Smart Animal Farm Using IoT

Team members

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Introduction

- Today the world technology has been improved a lot .
- where everything getting automated which further decreasing manual work by humans and making existence easier.
- By using this technology ,our work is going to be done much more efficient and error free manner.

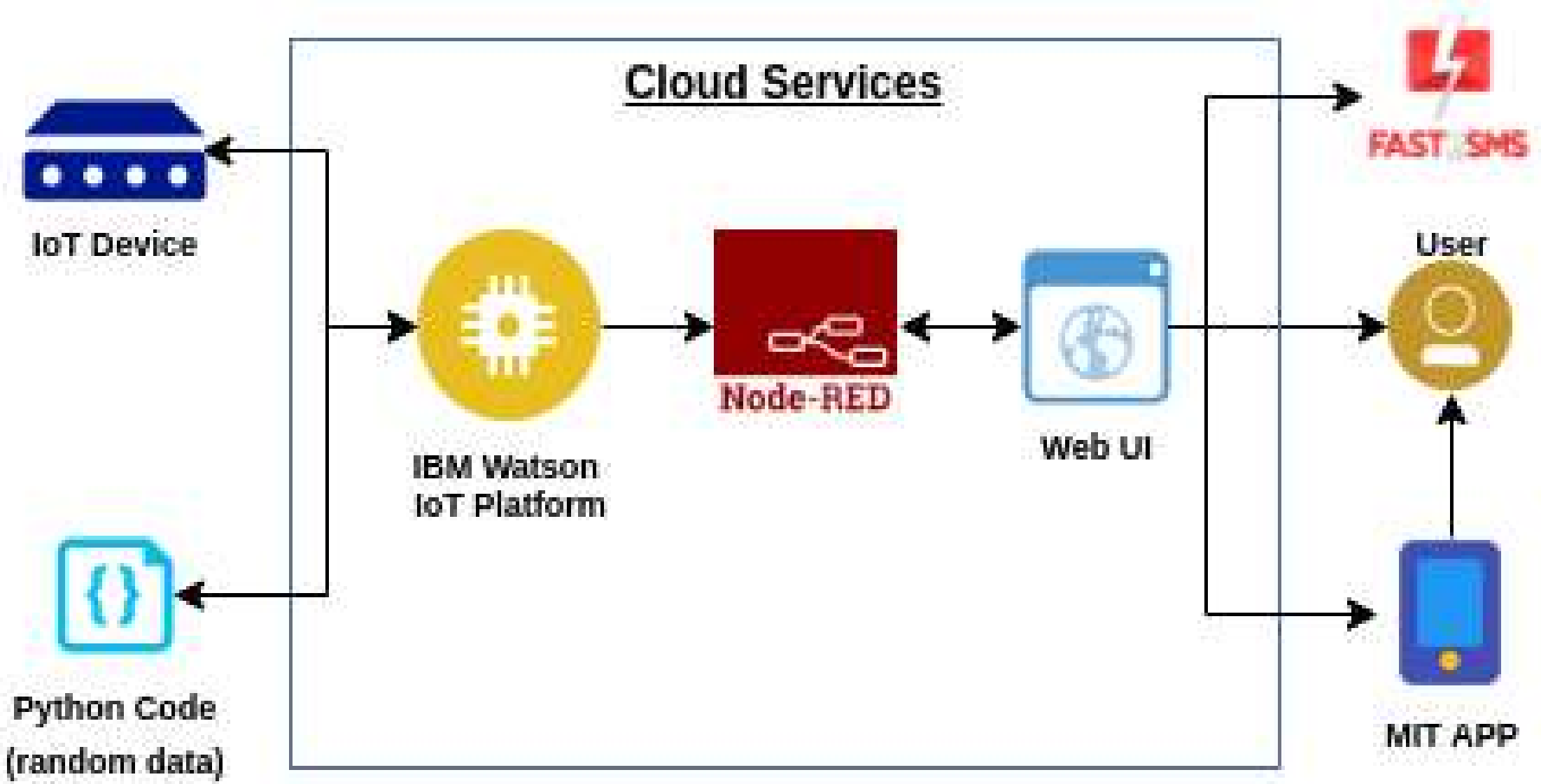
problem statement

- Smart Animal Farm Using IoT
- Features:
- It measures various environmental parameters like temperature, humidity, ammonia gas which plays a vital role in poultry operations.
- Operators can get updates regarding the internal environmental situation of animal farms by accessing the data using a web page or mobile app.
- With the help of a mobile app or web page, we can control the water pump as per the water level in the tank for a continuous supply of water to the farm.
- With the temperature and humidity values, the exhaust and blower fans are self-regulated and can also be controlled manually.
- The lighting in the farm is also adjustable by the LEDs through Web and Mobile App.
- The flame sensor is interfaced in the farm to avoid any fire accidents.

ADVANTAGES

- By using iot in animal form we can monitor the environment easily
- The food and water to the form is supplied in time.
- Further we can decrease the chance of fire accidents in the forms especilly in closed environment.
- we can save the electricity and water with the sensor integration in the form .

Architecture



Project progress steps

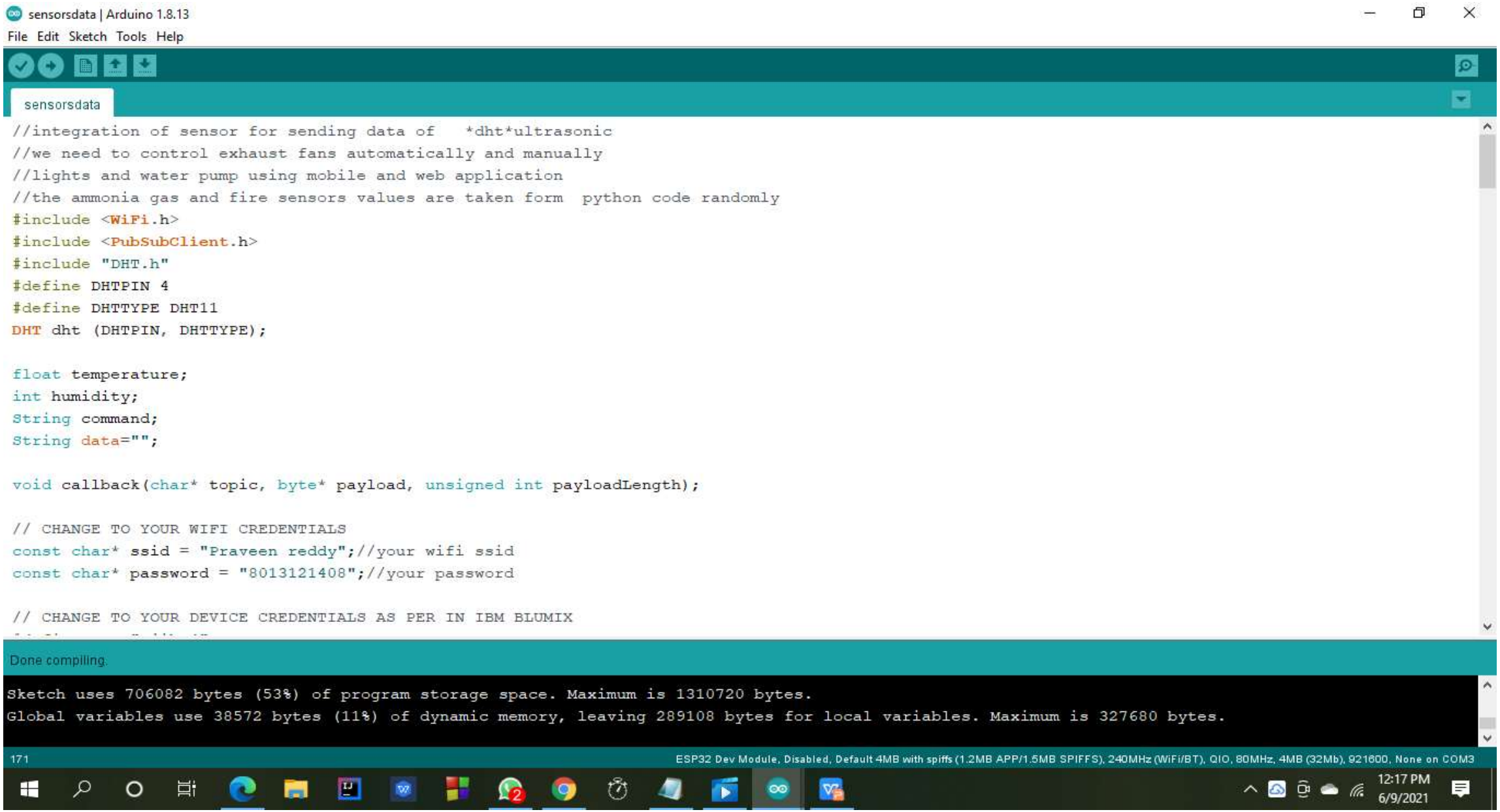
- Writing the code for esp32 to send the vlaues Temperature ,Humidity,Ultrasonic sensor values to nodered and cloudantdb
- python code for sending the random values of ammonia gas and fire .

