

SPRINT 4

Date	19 November 2022
Team ID	PNT2022TMID12920
Project Name	Smart Farmer – IoT Enabled Farming Application
Maximum Marks	8 Marks

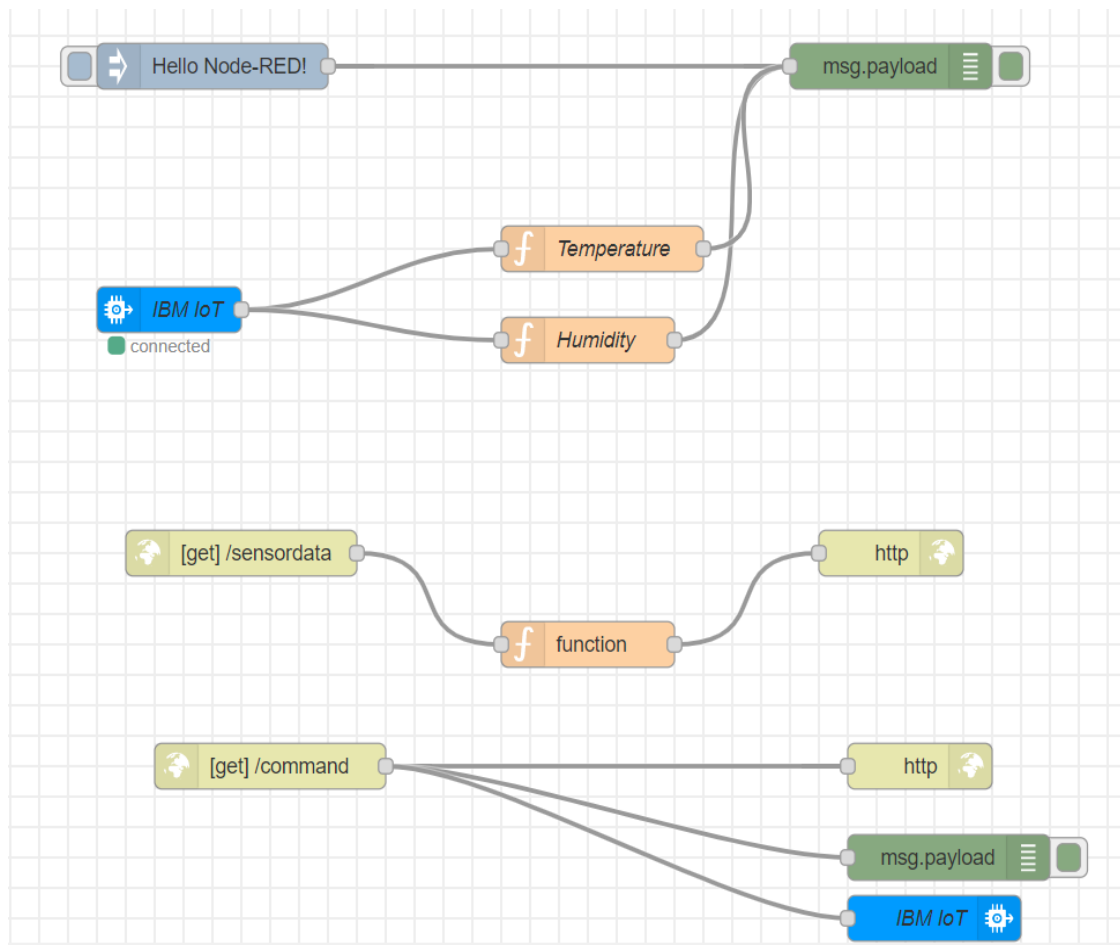
Node-RED Service Creation in IBM Cloud:

The screenshot displays the IBM Cloud console interface for a Node-RED service. The main header shows the resource name 'Node RED PHFLS 2022-11-15' with an 'Add tags' link and an 'Actions...' dropdown menu. The interface is divided into several sections:

- Details:** A table showing key information:
 - App URL: <http://159.122.183.33:30753>
 - Source: <https://us-south.git.cloud.ibm.com/pradeips17/NodeREDPHF...>
 - Resource group: Default
 - Deployment target: Kube/Helm
 - Created: 11/15/2022
- Services:** A section for managing services, currently showing 'Cloudant' with links to 'Open dashboard', 'Documentation', and 'API reference'. It includes a 'Credentials' dropdown and buttons for 'Connect existing services' and 'Create service'.
- Deployment Automation:** A section showing the deployment configuration:
 - Name: NodeREDPHFLS2022-11-15
 - Location: Dallas
 - Tool integrations: Visual Studio Code, GitHub, and Jenkins icons.
- Delivery Pipelines:** A section showing two pipelines:
 - pr-pipeline: Status 'No stages detected'.
 - ci-pipeline: Status 'Success'.
- Getting started quickly:** A sidebar on the right with a 'Configuring your app' section. It provides a 5-step guide for connecting services and deploying the app, including links to 'Learn more' and 'Download code'.

