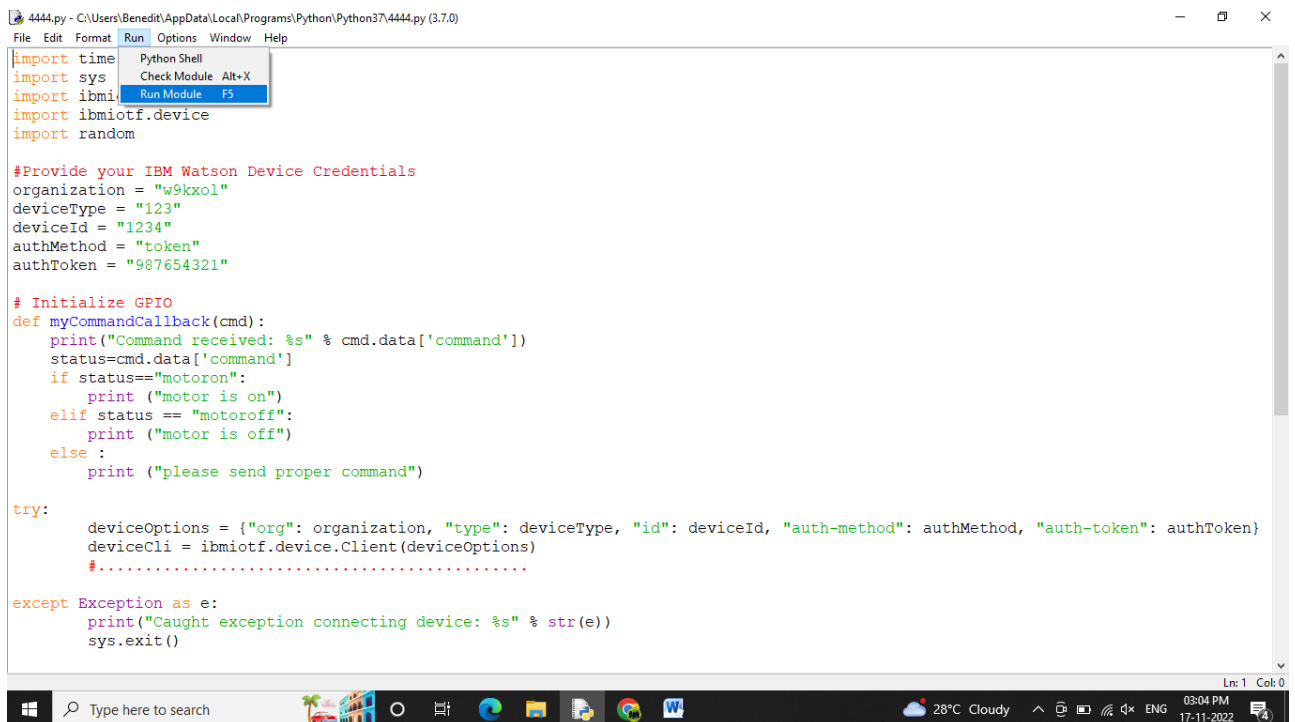


SPRINT DELIVERY-4

DATE	17 November 2022
TEAM ID	PNT2022TMID52158
PROJECT NAME	Smart Farmer - IoT Enabled Smart Farming Application

**Testing developed application and working model
of hardware**

❖Run the python code and get the output:



```
4444.py - C:\Users\Benedict\AppData\Local\Programs\Python\Python37\4444.py (3.7.0)
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "w9kxol"
deviceType = "123"
deviceId = "1234"
authMethod = "token"
authToken = "987654321"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor is off")
    else :
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....

