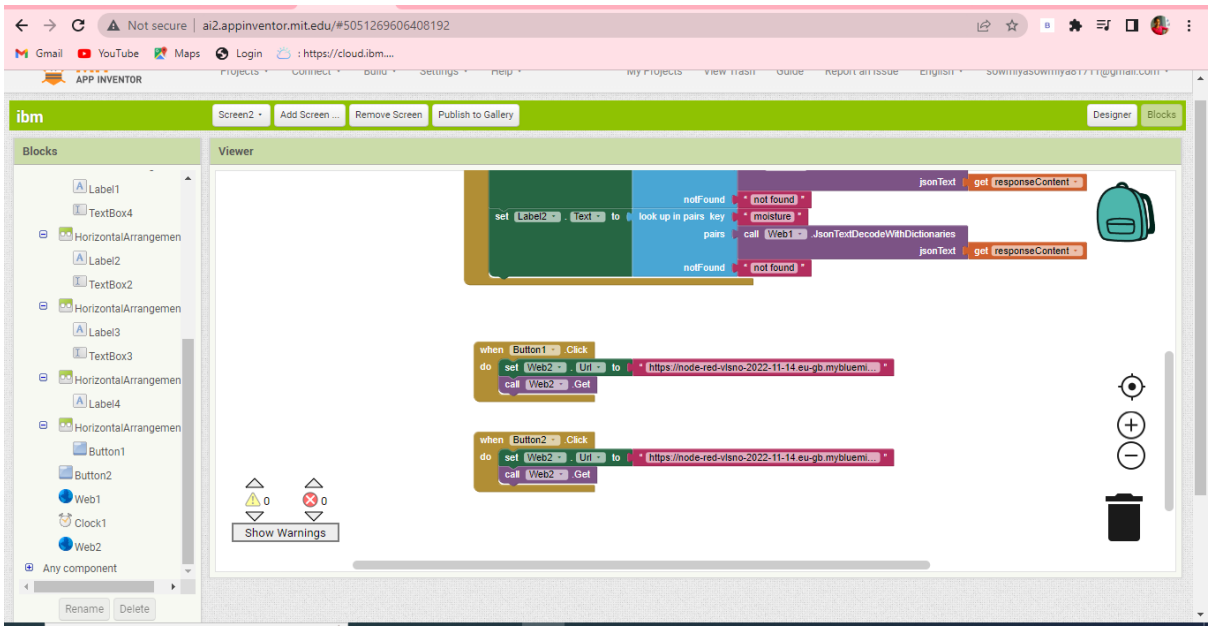


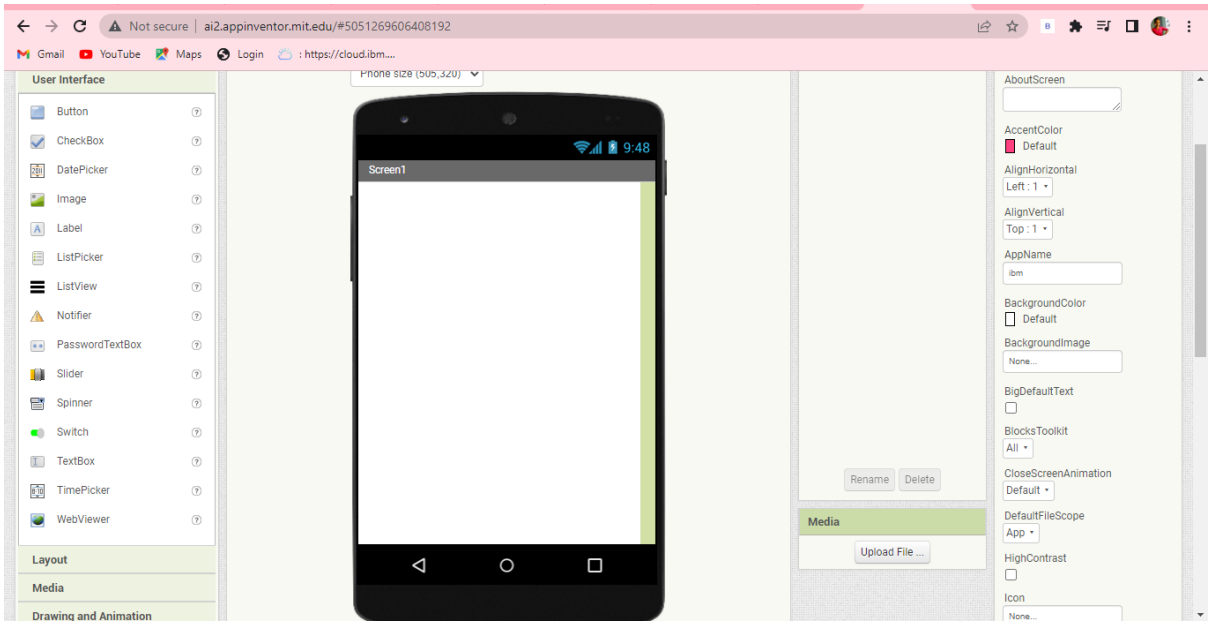
{"Temp":8,"humidity":8}

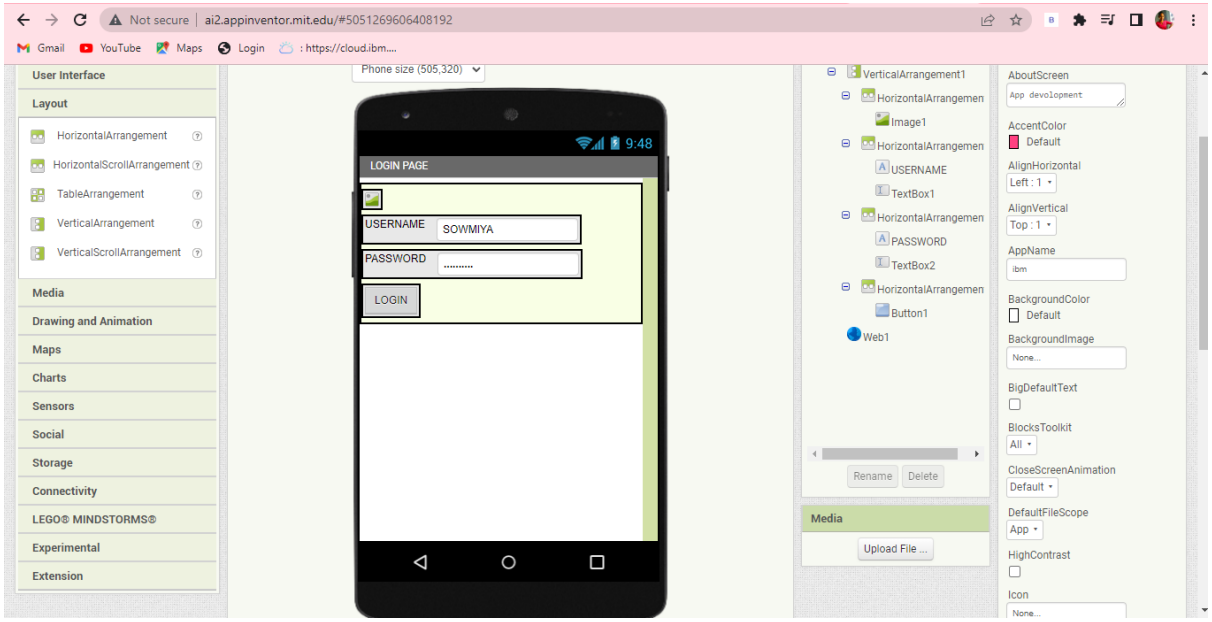


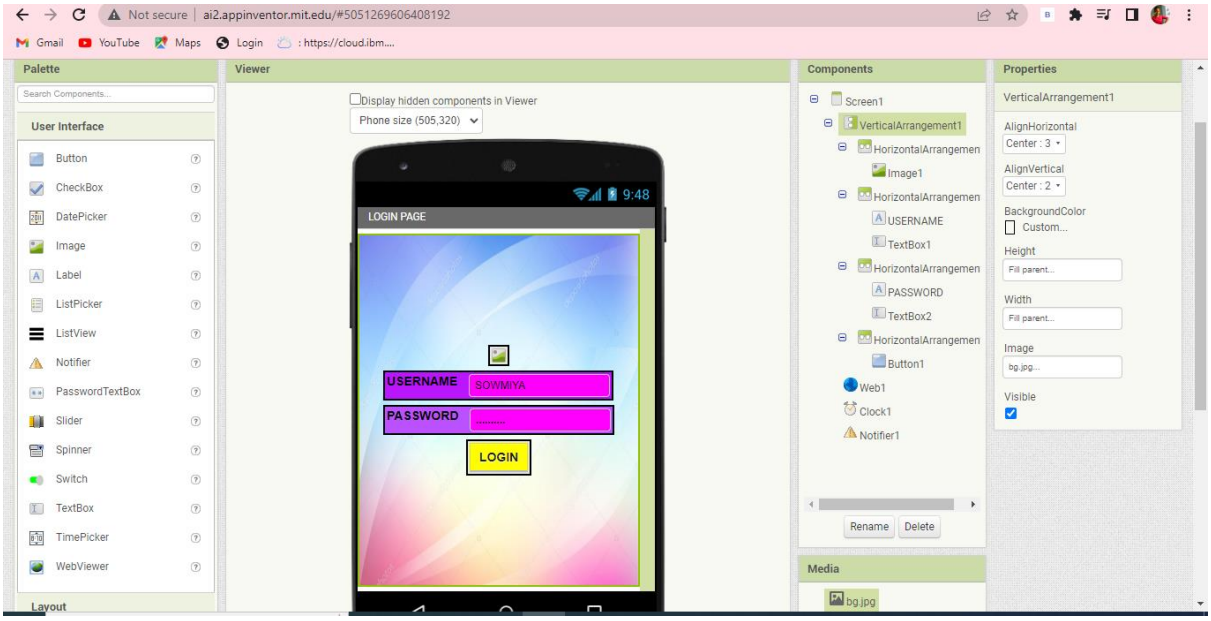

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a
Node-RED
Deploy
Flow 1
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
moisture
moisture
motor on
motor off
IBM IoT
connected
msg.payload
[get] /sensor
http
[get] /sensor
function
http
debug
all nodes
all
11/15/2022, 12:57:17 PM node: f2f2649a.0d0d98
iot-2/type/sensor/id/sensor_1/evt/event_1/fmt/json : msg.payload : number
53
11/15/2022, 12:57:18 PM node: f2f2649a.0d0d98
iot-2/type/sensor/id/sensor_1/evt/event_1/fmt/json : msg.payload : number
45
11/15/2022, 12:58:16 PM node: f2f2649a.0d0d98
iot-2/type/sensor/id/sensor_1/evt/event_1/fmt/json : msg.payload : Object
{ Temperature: 31, Humidity: 47, Moisture: 40 }
11/15/2022, 12:58:17 PM node: f2f2649a.0d0d98
iot-2/type/sensor/id/sensor_1/evt/event_1/fmt/json : msg.payload : number
31
11/15/2022, 12:58:18 PM node: f2f2649a.0d0d98
iot-2/type/sensor/id/sensor_1/evt/event_1/fmt/json : msg.payload : number
47