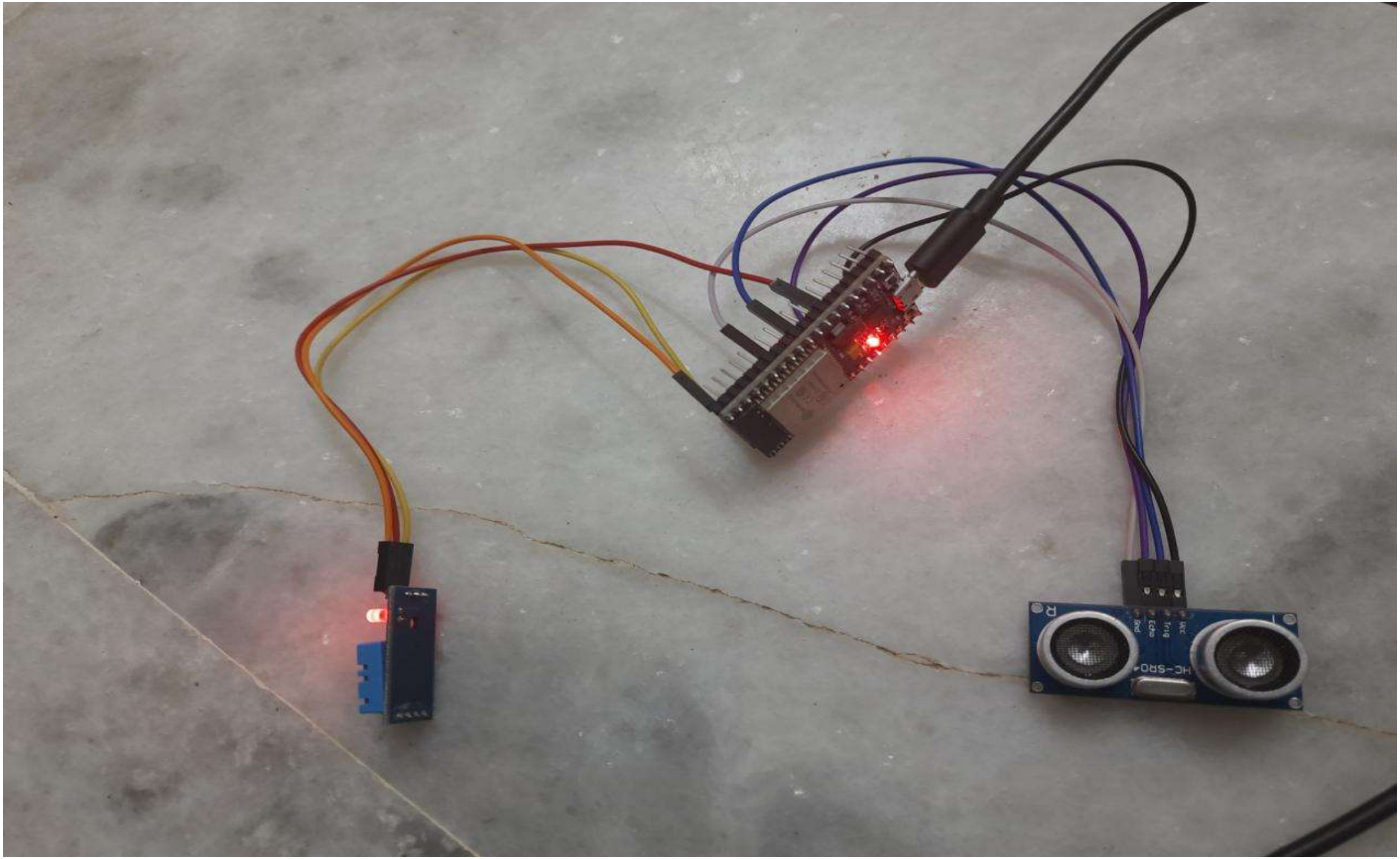
- Designing a web ui for displaying the values and controlling the lights ,pump ,and exhaust fans in the form.

- Designing a mobile application using mit app .to display the sensor data and control the light pump and exhaust of the form.