except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()
```

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

>>>
== RESTART: C:\Users\Benedict\AppData\Local\Programs\Python\Python37\4444.py ==
2022-11-17 15:05:16,353 ibmiotf.device.Client INFO Connected successfully: d:w9kxol:123:1234
Published Temperature = 95 C Humidity = 60 % soilmoisture=89 % to IBM Watson
Published Temperature = 100 C Humidity = 68 % soilmoisture=92 % to IBM Watson
Published Temperature = 96 C Humidity = 69 % soilmoisture=99 % to IBM Watson
Published Temperature = 93 C Humidity = 61 % soilmoisture=111 % to IBM Watson
Published Temperature = 106 C Humidity = 79 % soilmoisture=71 % to IBM Watson
Published Temperature = 100 C Humidity = 78 % soilmoisture=98 % to IBM Watson
Published Temperature = 106 C Humidity = 71 % soilmoisture=59 % to IBM Watson
Published Temperature = 90 C Humidity = 77 % soilmoisture=85 % to IBM Watson
Published Temperature = 106 C Humidity = 63 % soilmoisture=110 % to IBM Watson
Published Temperature = 108 C Humidity = 60 % soilmoisture=65 % to IBM Watson
Published Temperature = 105 C Humidity = 96 % soilmoisture=118 % to IBM Watson
Published Temperature = 94 C Humidity = 71 % soilmoisture=93 % to IBM Watson
Published Temperature = 92 C Humidity = 94 % soilmoisture=77 % to IBM Watson
Published Temperature = 90 C Humidity = 67 % soilmoisture=96 % to IBM Watson
Published Temperature = 98 C Humidity = 68 % soilmoisture=61 % to IBM Watson
Published Temperature = 99 C Humidity = 85 % soilmoisture=90 % to IBM Watson
Published Temperature = 90 C Humidity = 90 % soilmoisture=51 % to IBM Watson