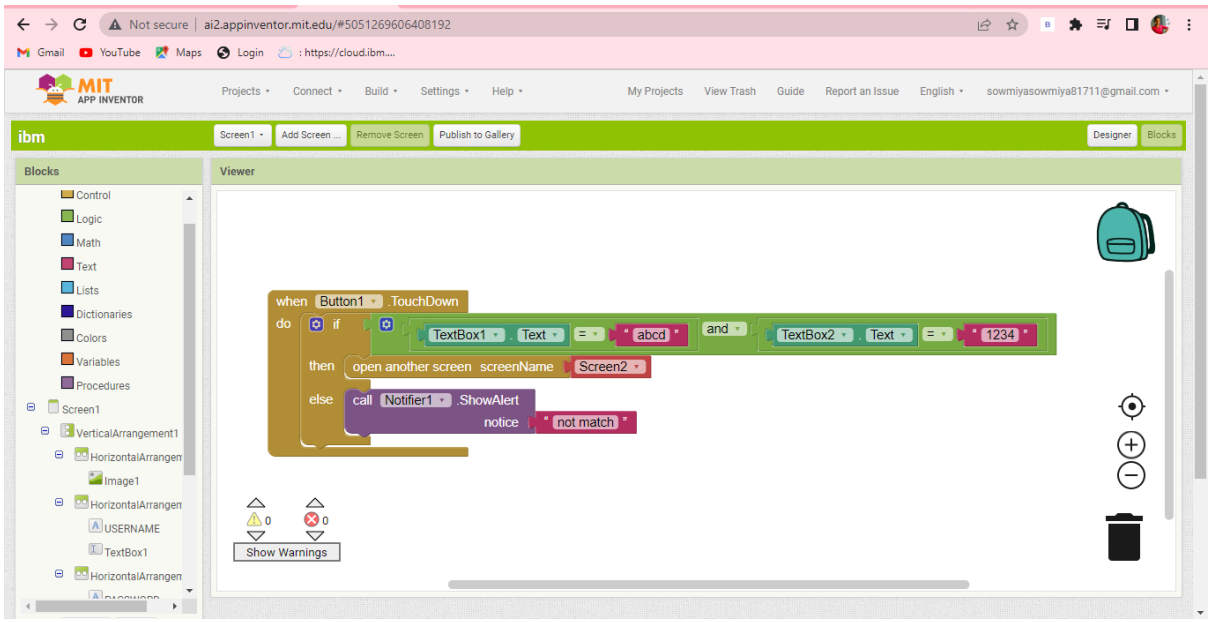

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/command?command=Motor%20on
{"command":"Motor on"}