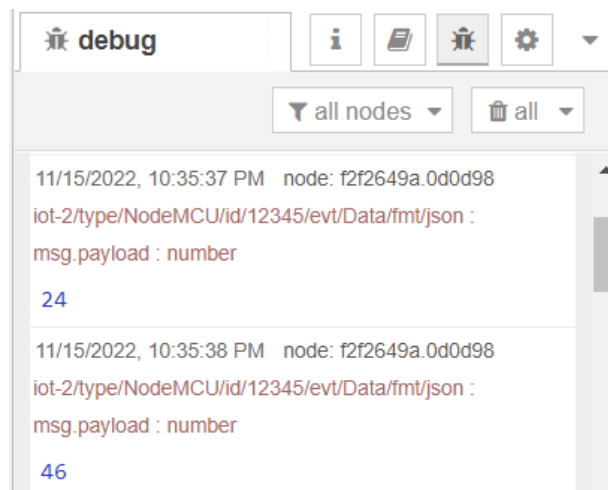
Node-RED service was created in the IBM cloud. After establishing Node-RED service, IBM IoT was installed in the Node-RED platform. Then, IBM Watson IoT platform was connected with Node-RED and the values in the IBM Watson IoT platform gets updated to the Node-RED in json file format.

Node-RED flow for getting sensor values from IBM Watson IoT Platform:



Node-RED Flow

Node-RED debug window:

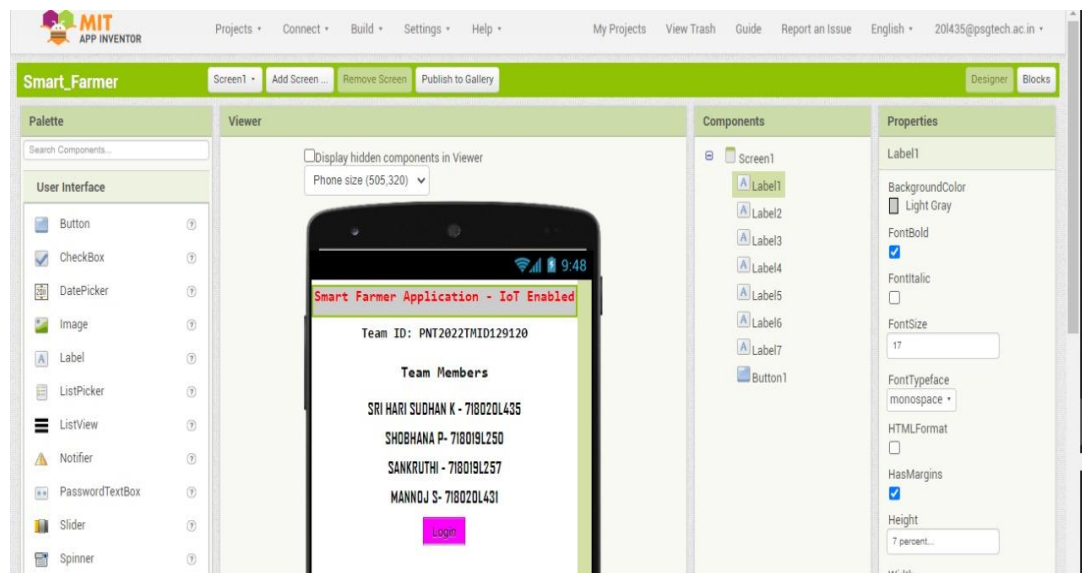


Temperature and Humidity values from the Wokwi simulator gets updated in the debug window of the Node-RED in the json file format.