Published Temperature = 99 C Humidity = 80 % soilmoisture=104 % to IBM Watson
Published Temperature = 98 C Humidity = 79 % soilmoisture=68 % to IBM Watson
Published Temperature = 104 C Humidity = 68 % soilmoisture=114 % to IBM Watson
Published Temperature = 99 C Humidity = 99 % soilmoisture=51 % to IBM Watson
Published Temperature = 92 C Humidity = 71 % soilmoisture=51 % to IBM Watson
Published Temperature = 108 C Humidity = 100 % soilmoisture=66 % to IBM Watson
Published Temperature = 110 C Humidity = 99 % soilmoisture=59 % to IBM Watson
Published Temperature = 103 C Humidity = 81 % soilmoisture=107 % to IBM Watson
Published Temperature = 94 C Humidity = 73 % soilmoisture=119 % to IBM Watson
Published Temperature = 106 C Humidity = 60 % soilmoisture=56 % to IBM Watson
Published Temperature = 106 C Humidity = 90 % soilmoisture=99 % to IBM Watson
Published Temperature = 110 C Humidity = 82 % soilmoisture=83 % to IBM Watson
```

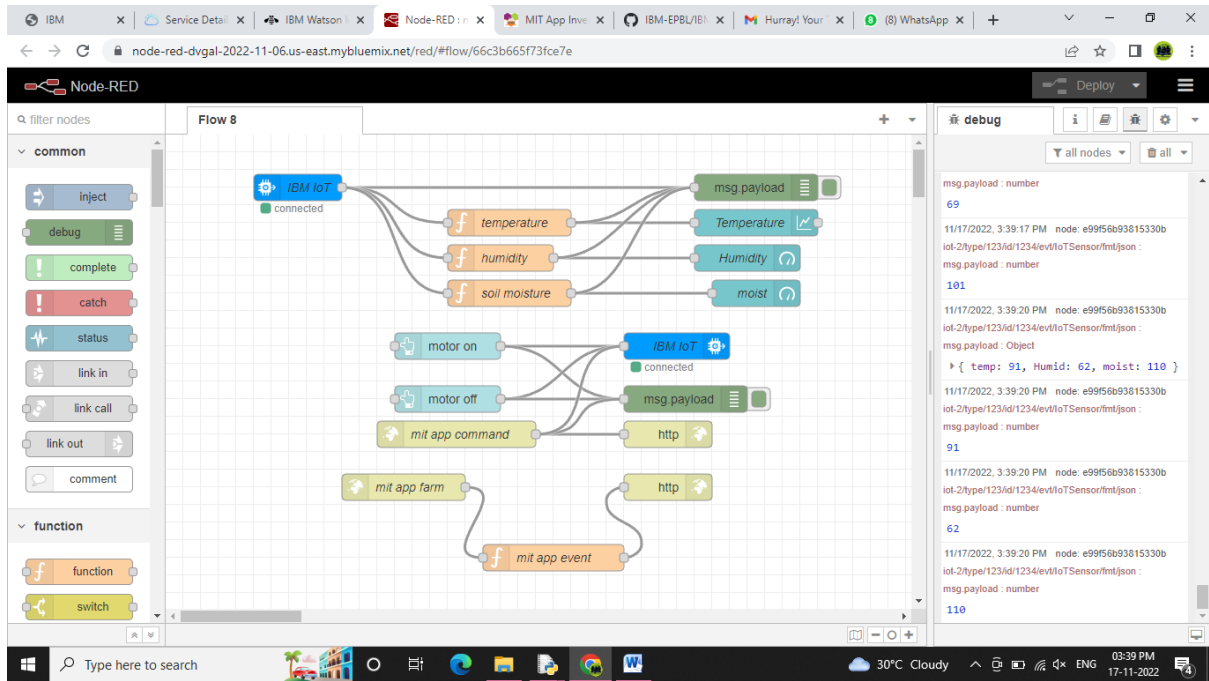
Out put data for python

❖Get the output data in IBM Watson IoT Platform:

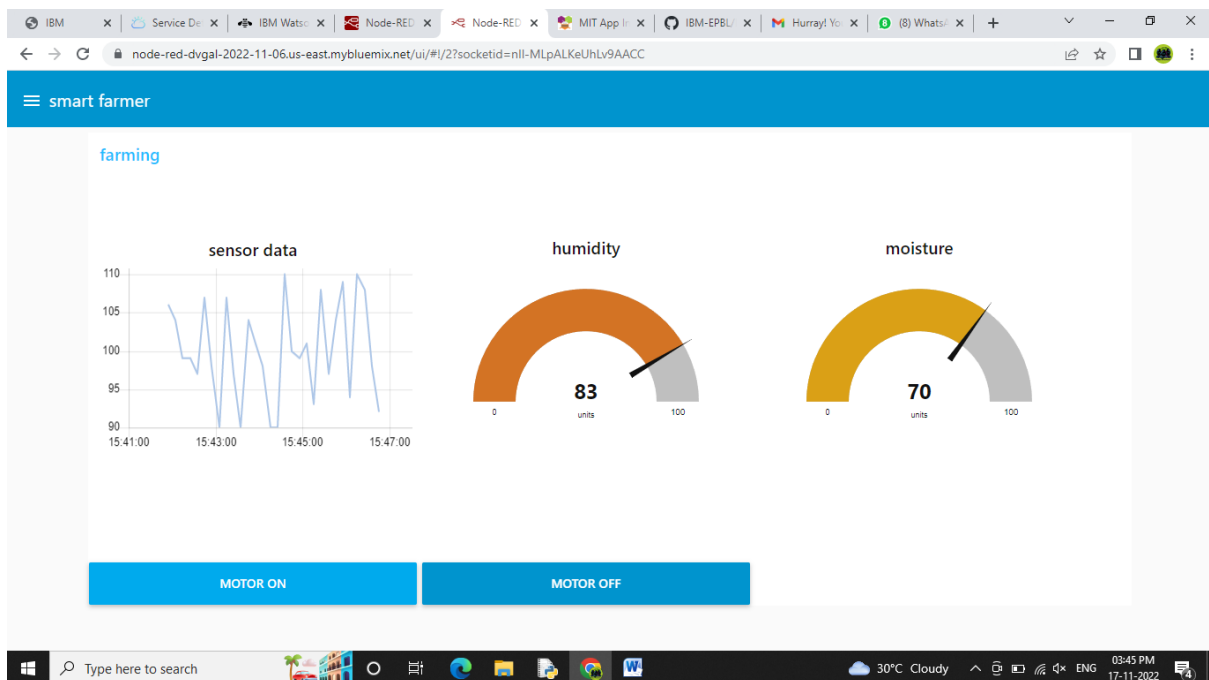
The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area displays a table of devices. The selected device, ID 1234, is shown in detail, including its status (Disconnected), device type (raspberrypi), class ID (Device), and date added (Nov 6, 2022 6:11 PM). Below the device information, there is a section for 'Recent Events' which shows a live stream of data coming and going from the device. The events are listed in a table with columns for Event, Value, Format, and Last Received.

