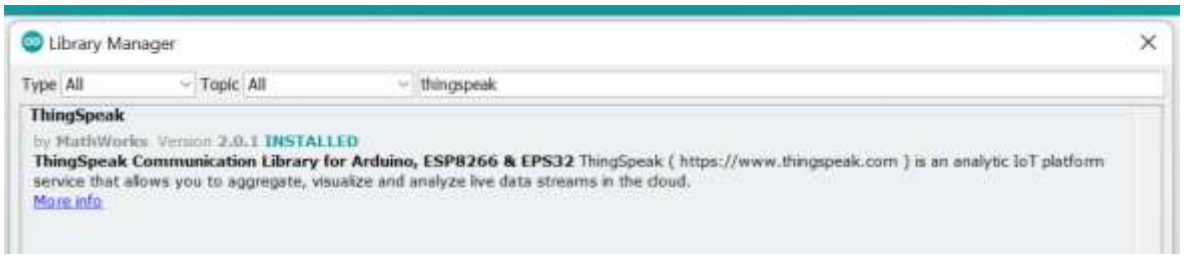
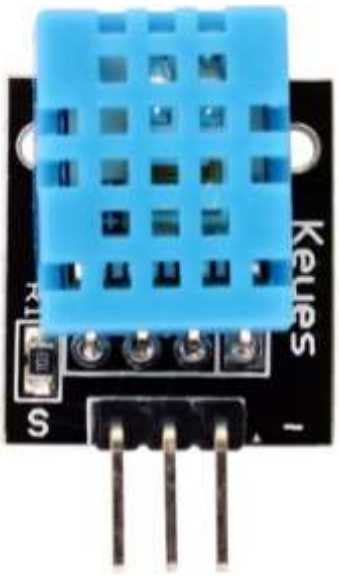
5. Humidity and Temp Monitoring and Analysis Using Things Speak/Think view and NodeMCU

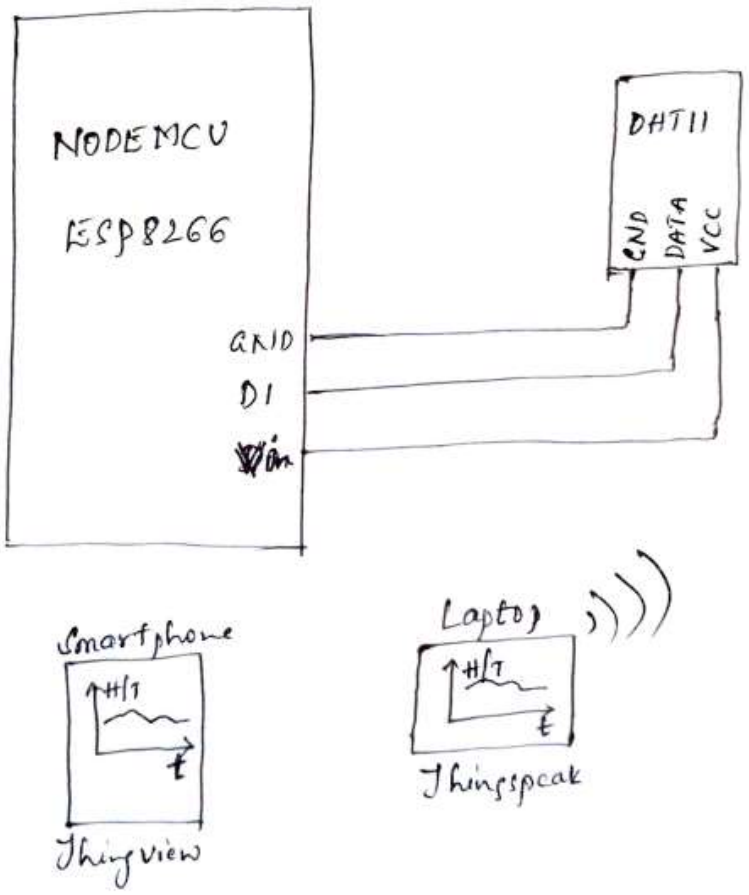
REQUIREMENTS:

A. **NODEMCU8266 + USB To Micro-USB**
B. **DHT11**
C. **ThingSpeak IoT Web Server**
D. **ThingView IoT App + Widgets**
E. **Jumpers**
F. **Arduino IDE**





BLOCK DIAGRAM:

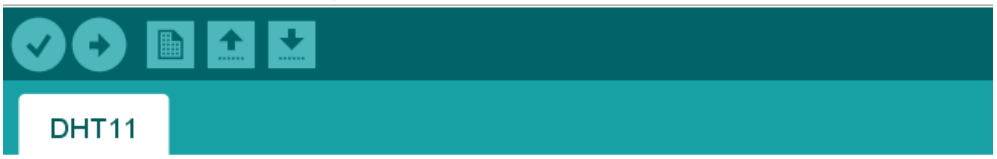


CODE:

```
#include <ESP8266WiFi.h>
#include <DHT.h>
#include <ThingSpeak.h>

const char *ssid =  "TVN";
const char *pass =  "ndtv@1234";

long channelID = 1916325;
const char writeAPIkey[] = "6E3CKTGZCUFRRG8H";

WiFiClient client;
DHT dht(D1, DHT11);
```

```
void setup()
 {
   Serial.begin(9600);
   WiFi.begin(ssid, pass);
   while(WiFi.status() != WL_CONNECTED)
   {
    delay(200);
    Serial.print("..");
   }
   Serial.println();
   Serial.println("NodeMCU is connected!");
   Serial.println(WiFi.localIP());
   dht.begin();
   ThingSpeak.begin(client);
 }

void loop()
 {
   float h = dht.readHumidity();
   float t = dht.readTemperature();
   Serial.println("Temperature: " + (String) t);
   Serial.println("Humidity: " + (String) h);
   ThingSpeak.writeField(channelID, 1, t, writeAPIkey);
   ThingSpeak.writeField(channelID, 2, h, writeAPIkey);
   delay(2000);
 }
```

