

# SPRINT 4

Team id	PNT2022TMID33244
Project Name	Smart Waste Management System For Metropolitan Cities

## Wokwi connection & Output:

The screenshot shows the Wokwi web interface with a project named 'Sprint4'. The left pane displays a C++ sketch for an ESP32 that publishes JSON data to a topic. The right pane shows a simulation of the ESP32 board connected to an HC-SR04 ultrasonic sensor. The output console shows the following sequence of events:

```
Publish OK
Sending payload: {"Load":5}
Publish OK
Sending payload: {"location":"Dindigul"}
Publish OK
Sending payload: {"Distance":34}
Publish OK
```

The screenshot shows the Wokwi web interface with the same project 'Sprint4'. The left pane displays a different C++ sketch for an ESP32 that publishes JSON data to a topic. The right pane shows the same simulation of the ESP32 board connected to an HC-SR04 ultrasonic sensor. The output console shows the following sequence of events:

```
Sending payload: {"location":"Dindigul"}
Publish OK
Sending payload: {"Distance":34}
Publish OK
Sending payload: {"Load":8}
Publish OK
```

## IBM Watson Output:

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area displays a table of devices. The selected device, 'revathy2001', is shown in detail below the table. It is a 'Revathyhub' device, added on 'Oct 31, 2022 12:16 PM'. The 'Recent Events' tab is active, showing a stream of data events. The events are as follows:

Event	Value	Format	Last Received
Data	{"Distance":34}	json	a few seconds ago
Data	{"location":"Dindigul"}	json	a few seconds ago
Data	{"Load":1}	json	a few seconds ago
Data	{"Distance":34}	json	a few seconds ago
Data	{"location":"Dindigul"}	json	a few seconds ago

The screenshot shows the IBM Watson IoT Platform 'Load' dashboard. The top navigation bar includes 'Load', 'Add New Card', and 'Settings'. The dashboard displays two gauge cards. The first gauge shows a value of '3.0 kg' and the second gauge shows a value of '163.0 cm'. A status bar at the bottom indicates '1 Simulation running'.

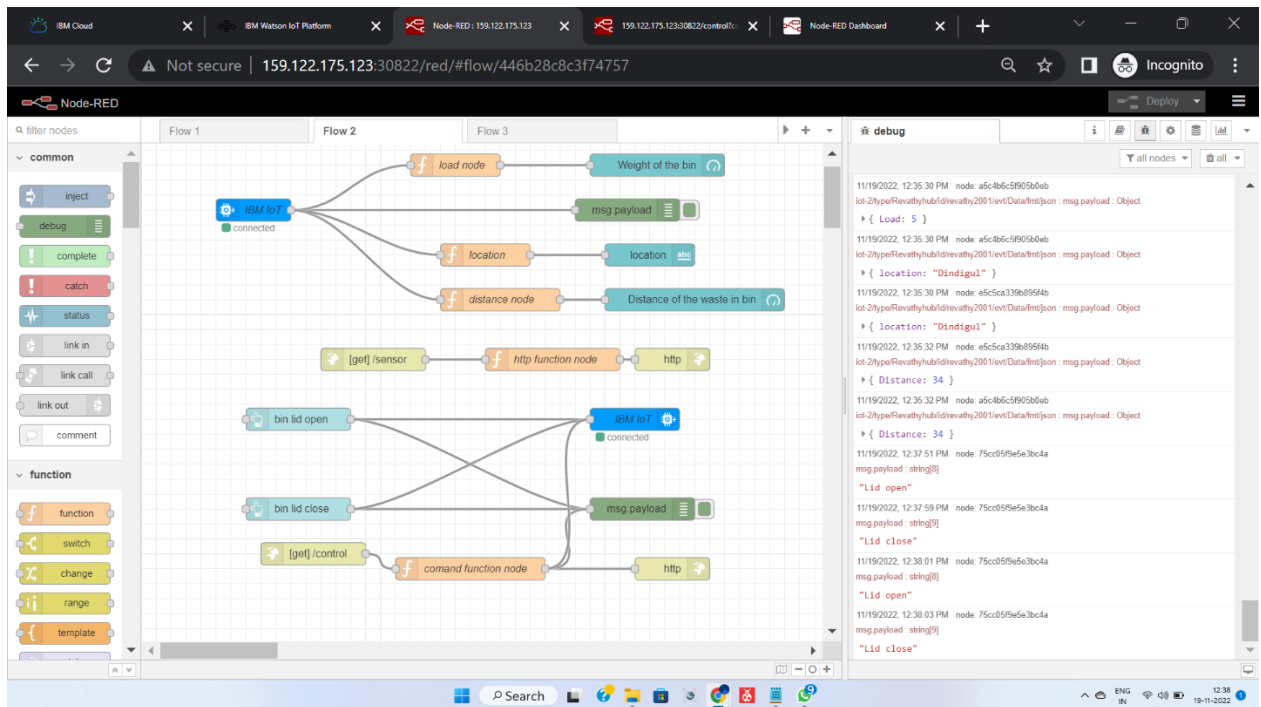
## Node-Red Output:

The screenshot shows the Node-RED web interface in a browser. The flow consists of three main parts: 1) An IBM IoT node connected to three function nodes (load node, location, distance node) which output to 'Weight of the bin', 'location', and 'Distance of the waste in bin' respectively. 2) A [get] /sensor node connected to an http function node which outputs to an http node. 3) Two IBM IoT nodes (bin lid open, bin lid close) connected to a msg payload node, which is also connected to a [get] /control node and a command function node. The debug console on the right shows a series of JSON payloads from the IoT nodes, including location and distance data.

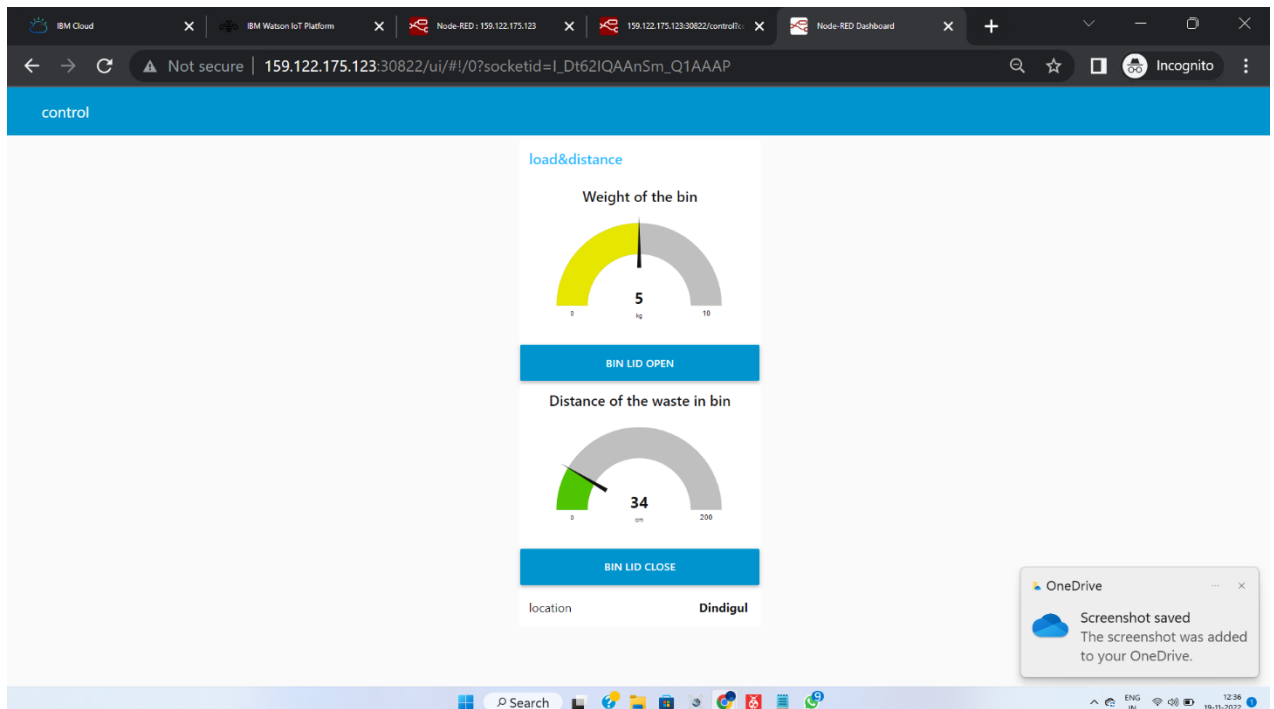
```
11/19/2022, 12:33:08 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Location: "Dindigul" }  
11/19/2022, 12:33:17 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Distance: 34 }  
11/19/2022, 12:33:18 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Distance: 34 }  
11/19/2022, 12:33:20 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Load: 1 }  
11/19/2022, 12:33:20 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Location: "Dindigul" }  
11/19/2022, 12:33:37 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Location: "Dindigul" }  
11/19/2022, 12:33:40 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Distance: 34 }  
11/19/2022, 12:33:41 PM node: a5c4b6c5905b0ab  
iot-2type/Revathyhub/direvathy2001textData/fmt/json : msg payload : Object  
> { Distance: 34 }
```