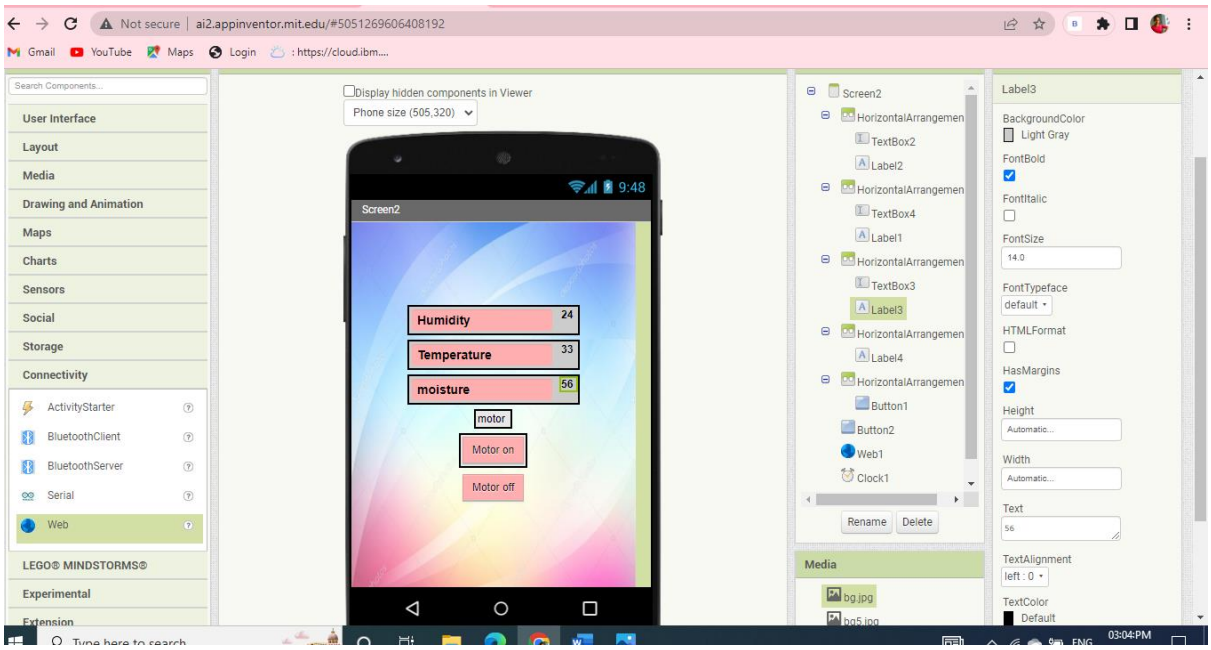

Not secure | ai2.appinventor.mit.edu/#5051269606408192
APP INVENTOR
ibm
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Viewer
Label1
TextBox4
HorizontalArrangemen
Label2
TextBox2
HorizontalArrangemen
Label3
TextBox3
HorizontalArrangemen
Label4
HorizontalArrangemen
Button1
Button2
Web1
Clock1
Web2
Any component
Rename
Delete
Show Warnings
when Button1 .Click
when Button2 .Click
https://node-red-vlsno-2022-11-14.eu-gb.mybluemi...

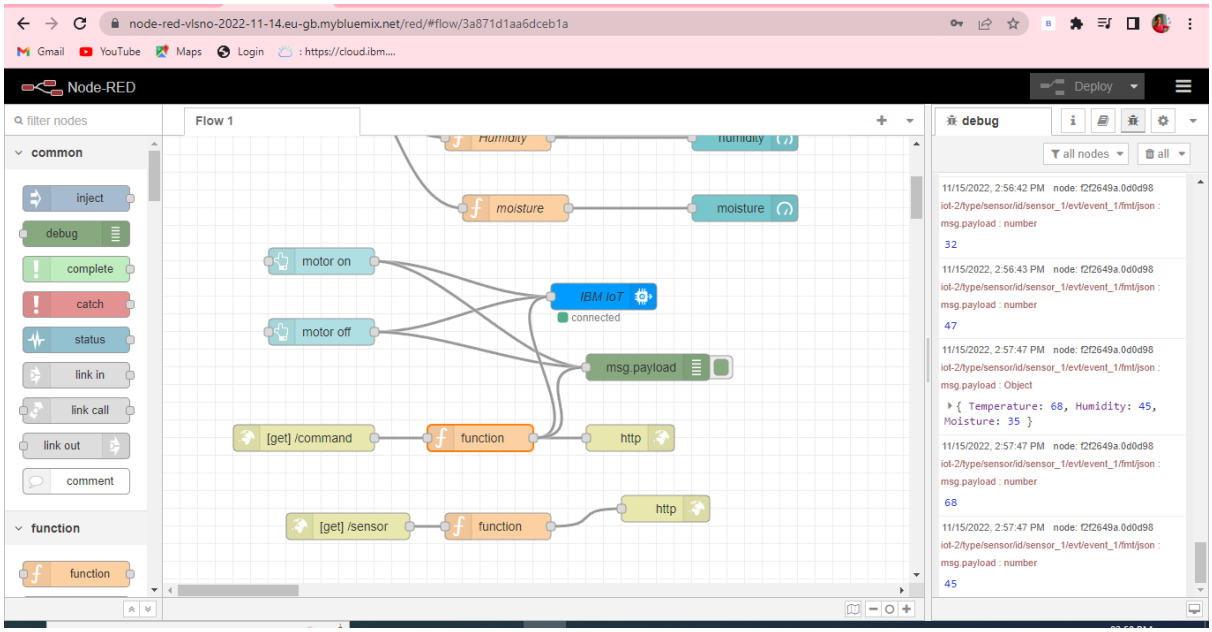

Not secure | ai2.appinventor.mit.edu/#5051269606408192
Gmail YouTube Maps Login : https://cloud.ibm....
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Drawing and Animation
Phone size (505,320)
9:48
Screen1
Rename
Delete
Media
Upload File ...
AboutScreen
AccentColor
Default
AlignHorizontal
Left : 1
AlignVertical
Top : 1
AppName
ibm
BackgroundColor
Default
BackgroundImage
None...
BigDefaultText
BlocksToolkit
All
CloseScreenAnimation
Default
DefaultFileScope
App
HighContrast
Icon
None...