File Edit Sketch Tools Help



DHT11

```
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    ThingSpeak.begin(client);
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    ThingSpeak.writeField(channelID, 2, h, writeAPIkey);
    delay(2000);
  }
```
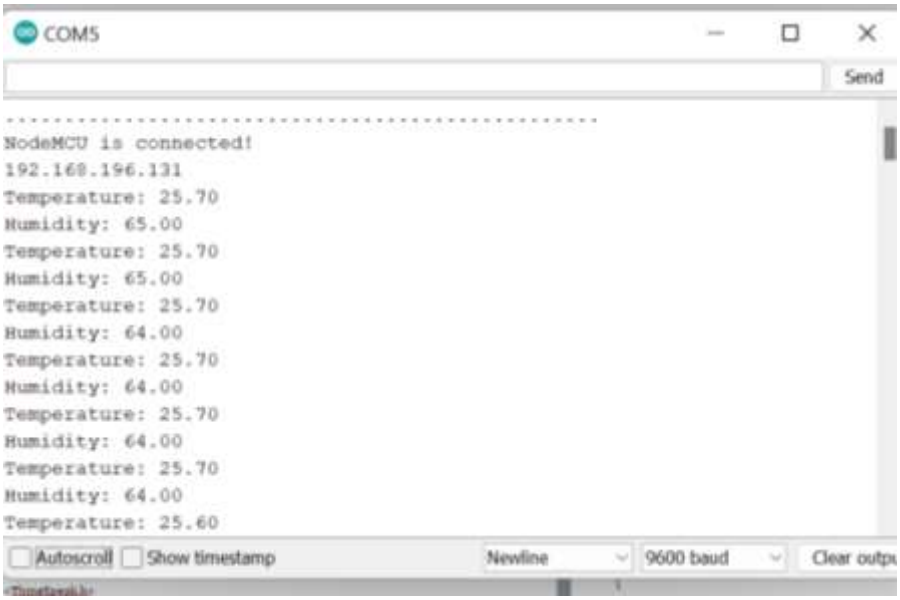
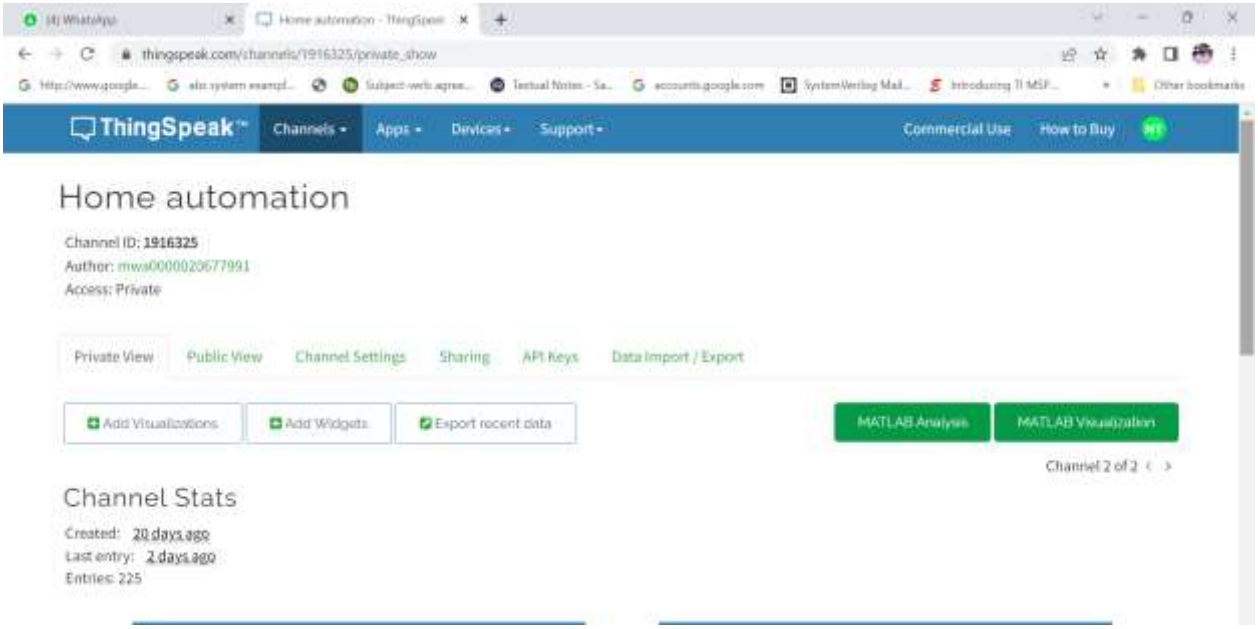
