

reccap,



# ACTIVITY

## Weather Monitoring

# Components Required

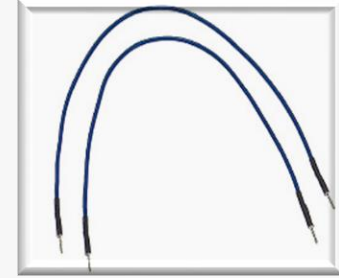
Esp32/Esp8266



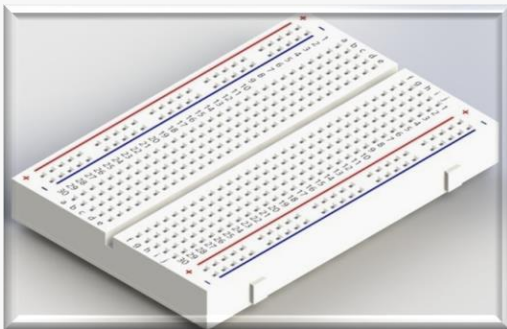
Wi-Fi/hotspot



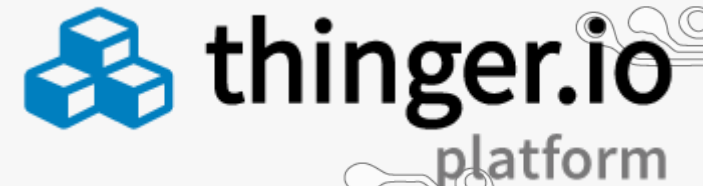
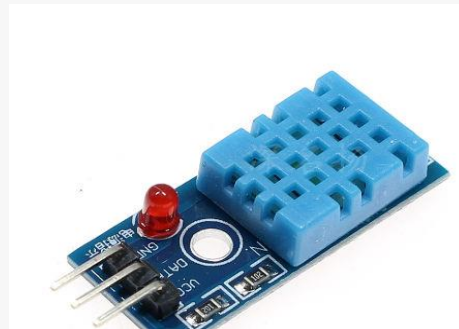
Jumper wire