Event	Value	Format	Last Received
IoTSensor	{"temp":110,"Humid":68,"moist":111}	json	a few seconds ago
IoTSensor	{"temp":110,"Humid":88,"moist":87}	json	a few seconds ago
IoTSensor	{"temp":90,"Humid":90,"moist":72}	json	a few seconds ago
IoTSensor	{"temp":94,"Humid":88,"moist":64}	json	a few seconds ago

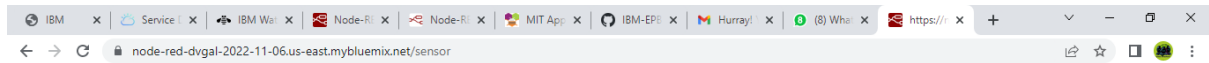
❖ Send the data's from IBM Watson IoT Platform to Node-red:



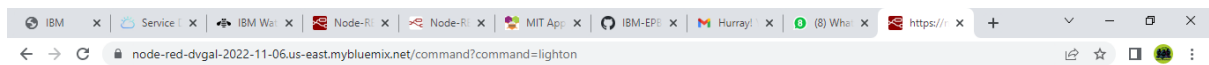
❖ Node-red Dashboard to give the commands:



❖ Get the commands and sensor values in website:



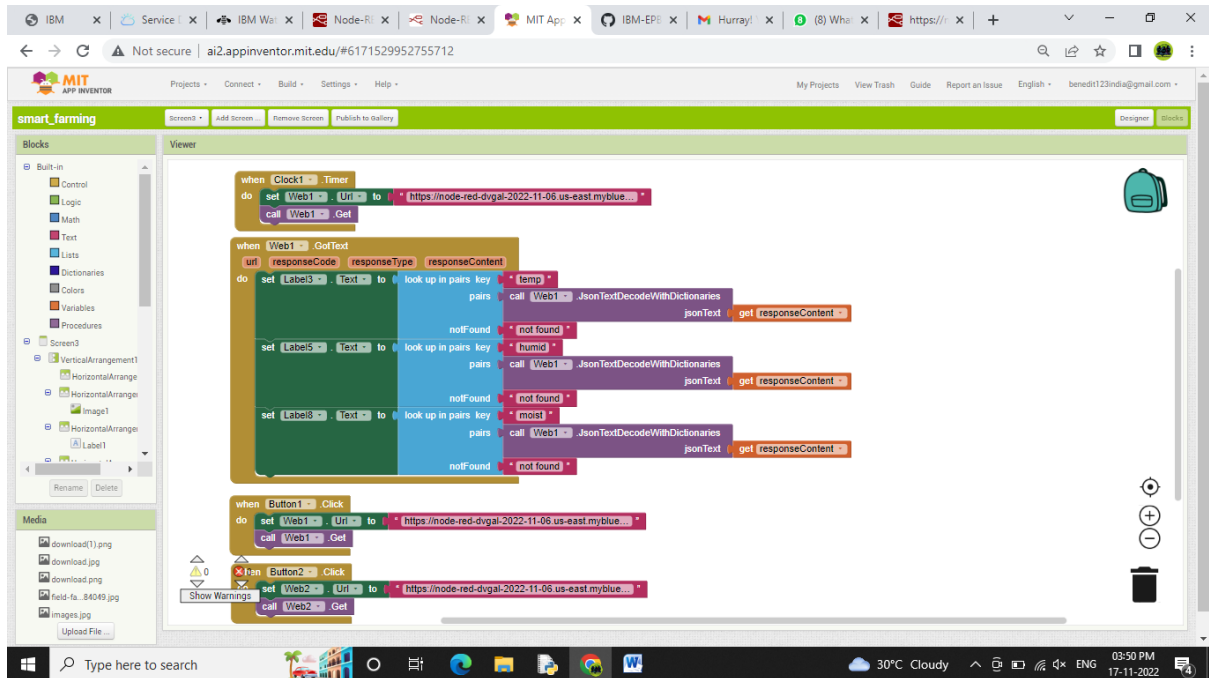
```
{"temp":95,"humid":69,"moist":74}
```



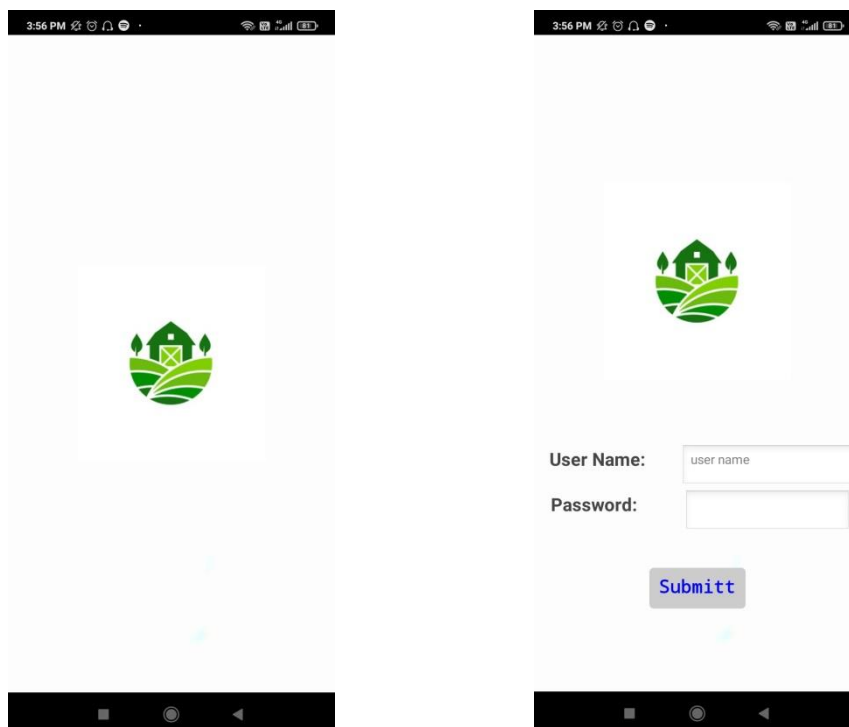
```
{"command":"lighton"}