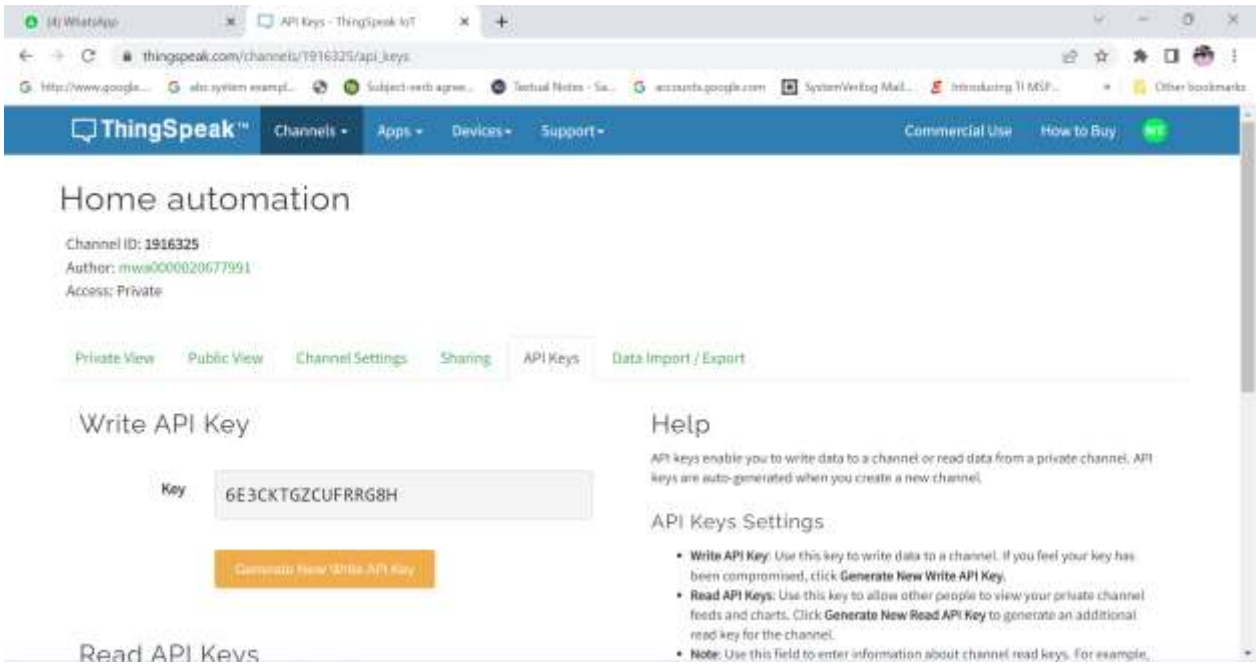
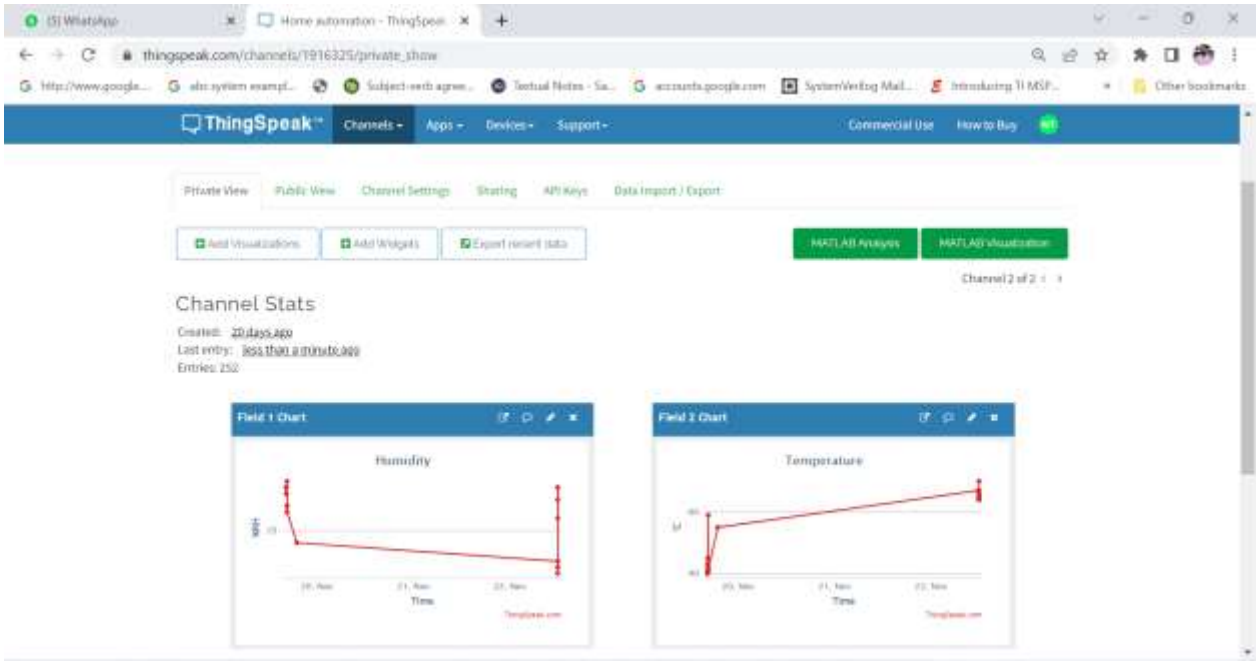
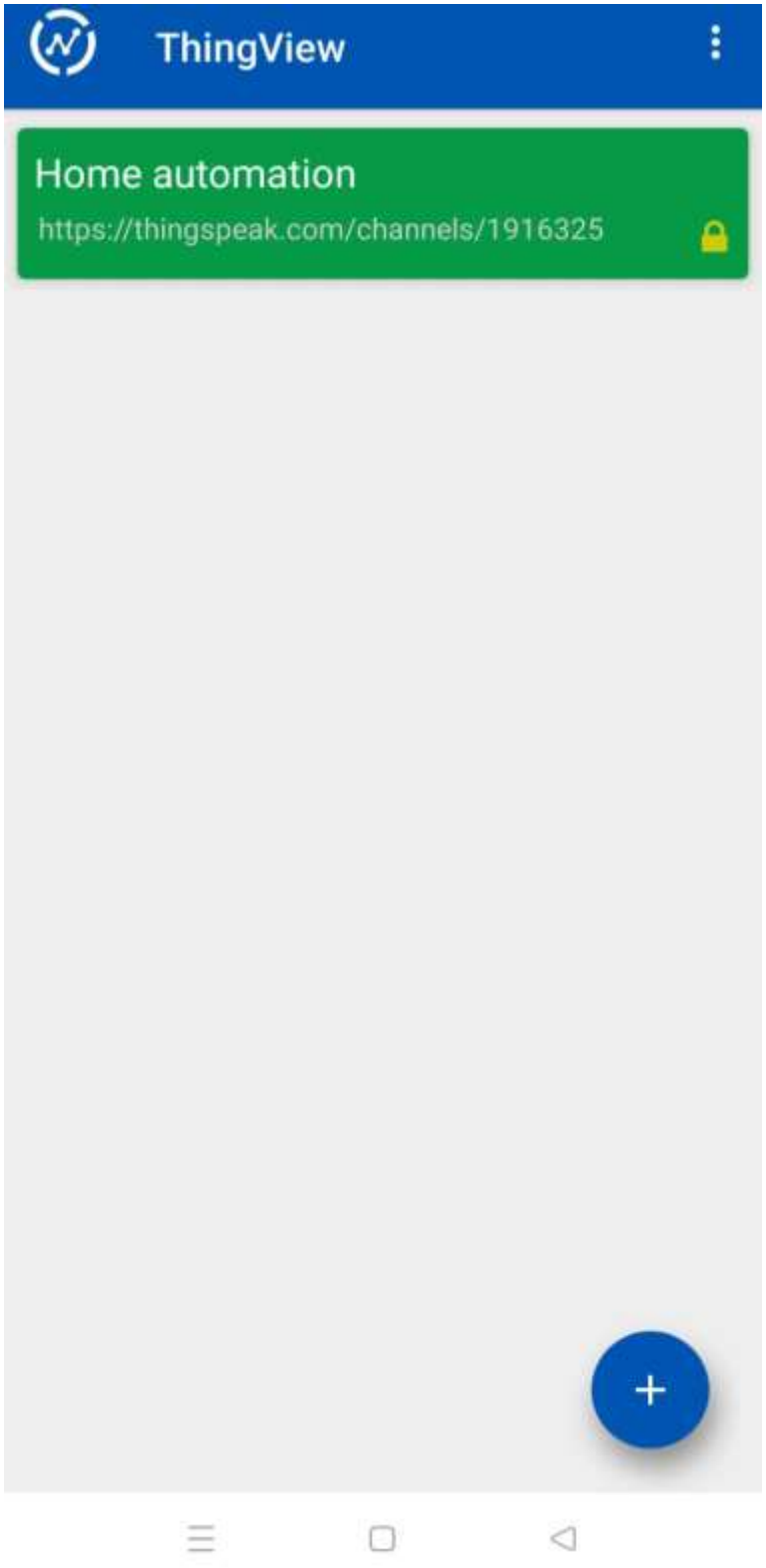
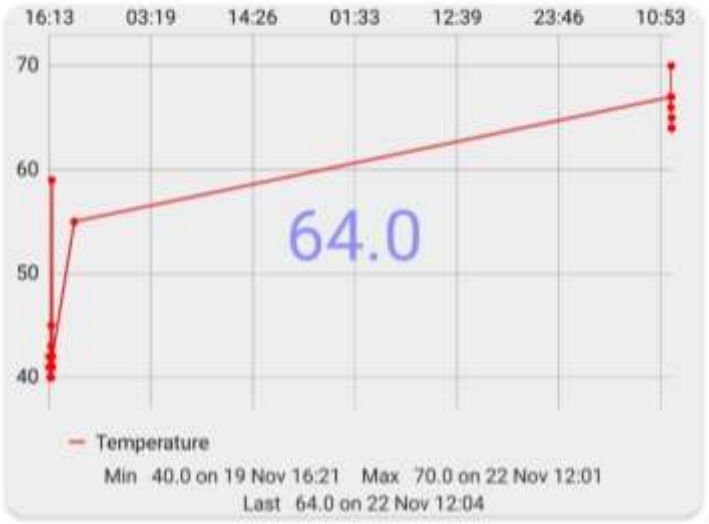