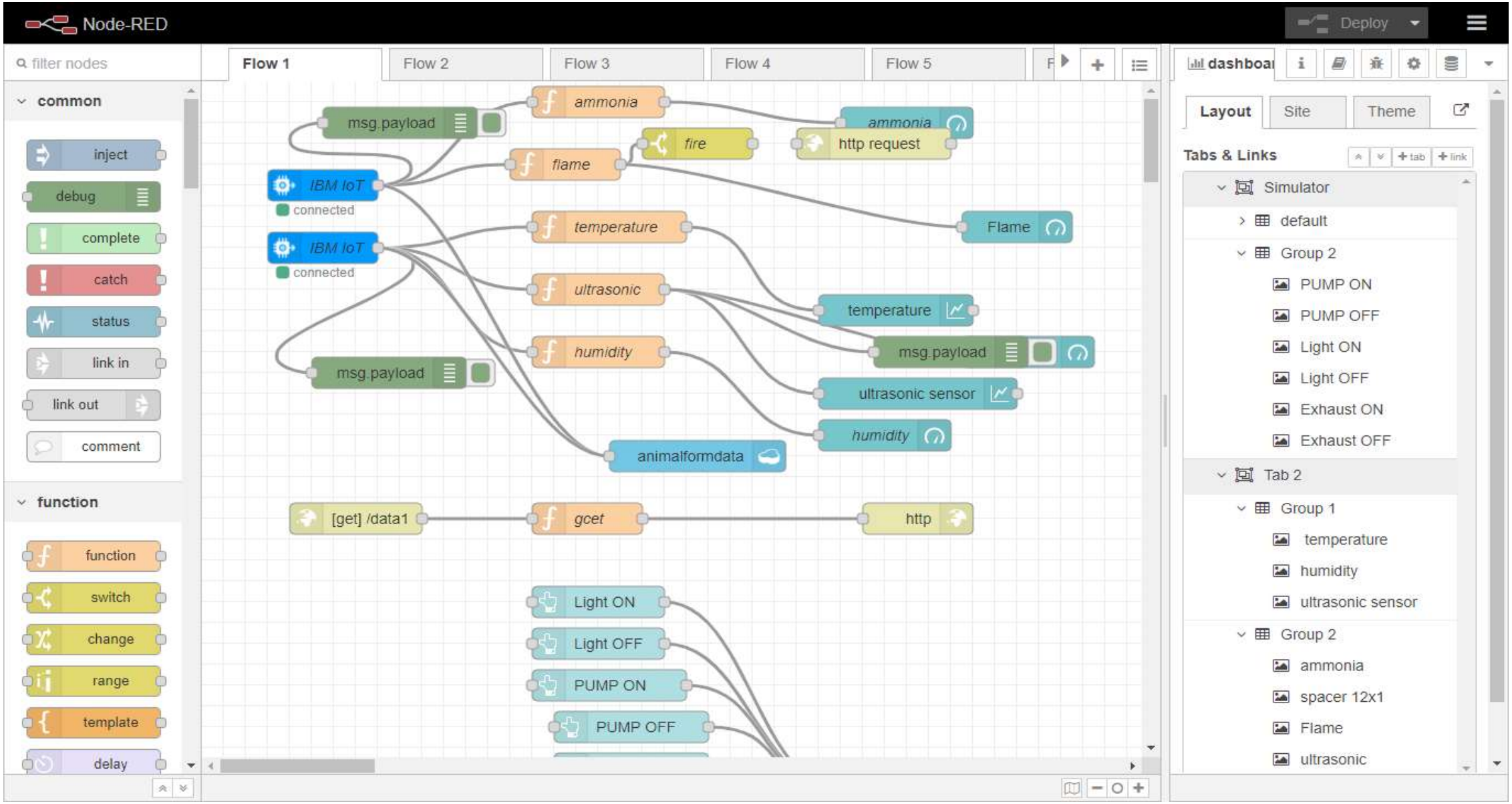
- Making the operations automated and getting the status of the farm in web as well as mobile application
- integrating message alerts in case of fire and harmful gases.