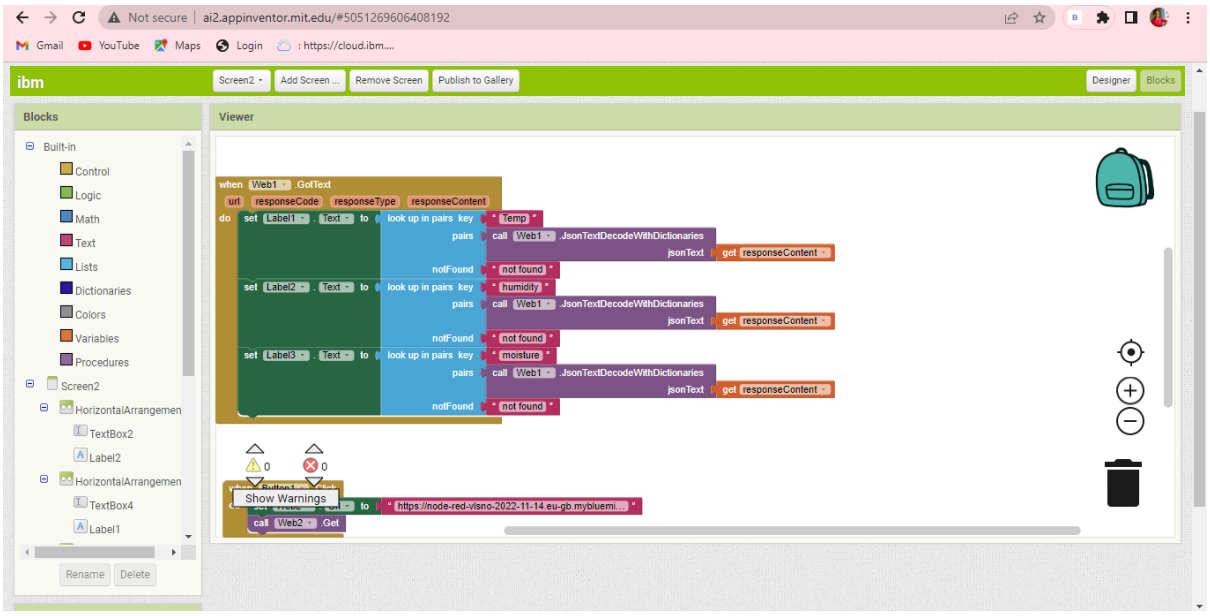

Not secure | ai2.appinventor.mit.edu/#5051269606408192
Gmail YouTube Maps Login : https://cloud.ibm....
User Interface
Layout
HorizontalArrangement
HorizontalScrollArrangement
TableArrangement
VerticalArrangement
VerticalScrollArrangement
Media
Drawing and Animation
Maps
Charts
Sensors
Social
Storage
Connectivity
LEGO® MINDSTORMS®
Experimental
Extension
Phone size (505,320)
9:48
LOGIN PAGE
USERNAME
SOWMIYA
PASSWORD
LOGIN
VerticalArrangement1
HorizontalArrangemen
Image1
USERNAME
TextBox1
PASSWORD
TextBox2
Button1
Web1
Rename
Delete
Media
Upload File ...
AboutScreen
App development
AccentColor
Default
AlignHorizontal
Left : 1
AlignVertical
Top : 1
AppName
ibm
BackgroundColor
Default
BackgroundImage
None...
BigDefaultText
BlocksToolkit
All
CloseScreenAnimation
Default
DefaultFileScope
App
HighContrast
Icon
None...