COM5
Send
NodeMCU is connected!
192.168.196.131
Temperature: 25.70
Humidity: 65.00
Temperature: 25.70
Humidity: 65.00
Temperature: 25.70
Humidity: 64.00
Temperature: 25.70
Humidity: 64.00
Temperature: 25.70
Humidity: 64.00
Temperature: 25.70
Humidity: 64.00
Temperature: 25.60
Autoscroll
Show timestamp
Newline
9600 baud
Clear outpu


thingspeak.com/channels/1916325/private_show
ThingSpeak™
Channels
Apps
Devices
Support
Commercial Use
How to Buy
Home automation
Channel ID: 1916325
Author: mwa0000020677991
Access: Private
Private View
Public View
Channel Settings
Sharing
API Keys
Data Import / Export
Add Visualizations
Add Widgets
Export recent data
MATLAB Analysis
MATLAB Visualization
Channel 2 of 2
Channel Stats
Created: 20 days ago
Last entry: 2 days ago
Entries: 225


thingspeak.com/channels/1916325/api_keys
ThingSpeak™
Channels
Apps
Devices
Support
Commercial Use
How to Buy
Home automation
Channel ID: 1916325
Author: mwa0000020677991
Access: Private
Private View
Public View
Channel Settings
Sharing
API Keys
Data Import / Export
Write API Key
Key
6E3CKTGZCUFRRG8H
Help
API keys enable you to write data to a channel or read data from a private channel. API keys are auto-generated when you create a new channel.
API Keys Settings
Write API Key: Use this key to write data to a channel. If you feel your key has been compromised, click Generate New Write API Key.
Read API Keys: Use this key to allow other people to view your private channel feeds and charts. Click Generate New Read API Key to generate an additional read key for the channel.
Note: Use this field to enter information about channel read keys. For example,
Read API Keys


ThingSpeak
Channels
Apps
Devices
Support
Commercial Use
How to Buy
Private View
Public View
Channel Settings
Sharing
API Keys
Data Import / Export
Add Visualizations
Add Widgets
Export recent data
MATLAB Analysis
MATLAB Visualization
Channel Stats
Created: 20 days ago
Last entry: less than a minute ago
Entries: 252
Field 1 Chart
Humidity
Time
Field 2 Chart
Temperature
Time


ThingView
Home automation
https://thingspeak.com/channels/1916325

Home automation