configuring the ardunio code




HC-SR04

node red application

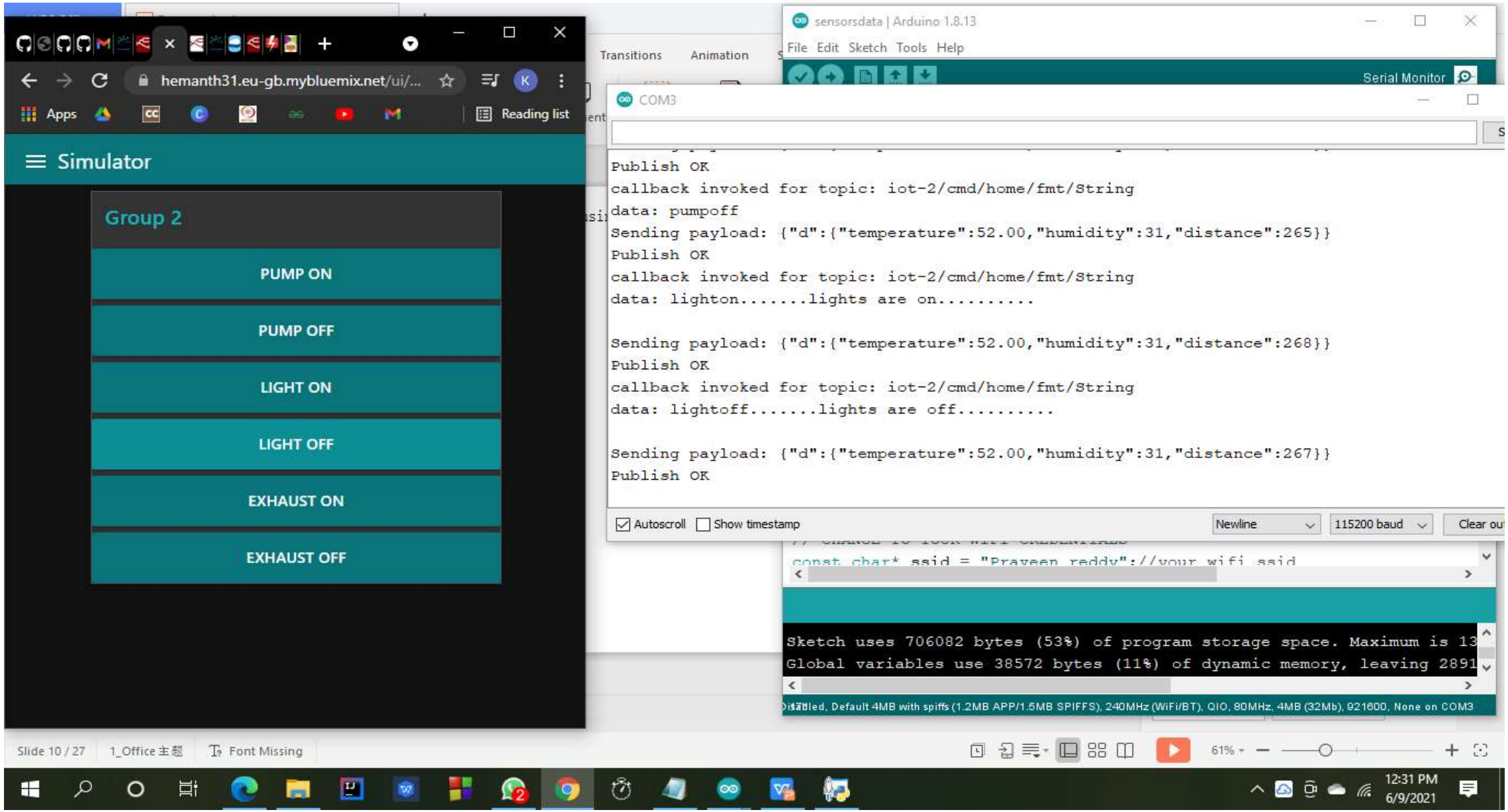


web ui

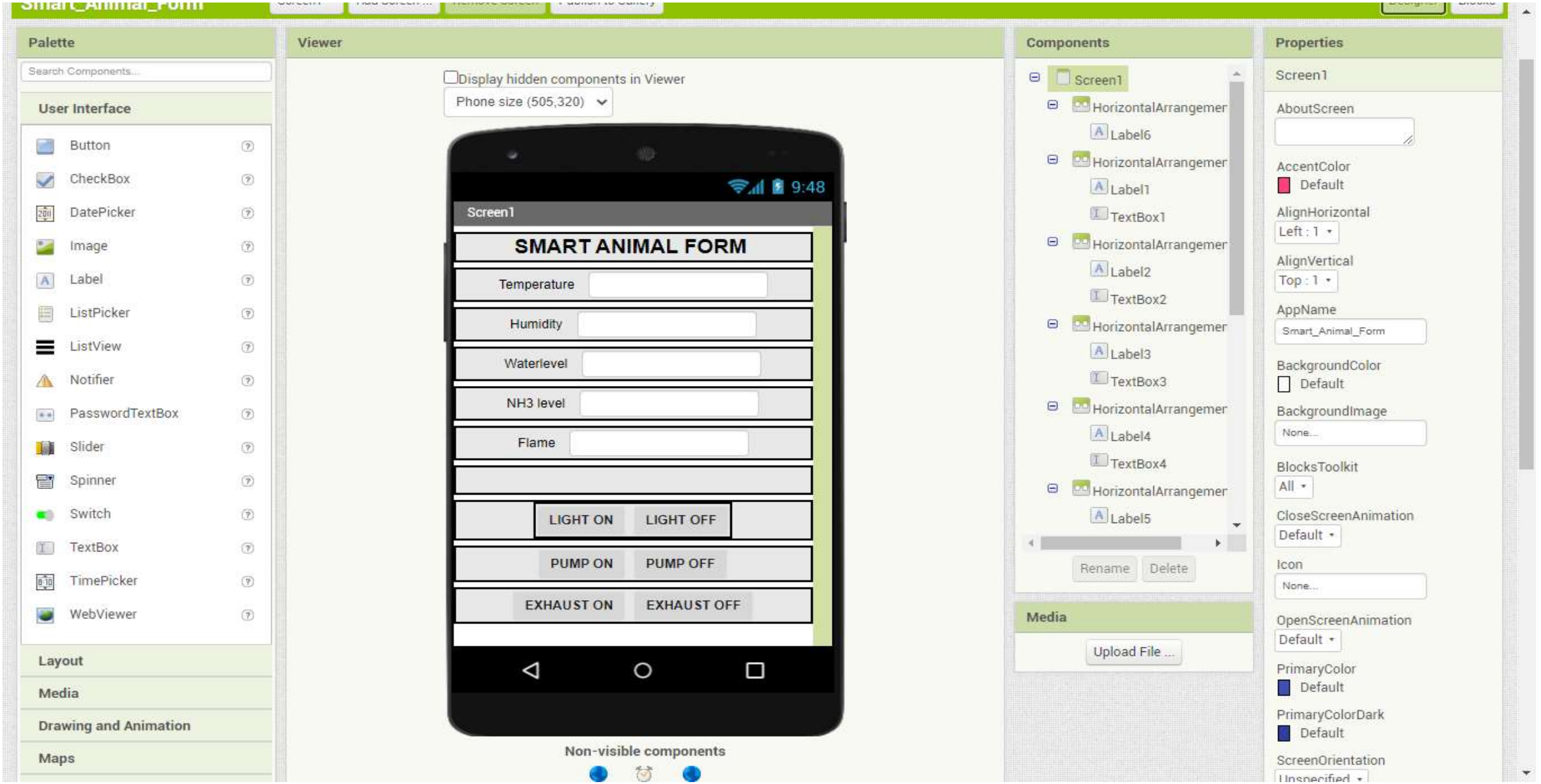

Tab 2
75
50
25
0
iot-2/type/Esp32/id/12345/evt/Data/fmt/json
76
0
units
100
Humidity
30
0
units
100
Flame
1
0
units
1
ultrasonic sensor


Tab 2
Press F11 to exit full screen
30
0
units
100
0
0
units
1
ultrasonic sensor
1,000
750
500
250
0
iot-2/type/Esp32/id/12345/evt/Data/fmt/json
ultrasonic
240
0
units
1000

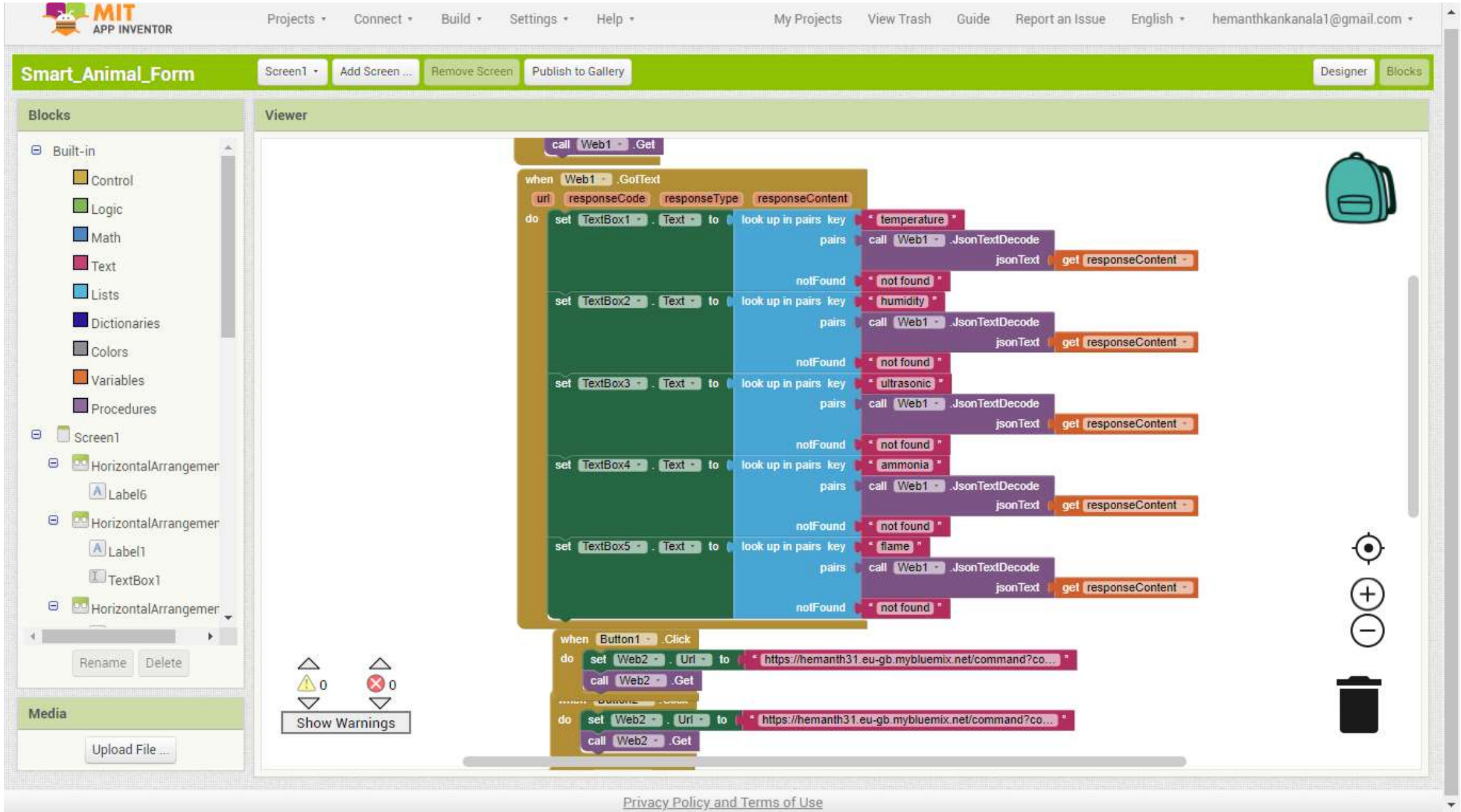
controlling using web ui buttons



mobile application



code part of mit app



Smart_Animal_Form | Screen1 | Add Screen ... | Remove Screen | Publish to Gallery | Designer | Blocks

