

reccap,

ACTIVITY

Smart Bulb

Components Required

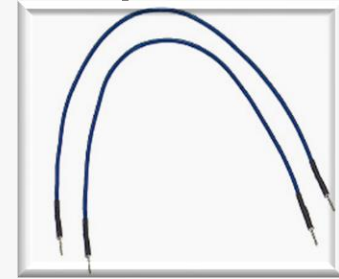
Esp32/Esp8266



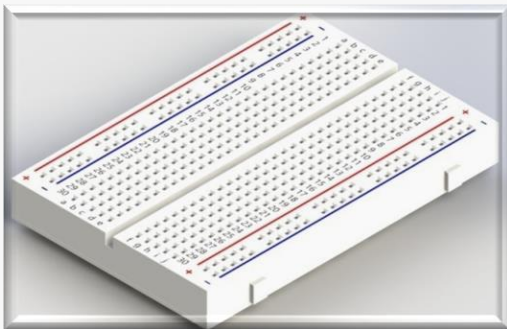
Wi-Fi/hotspot



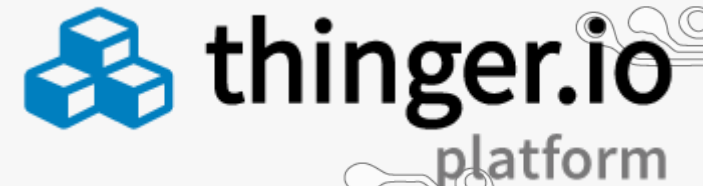
Jumper wire