Breadboard

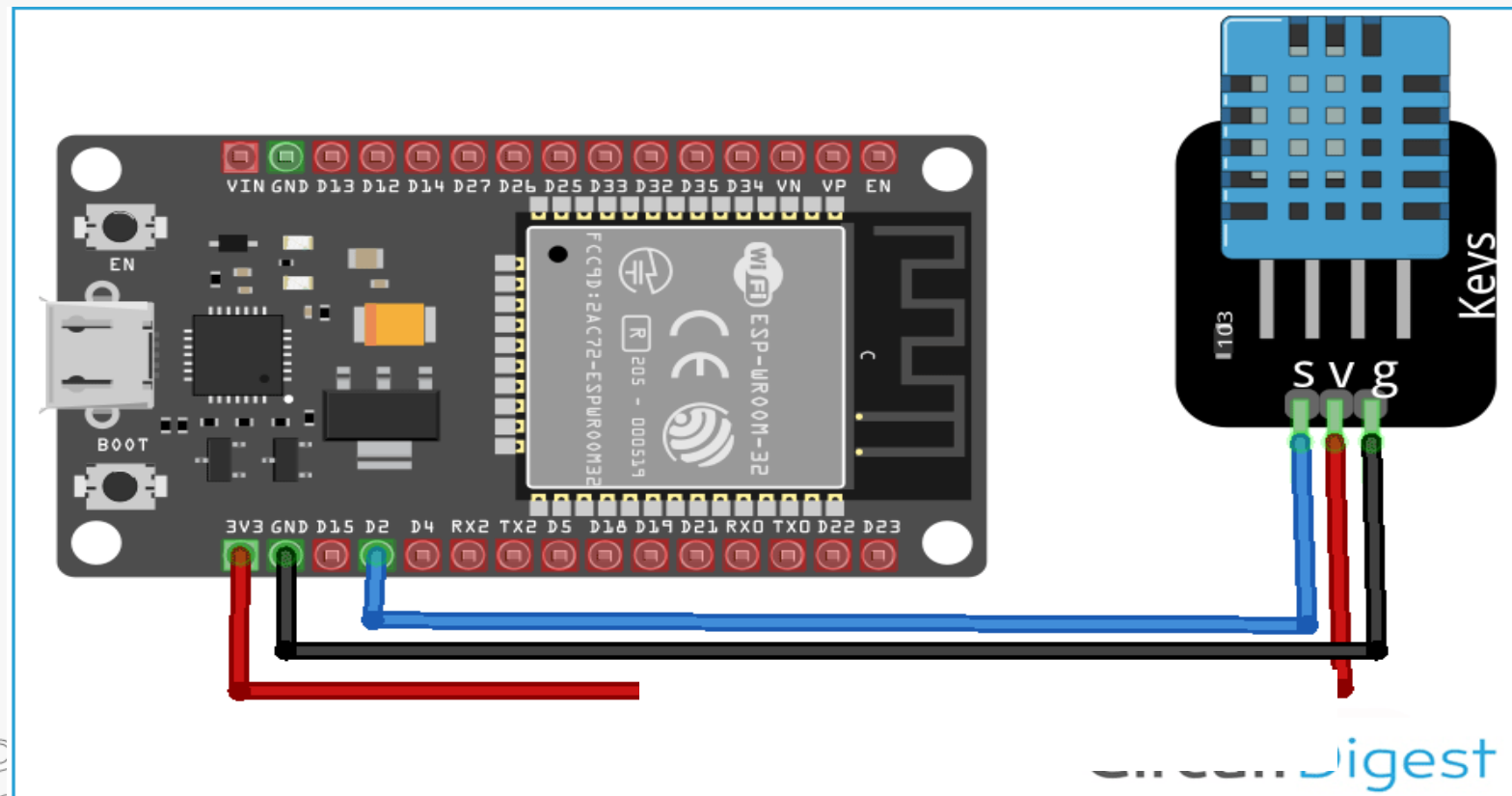


DHT11 Sensor



# Steps for Connection

Connect ground and vcc pin of dht11 to ground and vin/3v3 pin of esp32 respectively. Now connect signal pin of dht11 to any Gpio pin of esp32.



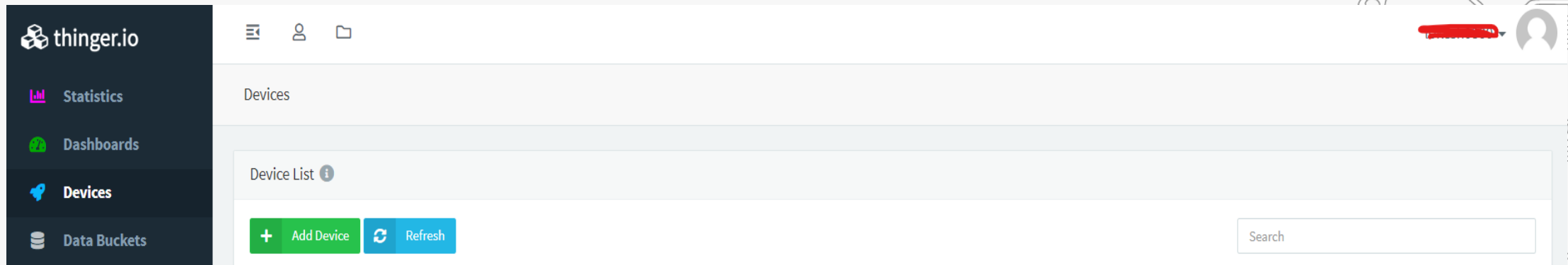
# What is thinger.io?



Thinger.io platform is an Open Source platform for the Internet of Things, it provides a **ready to use** scalable cloud infrastructure for connecting things. Makers and companies can start controlling their devices from the internet in minutes, without worrying about the required cloud infrastructure.

# Steps to setup thinger.io

- Goto <https://thinger.io> and create a thinger account by Signing up .  
(Note: Remember the user name)
- Goto: Devices → Add device



# Steps to setup thinger.io

- Now give Device Id & Device Credentials and Click on **Add Device**.  
(Note: Remember Device Id and Credentials)