Blocks

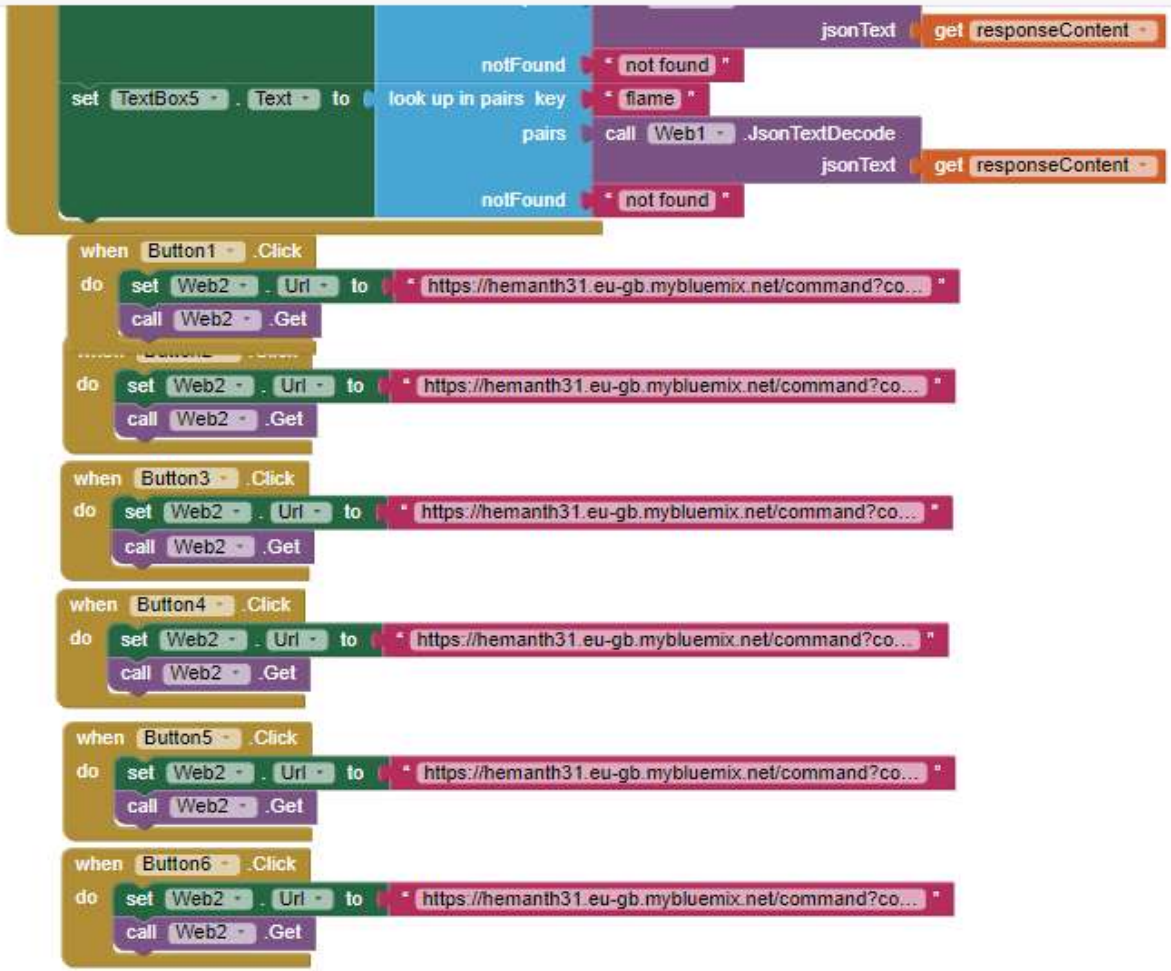
- Built-in
  - Control
  - Logic
  - Math
  - Text
  - Lists
  - Dictionaries
  - Colors
  - Variables
  - Procedures
- Screen1
  - HorizontalArrangemer
    - Label6
  - HorizontalArrangemer
    - Label1
    - TextBox1
  - HorizontalArrangemer