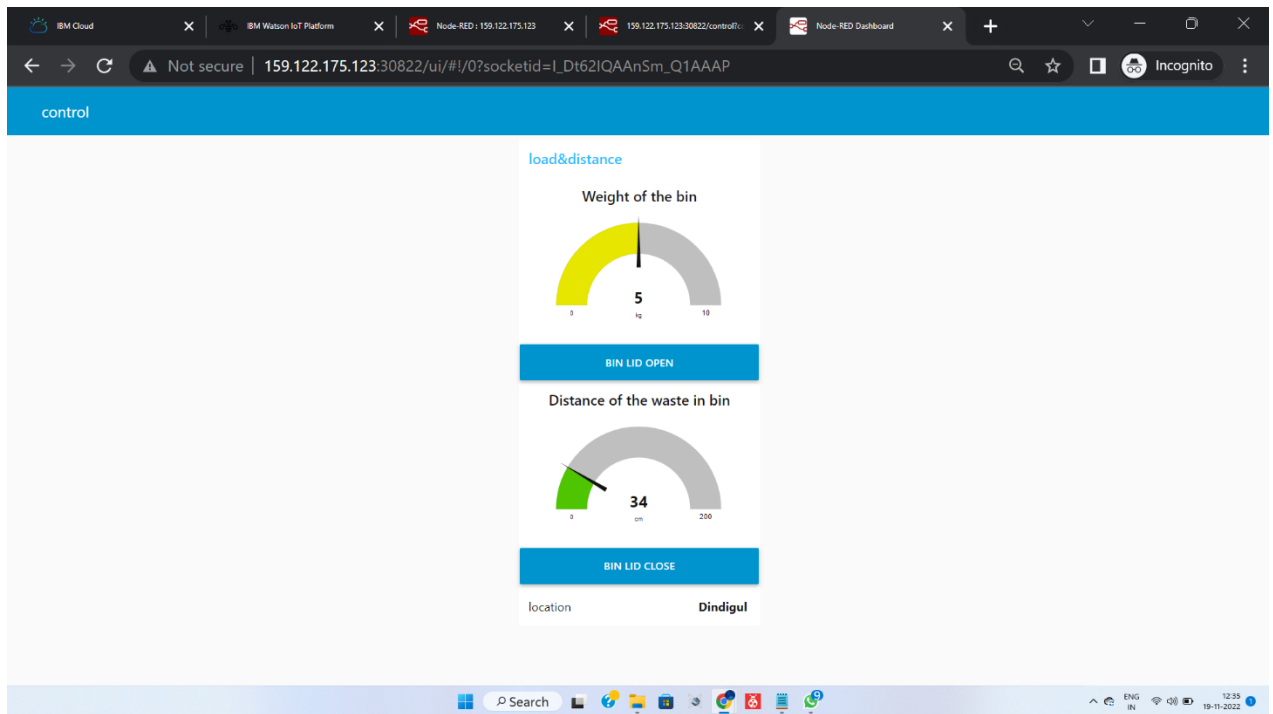
The screenshot shows the same Node-RED web interface, but the debug console now displays string payloads instead of JSON objects. The flow structure is identical to the first screenshot, but the data being received from the IoT nodes is now simple strings like "Lid open" and "Lid close".

```
11/19/2022, 8:11:11 AM node: 75cd959e5e3bc4a  
msg.payload : string[5]  
"Lid open"  
11/19/2022, 8:11:12 AM node: 75cd959e5e3bc4a  
msg.payload : string[5]  
"Lid close"  
11/19/2022, 8:11:14 AM node: 75cd959e5e3bc4a  
msg.payload : string[5]  
"Lid open"  
11/19/2022, 8:11:14 AM node: 75cd959e5e3bc4a  
msg.payload : string[5]  
"Lid close"
```