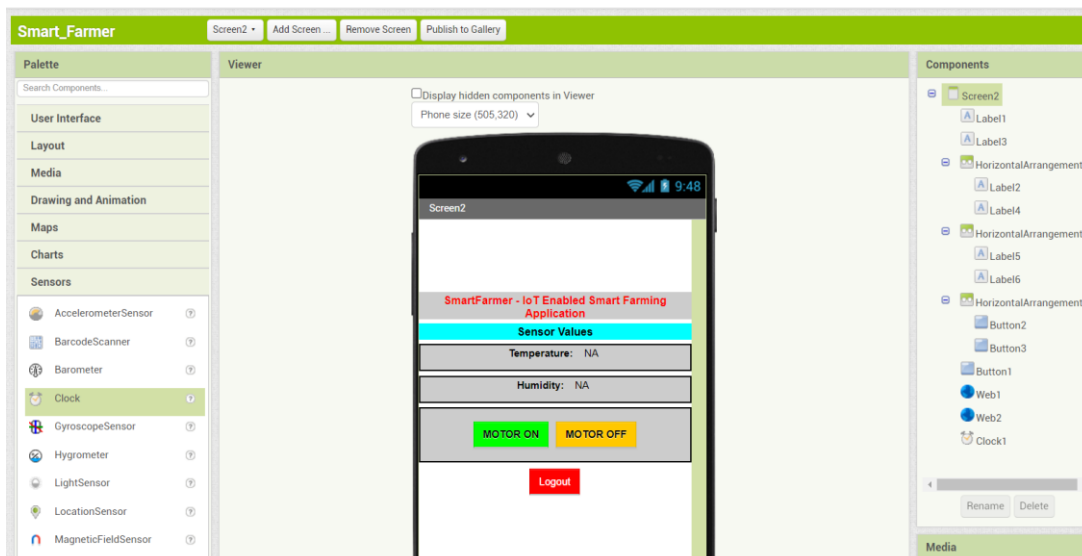
Displaying Temperature and Humidity values over the URL using http response:



MIT App inventor Front End:

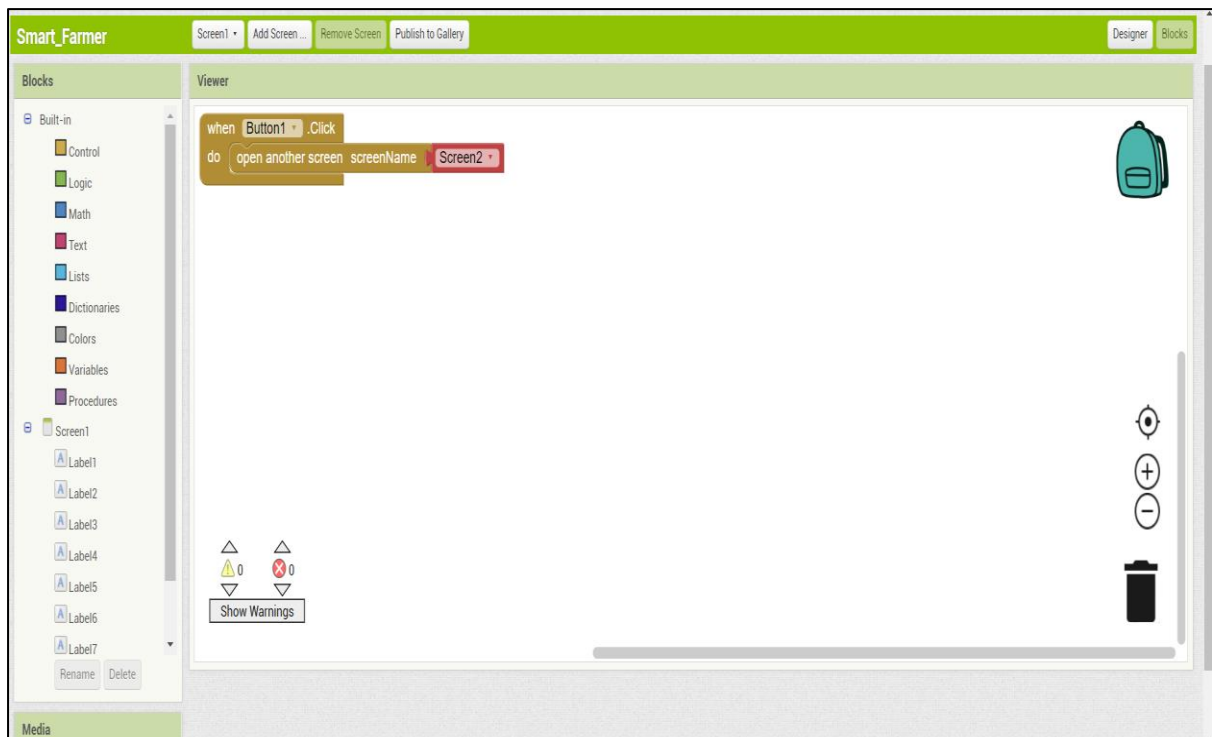


Screen 1

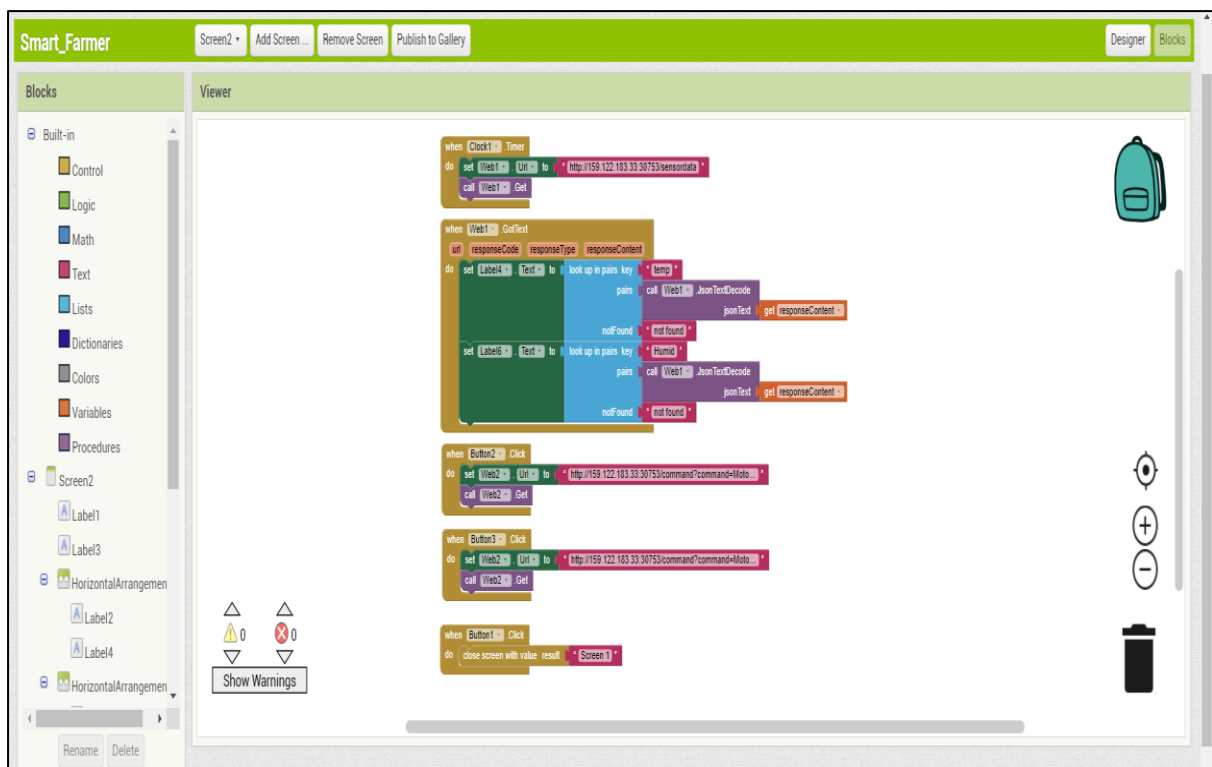


Screen 2

MIT App Inventor Back end:

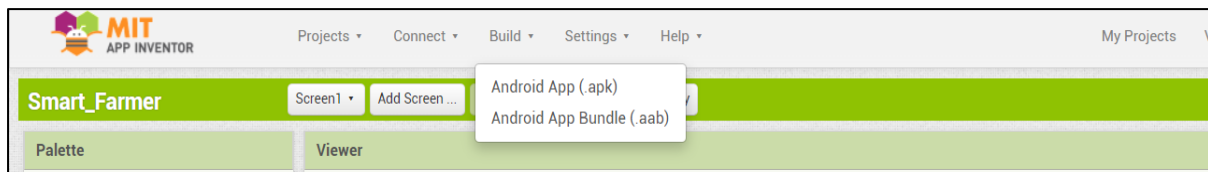


Screen 1



Screen 2

Exporting APK File:



Generated APK file:

▼ Today (5)

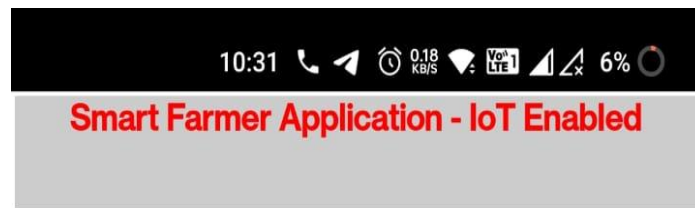
 Smart_Farmer.apk	15-11-2022 22:53	APK File	3,527 KB
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Size of the APK file: 3.5 MB

Once the apk file was generated, It can be installed in our mobile phones. After installing mobile application, sensor data like temperature and humidity will be updated to the mobile phone dashboard through Node-RED http request method.