Rename | Delete

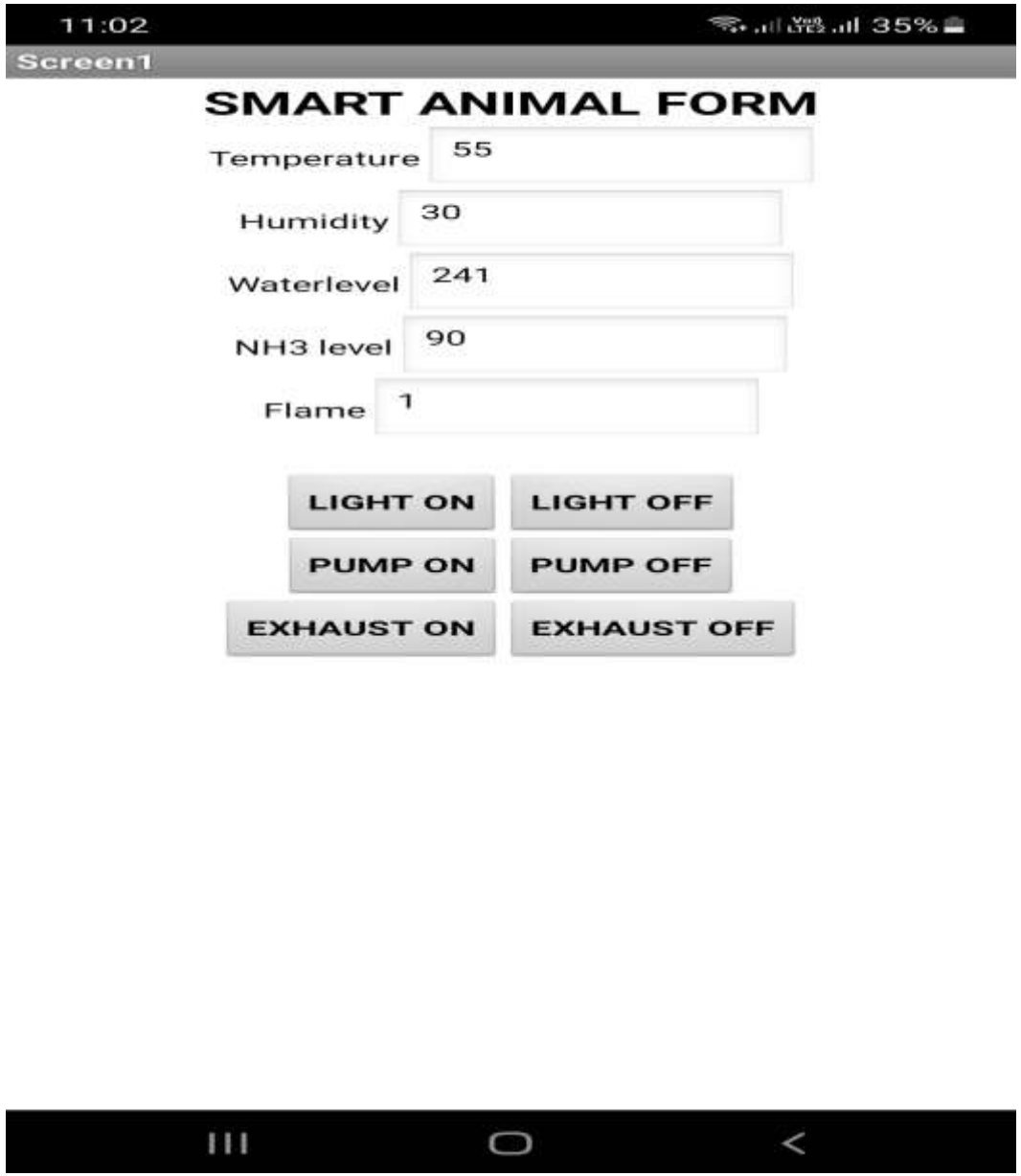
Media

Upload File ...

Viewer

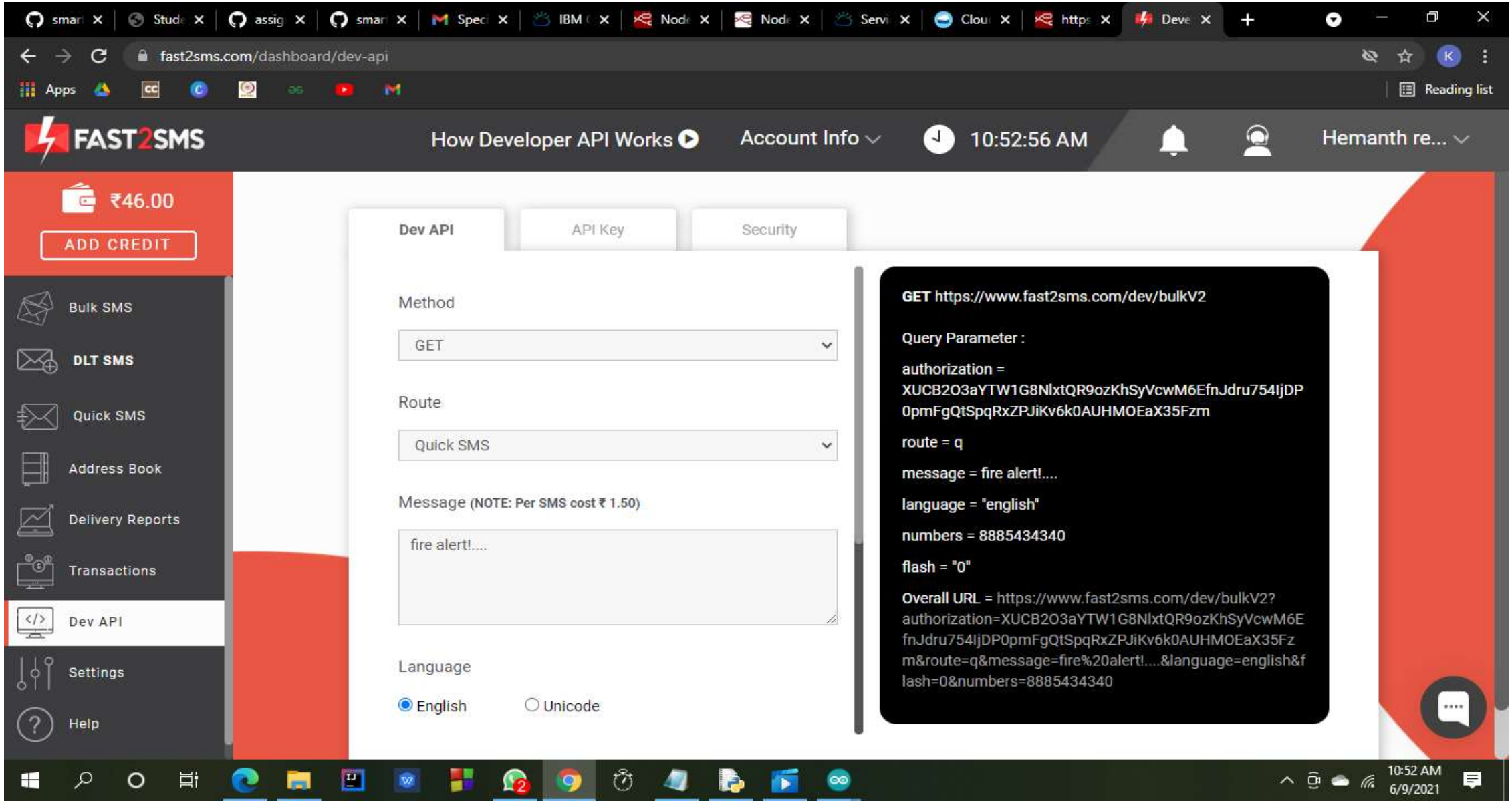


0 0 Show Warnings



displaying the data in the mobile.