Device Details 1/2

**Device Configuration**

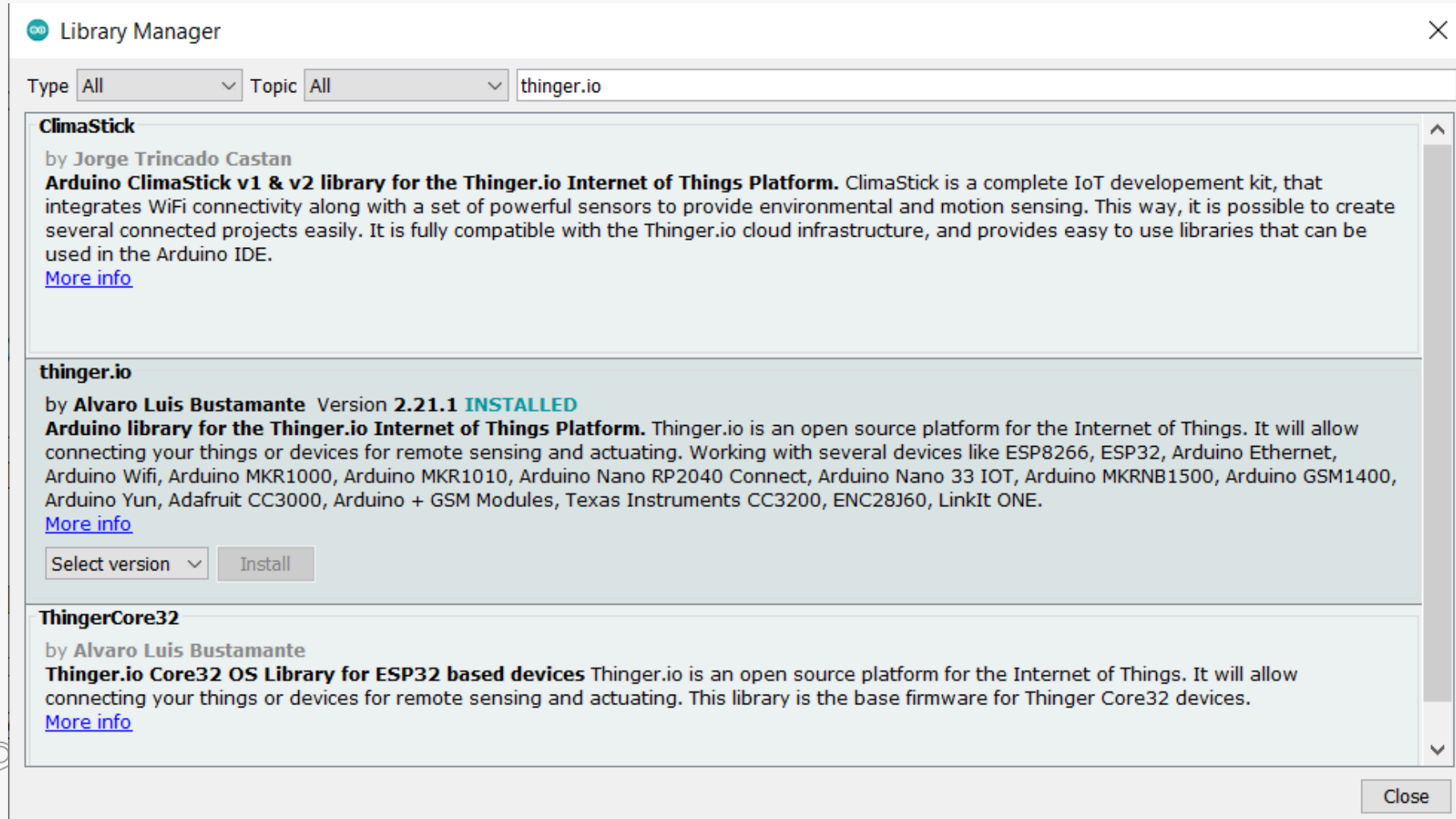
Device Type ⓘ Generic Thinger Device (WiFi, Ethernet, GSM) ▼

Device Id ⓘ Enter device identifier

Device Credentials ⓘ Enter device credentials Random ⓘ



- Open Arduino IDE and add thinger.io library. **Sketch → Include library**





- Write code as shown for project. In **Declaration section** give **USERNAME**, **DEVICE\_ID** and **DEVICE\_CREDENTIAL** within double quotation same as given in **thinger.io** account. Now write down your **ssid** and **password** (Wi-Fi name and password) within double quotation.

```
#include <ThingyESP32.h>
#include <WiFi.h>
#include <DHTesp.h>

#define USERNAME " "
#define DEVICE_ID " "
#define DEVICE_CREDENTIAL " "

const char* ssid = " ";
const char* password = " ";
ThingyESP32 thing(USERNAME, DEVICE_ID, DEVICE_CREDENTIAL);

DHTesp dht;
int val;
float temperature, humidity;
```

- **Initialization section:** Here to send signal from sensor to thinger.io platform “>>” symbol is used. Here, “dh11” is **Resource** name and “temperature” & “humidity” are **Value** that is going to be used in widget section in thinger.io. Resource and Value can be changed according to user.

```
void setup()
{
  Serial.begin(115200);
  dht.setup(33, DHTesp::DHT11);
  WiFi.begin(ssid, password);
  thing.add_wifi(ssid, password);
  thing["dht11"] >> [](pson& out){
    out["temperature"] = temperature;
    out["humidity"] = humidity;
  };
}
```

- Main loop:

```
void loop() {  
  thing.handle();  
  temperature = dht.getTemperature();  
  humidity = dht.getHumidity();  
}
```

- Now setup the dashboard in thinger.io platform. Goto thinger.io account and **Dashboards → Add dashboard**. Now give the Dashboard id, name and description.

Dashboards / Add

Dashboard Details 1/4

Dashboard id ⓘ

Dashboard name ⓘ

Dashboard description ⓘ

- Click on Dashboards and then click on available dashboard id.
- Now to add widget turn ON the sliding switch and than click on add widget. Fill the widget settings box to get the desired output.

### Widget Settings

Widget

<b>Title</b> ⓘ	<input type="text" value="Widget Title"/>
<b>Subtitle</b> ⓘ	<input type="text" value="Widget Subtitle"/>
<b>Link To</b> ⓘ	<input type="checkbox"/> <input type="text" value="Select Dashboard..."/>
<b>Show Update</b> ⓘ	<input type="checkbox"/>
<b>Show Fullscreen</b> ⓘ	<input type="checkbox"/>
<b>Background</b> ⓘ	<input type="color" value="#ffffff"/> <input type="text" value="#ffffff"/> <input type="button" value="+"/>
<b>Type</b> ⓘ	<input type="text" value="Select widget type"/>

ASSESSMENT TIME.....

Thank  
you!