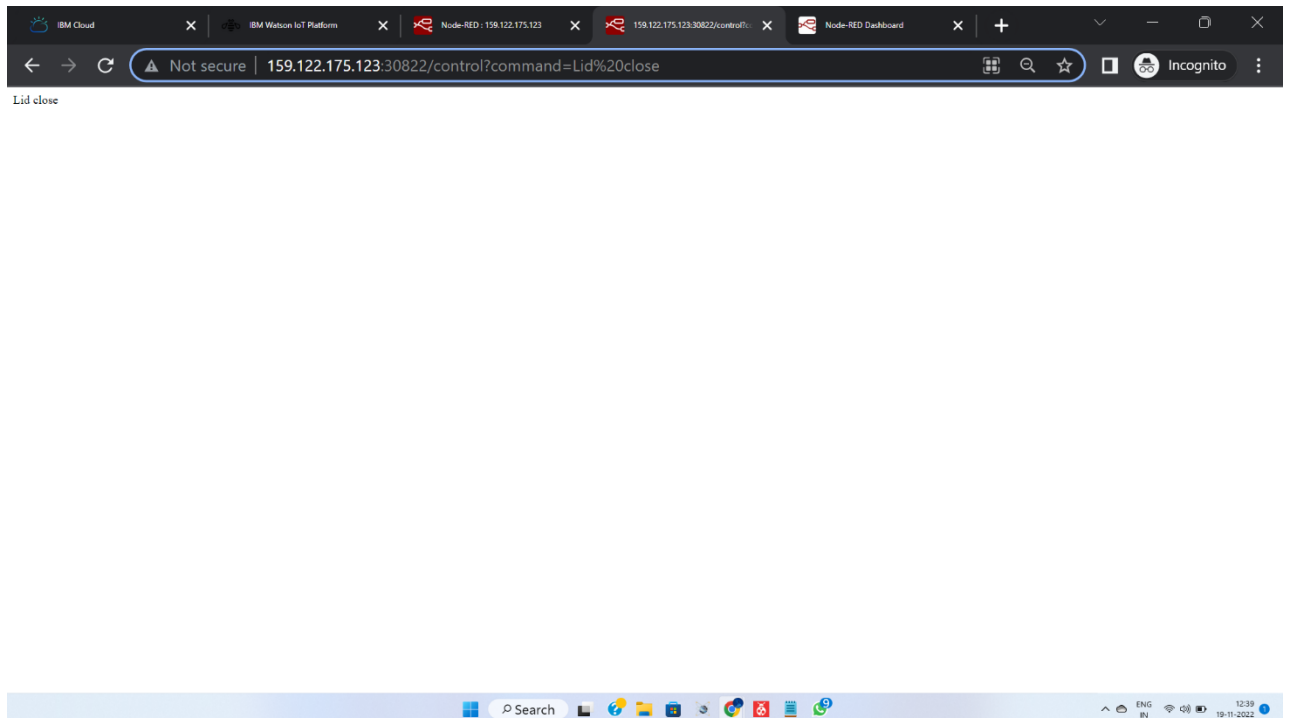


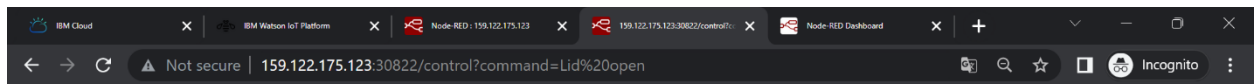
## Node-Red output in UI:





**Node-Red output in url:**

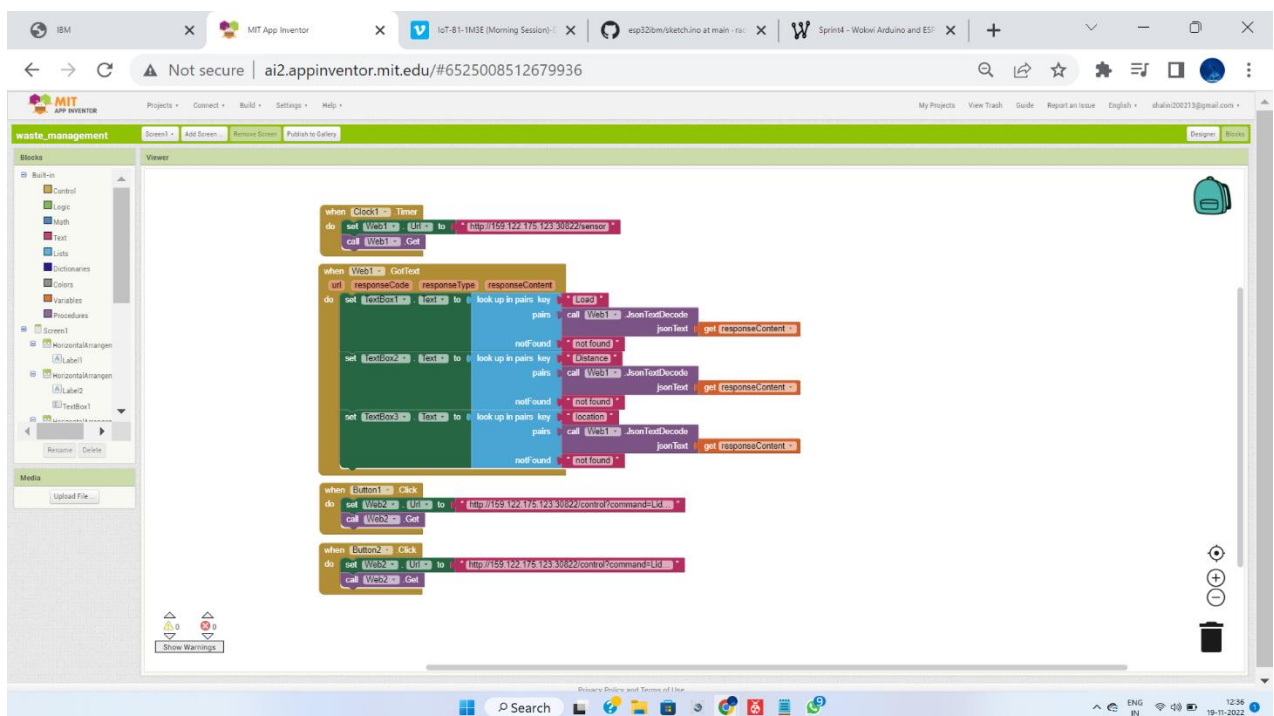