fast 2 sms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ADD CREDIT
Bulk SMS
DLT SMS
Quick SMS
Address Book
Delivery Reports
Transactions
Dev API
Settings
Help
Dev API
API Key
Security
Method
GET
Route
Quick SMS
Message (NOTE: Per SMS cost ₹ 1.50)
fire alert!....
Language
English
Unicode
GET https://www.fast2sms.com/dev/bulkV2
Query Parameter :
authorization = XUCB2O3aYTW1G8NlxtQR9ozKhSyVcwM6EfnJdru754IjDP0pmFgQtSpqRxZPJiKv6k0AUHMOEaX35Fzm
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message = fire alert!....
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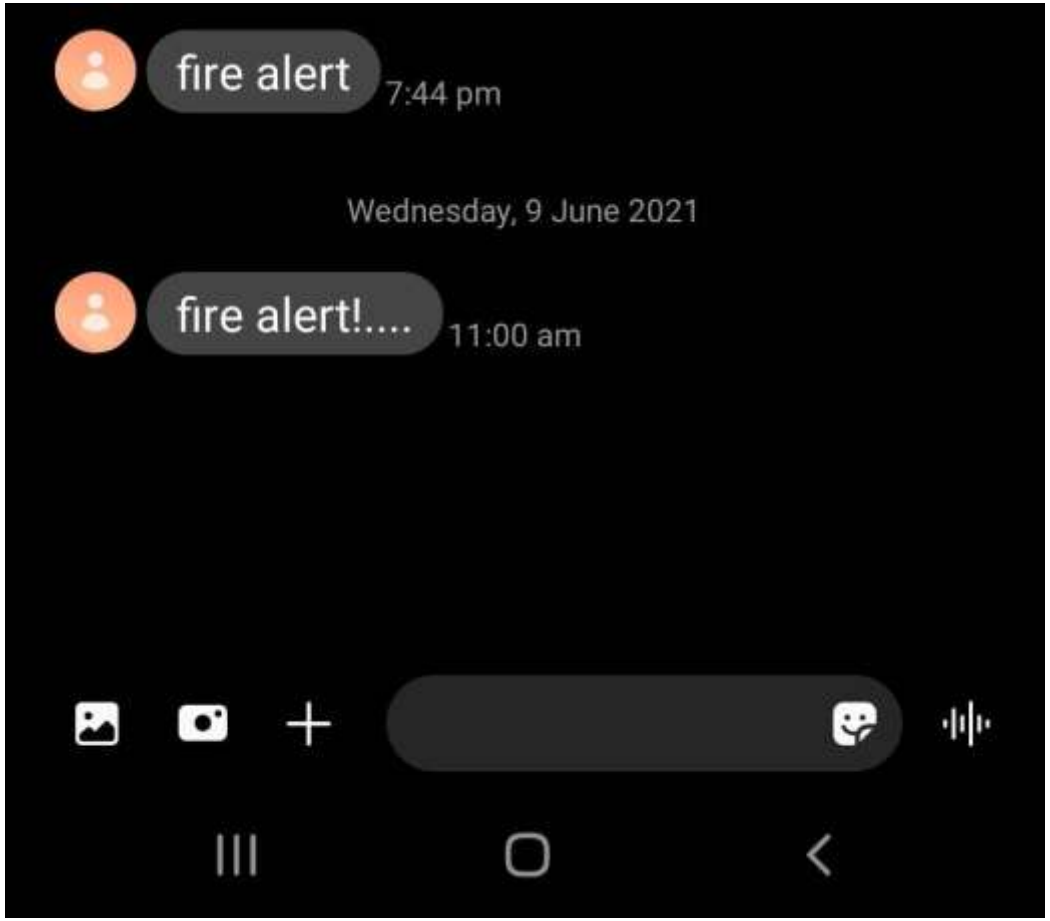
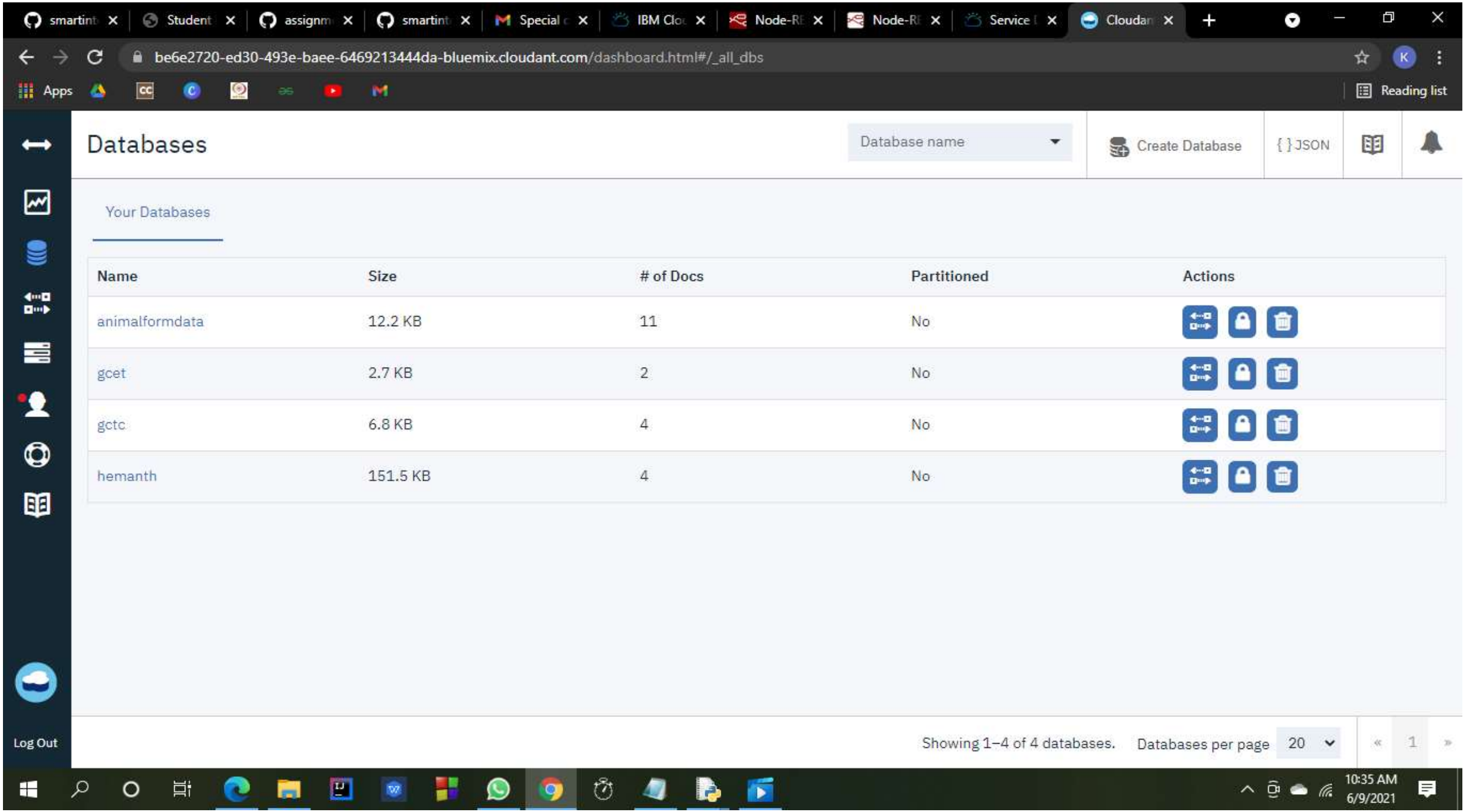
10:52 AM
6/9/2021