```

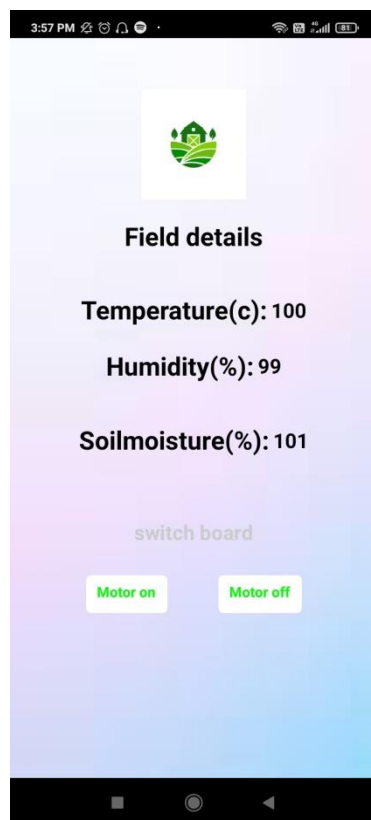
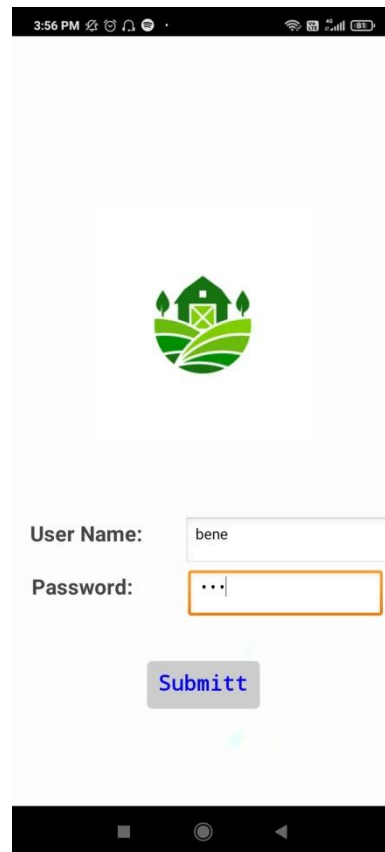
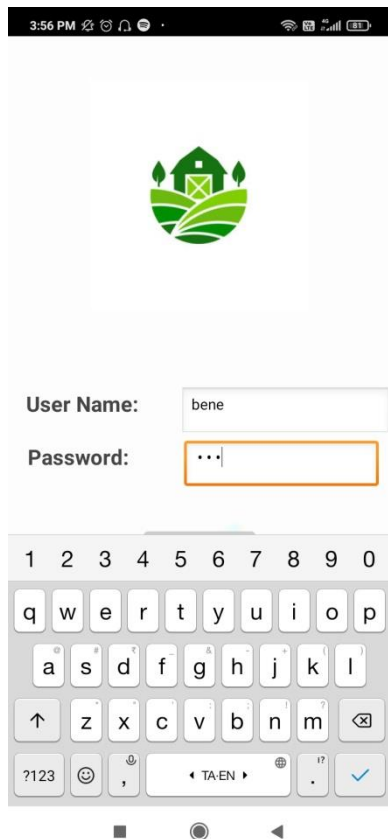


❖ Link the Node-red to Mit app:



❖ MIT app inventor Mobile View:





❖ JIRA Software Sprint Planning:

The screenshot shows the Jira Software interface for a project named "Smart Farmer - IoT Enabled Smart Farming Application". The view is set to "Sprint 4". The left sidebar contains a navigation menu with "PLANNING" (Roadmap, Backlog, Board) and "DEVELOPMENT" (Code, Project pages, Add shortcut, Project settings) sections. The main area displays the "Sprint 4" board with columns for "IN PROGRESS" and "IN REVIEW". A search bar and filters are at the top. The right sidebar shows "Insights" for "SFIEFA SPRINT 4", including a "Sprint progress" bar (100% done) and a "Sprint burndown" chart (8 points done, 0 points to go). The bottom status bar shows the Windows taskbar with the search bar and system tray.

The screenshot shows the Jira Software interface for the same project, but the view is set to "Backlog". The left sidebar is the same. The main area displays the "Backlog" view with a search bar and filters. The right sidebar shows "Insights" for "SFIEFA SPRINT 4", including a "Sprint commitment" bar (8 points) and an "Issue type breakdown" chart (Story). The bottom status bar shows the Windows taskbar with the search bar and system tray.