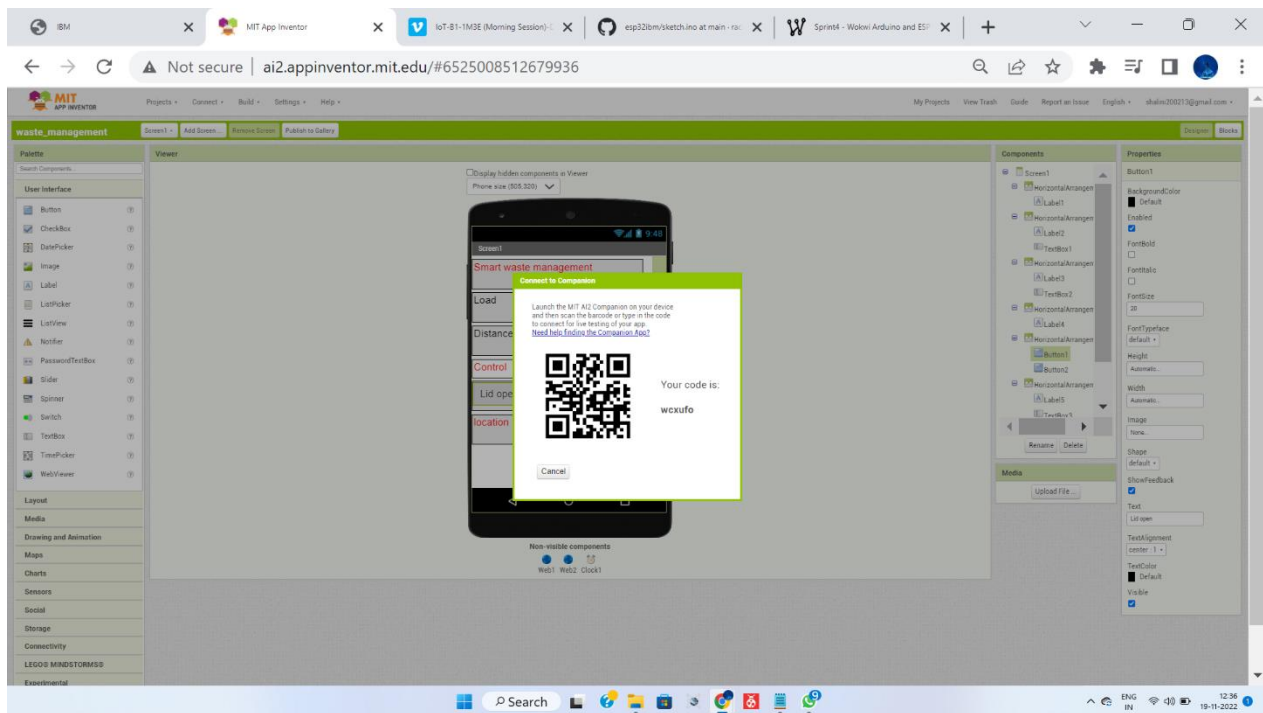
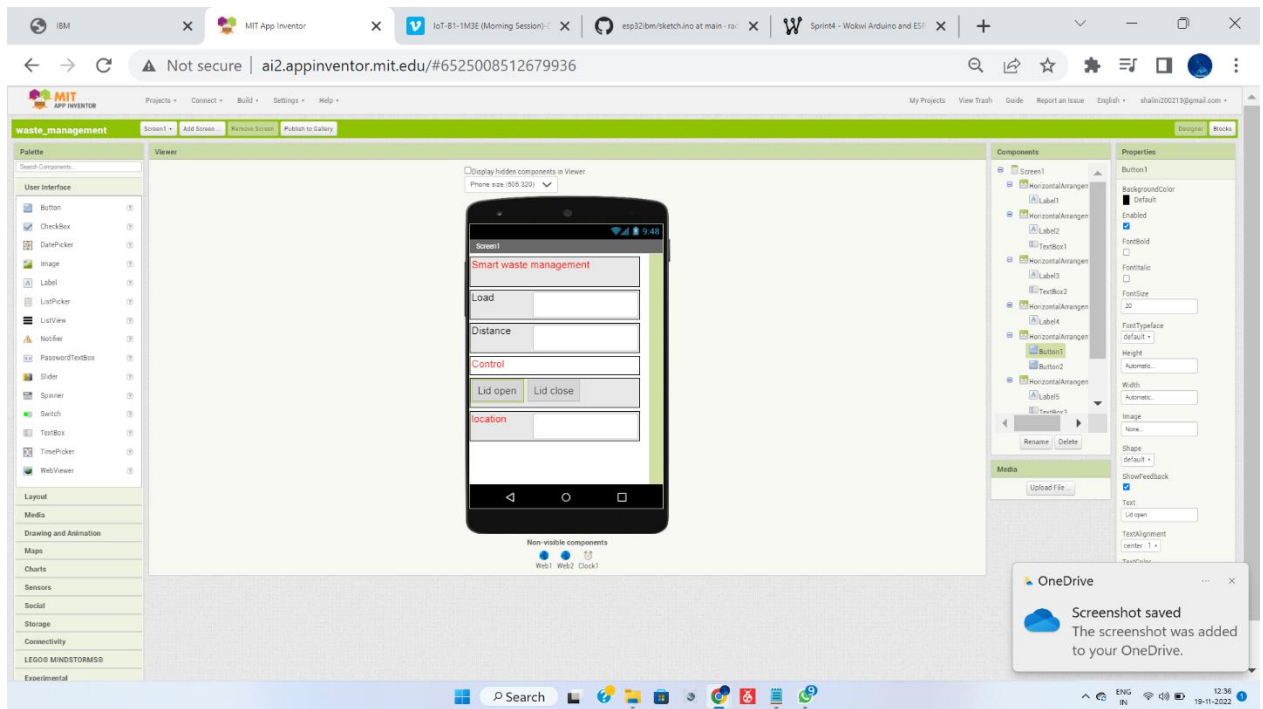