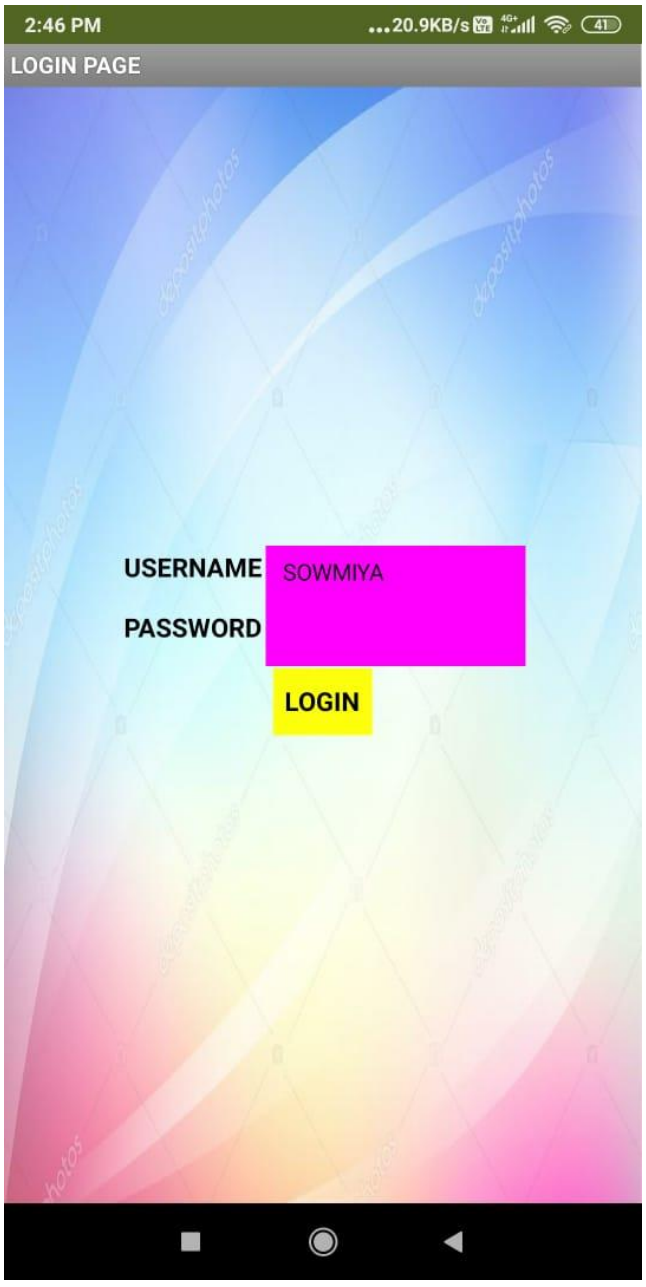

Not secure | ai2.appinventor.mit.edu/#5051269606408192
Gmail YouTube Maps Login : https://cloud.ibm....
Palette
Search Components...
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Viewer
Display hidden components in Viewer
Phone size (505,320)
9:48
LOGIN PAGE
USERNAME
SOWMIYA
PASSWORD
LOGIN
Components
Screen1
VerticalArrangement1
HorizontalArrangemen
Image1
USERNAME
TextBox1
PASSWORD
TextBox2
Button1
Web1
Clock1
Notifier1
Rename
Delete
Media
bg.jpg
Properties
VerticalArrangement1
AlignHorizontal
Center : 3
AlignVertical
Center : 2
BackgroundColor
Custom...
Height
Fill parent...
Width
Fill parent...
Image
bg.jpg...
Visible