Breadboard

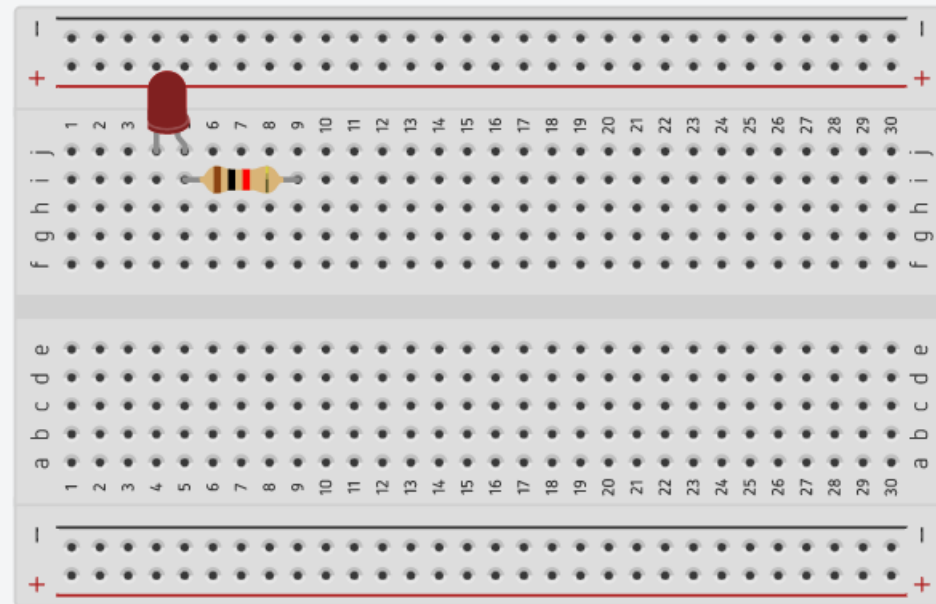


LEDs

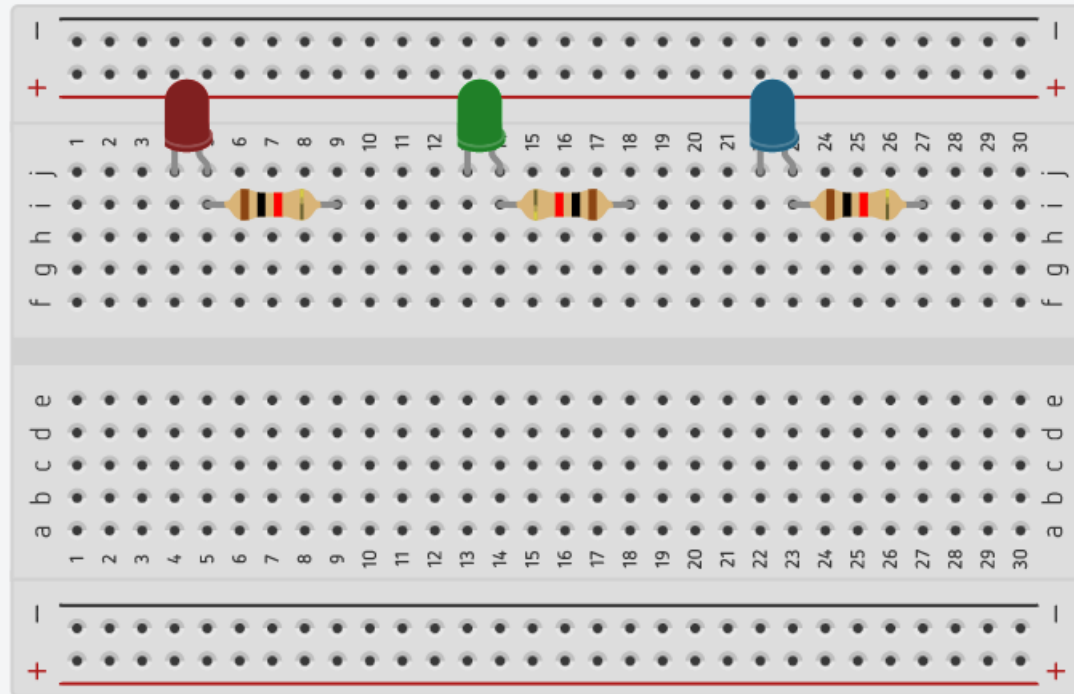


Steps for Connection

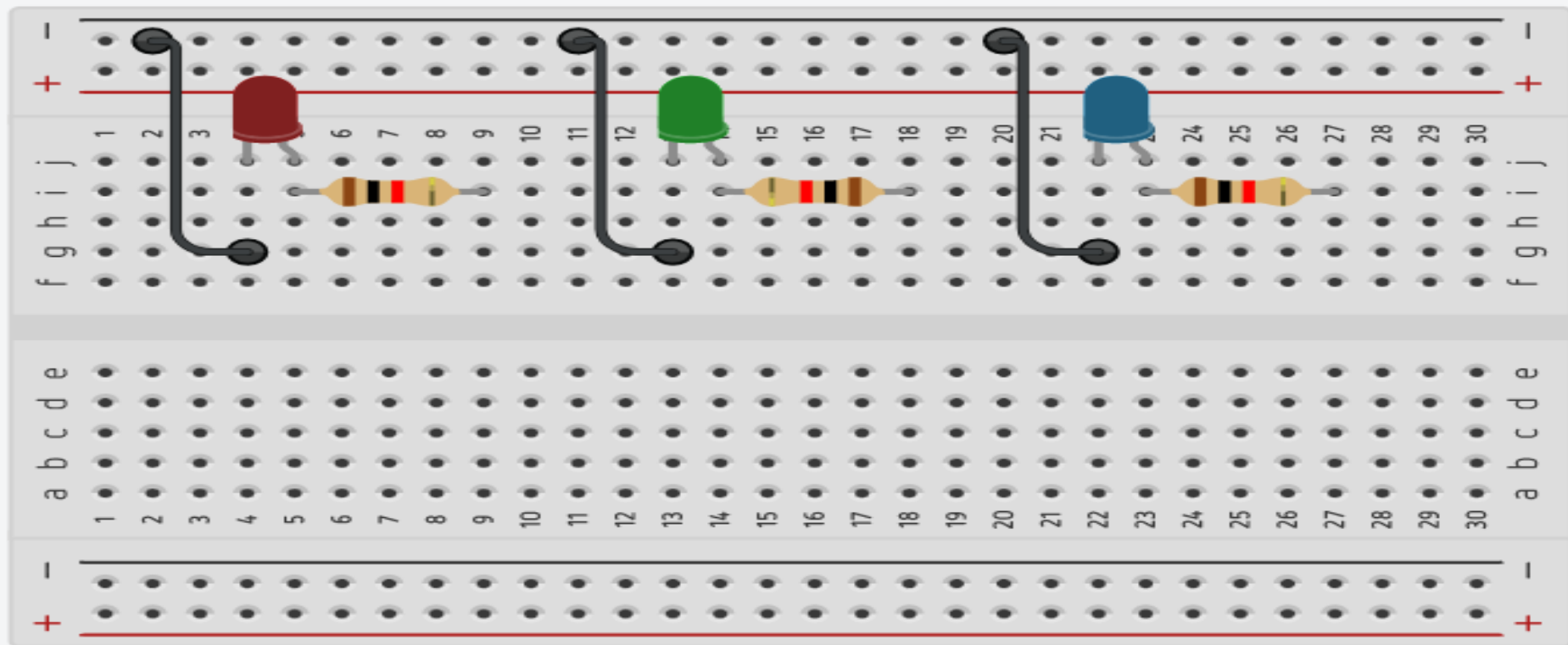
- Connect positive terminal of one led with resistor as shown.