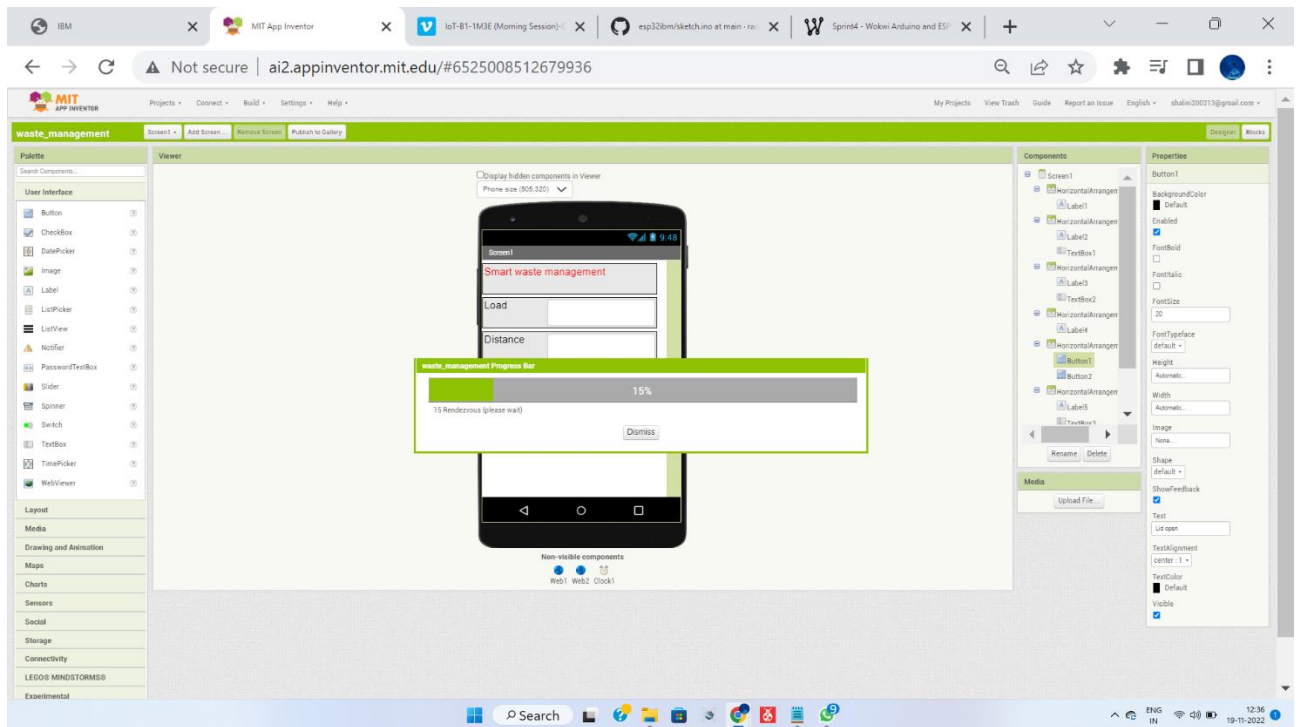
Lid open



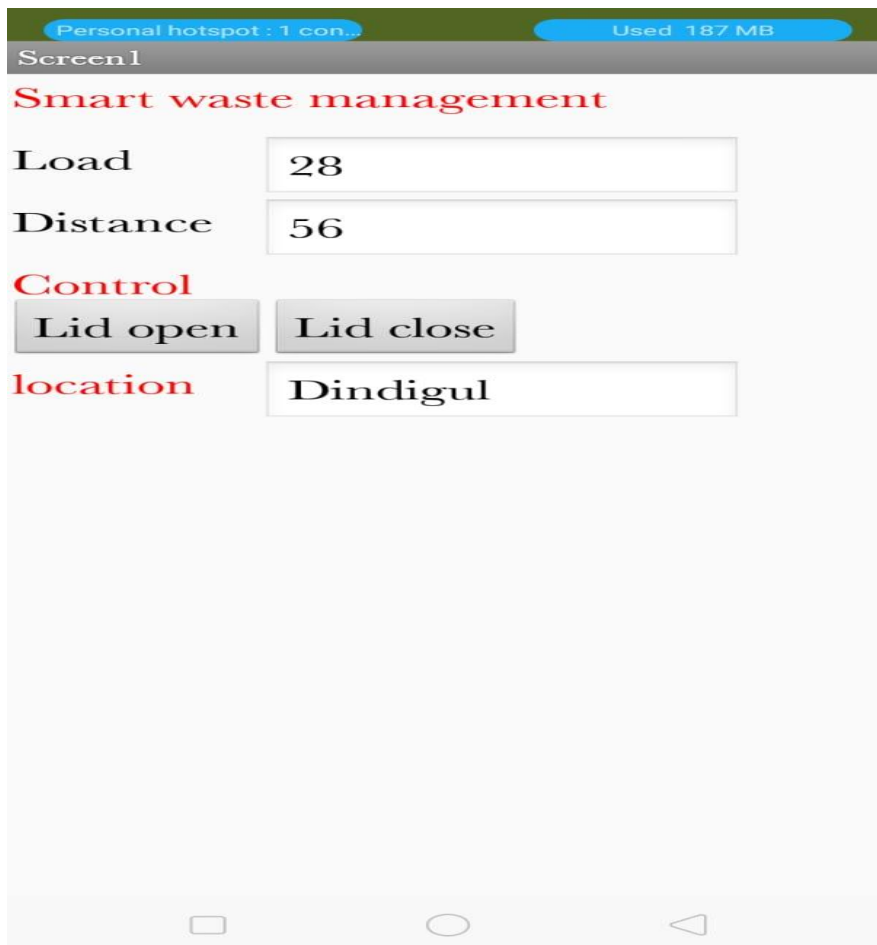
MIT app :







## MIT App output in Mobile:





Screen1

## Smart waste management

Load

Distance

### Control

location