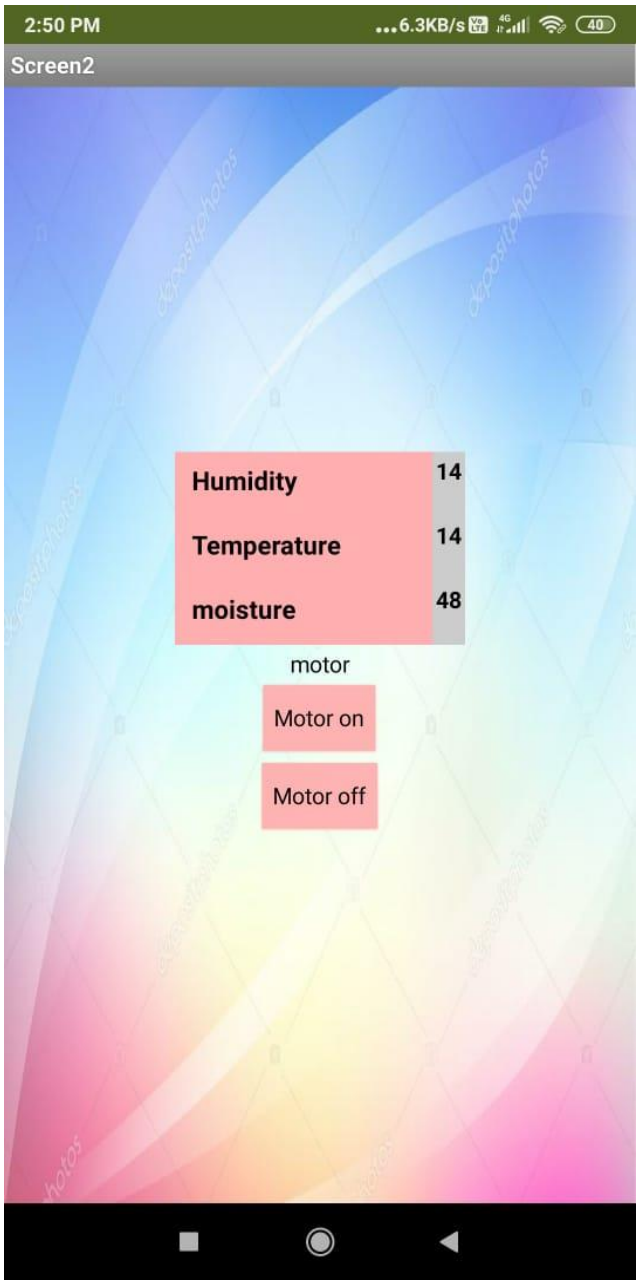

ibm
Blocks
Viewer
when Button1 .TouchDown
do if TextBox1 . Text = " abcd " and TextBox2 . Text = " 1234 "
then open another screen screenName Screen2
else call Notifier1 .ShowAlert
notice " not match "
Show Warnings


Screen2
Humidity 24
Temperature 33
moisture 56
motor
Motor on
Motor off


Node-RED
Flow 1
debug
moisture
motor on
motor off
IBM IoT
connected
msg.payload
[get] /command
function
http
[get] /sensor
function
http


Not secure | ai2.appinventor.mit.edu/#5051269606408192
Gmail
YouTube
Maps
Login
: https://cloud.ibm....
ibm
Screen2
Add Screen ...
Remove Screen
Publish to Gallery
Designer
Blocks
Blocks
Viewer
Built-in
Control
Logic
Math
Text
Lists
Dictionaries
Colors
Variables
Procedures
Screen2
HorizontalArrangemen
TextBox2
Label2
HorizontalArrangemen
TextBox4
Label1
Rename
Delete
when Web1 .GotText
url responseCode responseType responseContent
do set Label1 . Text to look up in pairs key " Temp "
pairs call Web1 .JsonTextDecodeWithDictionaries
jsonText get responseContent
notFound " not found "
set Label2 . Text to look up in pairs key " humidity "
pairs call Web1 .JsonTextDecodeWithDictionaries
jsonText get responseContent
notFound " not found "
set Label3 . Text to look up in pairs key " moisture "
pairs call Web1 .JsonTextDecodeWithDictionaries
jsonText get responseContent
notFound " not found "
0
0
Show Warnings
call Web2 .Get
to " https://node-red-visno-2022-11-14.eu-gb.mybluemi... "


2:46 PM
...20.9KB/s
41
LOGIN PAGE
USERNAME
SOWMIYA
PASSWORD
LOGIN


2:50 PM
...6.3KB/s
40
Screen2
Humidity
14
Temperature
14
moisture
48
motor
Motor on
Motor off