Based on the temperature and humidity value, user can switch on/off the motor using the Motor On/OFF button in the screen 2.

Mobile Application:



Team ID: PNT2022TMID129120

Team Members

SRI HARI SUDHAN K - 718020L435

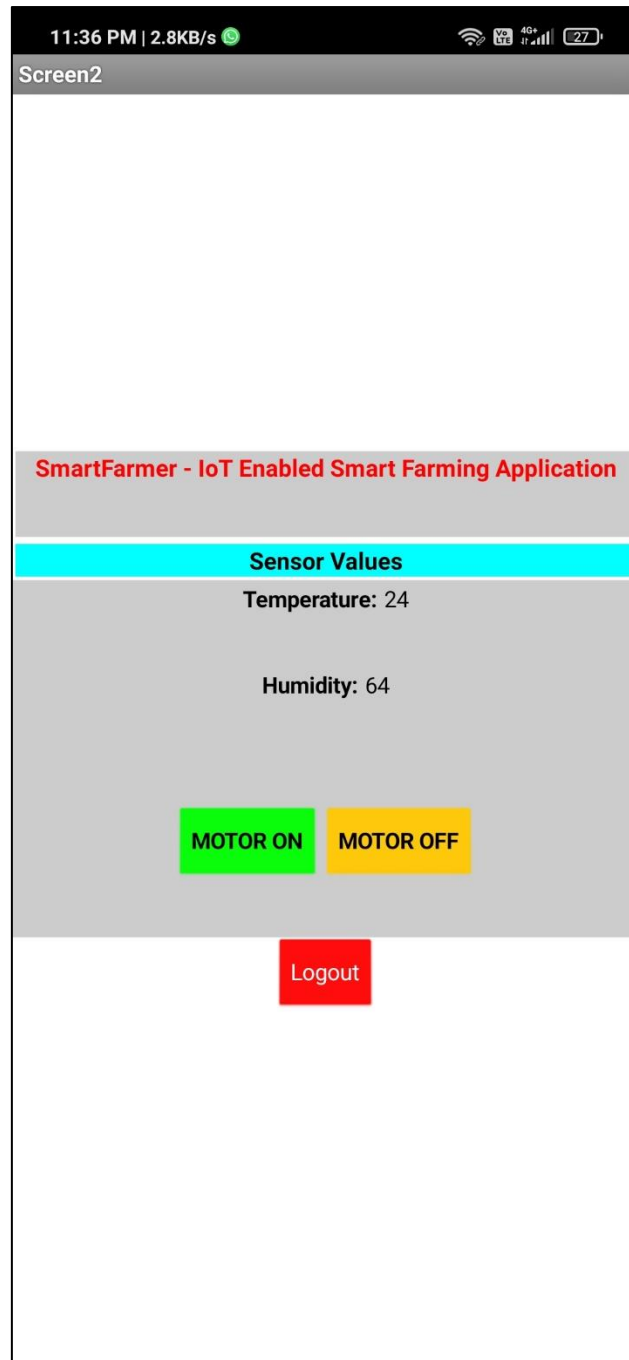
SHOBHANA P- 718019L250

SANKRUTHI - 718019L257

MANNOJ S- 718020L431



Screen 1



Screen 2

Pressing Motor ON Switch:

```
11/15/2022, 11:05:59 PM node: 22d3da6f051a4672  
msg.payload : Object  
▶ { command: "Motor On" }
```

If Motor On switch is pressed by the user, Motor On message will be received by the Node-RED tool. Then, the message will be updated to the IBM Watson IoT Platform.

Pressing Motor ON Switch:

```
11/15/2022, 11:06:27 PM node: 22d3da6f051a4672  
msg.payload : Object  
▶ { command: "Motor OFF" }
```

If Motor OFF switch is pressed by the user, Motor OFF message will be received by the Node-RED tool. Then, the message will be updated to the IBM Watson IoT Platform.