fast to sms

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Apps
Reading list
Databases
Database name
Create Database
{ } JSON
Your Databases
Name
Size
# of Docs
Partitioned
Actions
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12.2 KB
11
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gcet
2.7 KB
2
No
gctc
6.8 KB
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Log Out
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Databases per page
20
1
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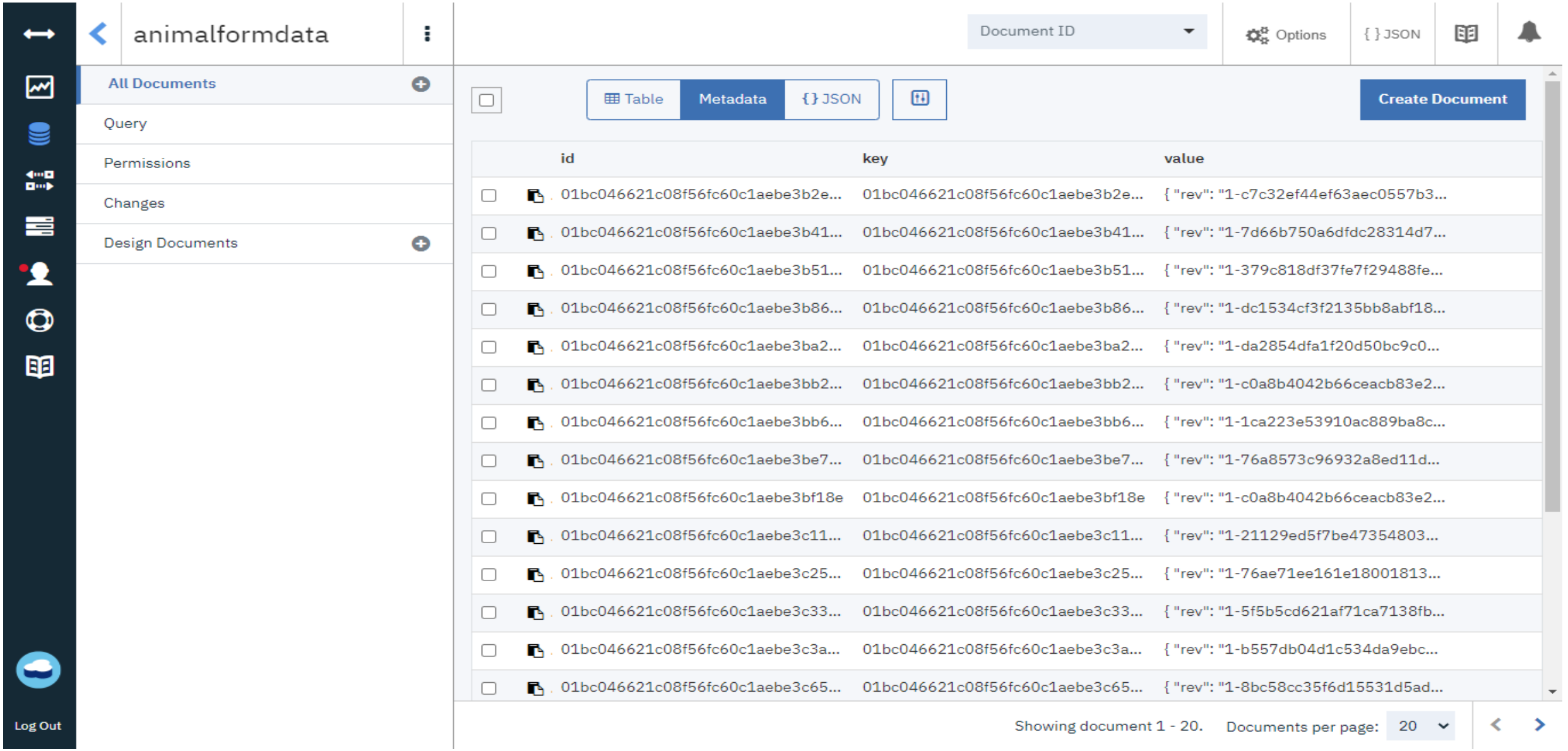
6/9/2021

cloudant db


animalformdata
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Query
Permissions
Changes
Design Documents
Log Out
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Options
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Table
Metadata
{ } JSON
Create Document
id
key
value
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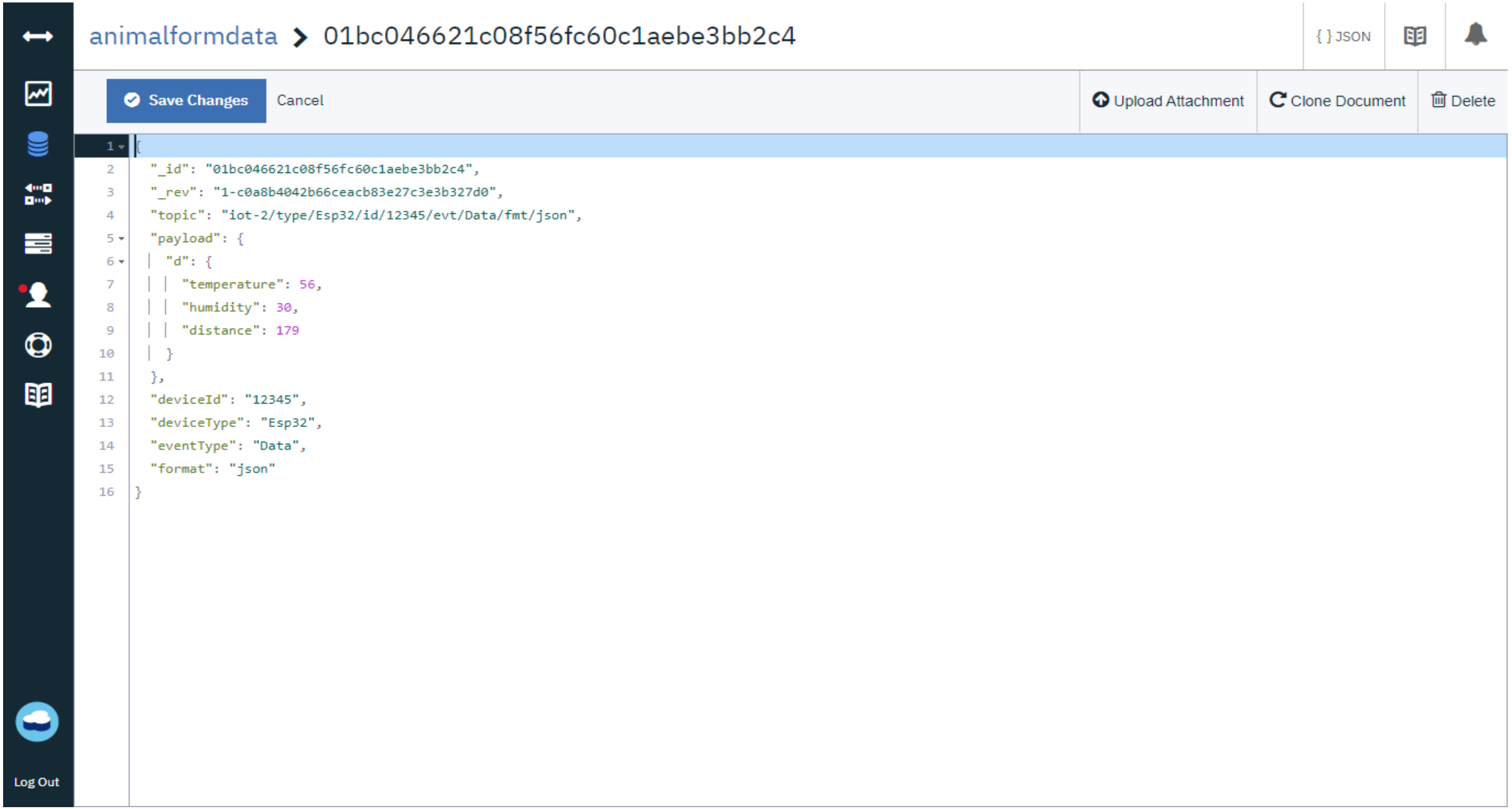
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Save Changes
Cancel
Upload Attachment
Clone Document
Delete
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Log Out

Thank you