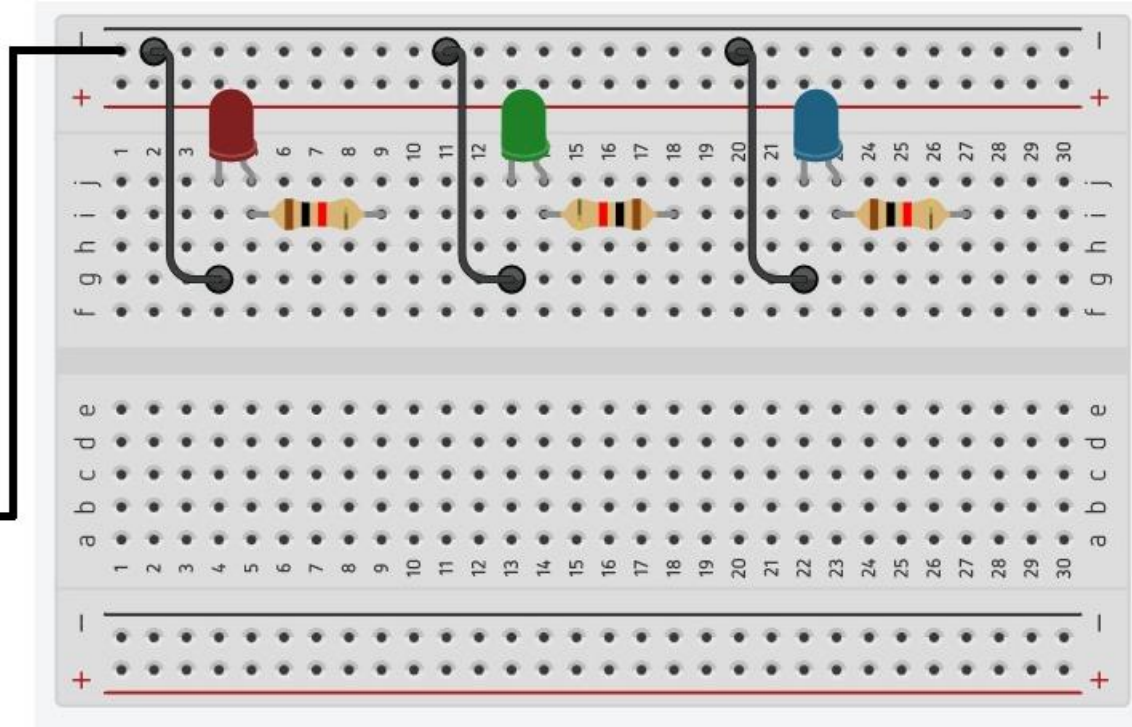
- Repeat the previous step for rest of two LEDs.



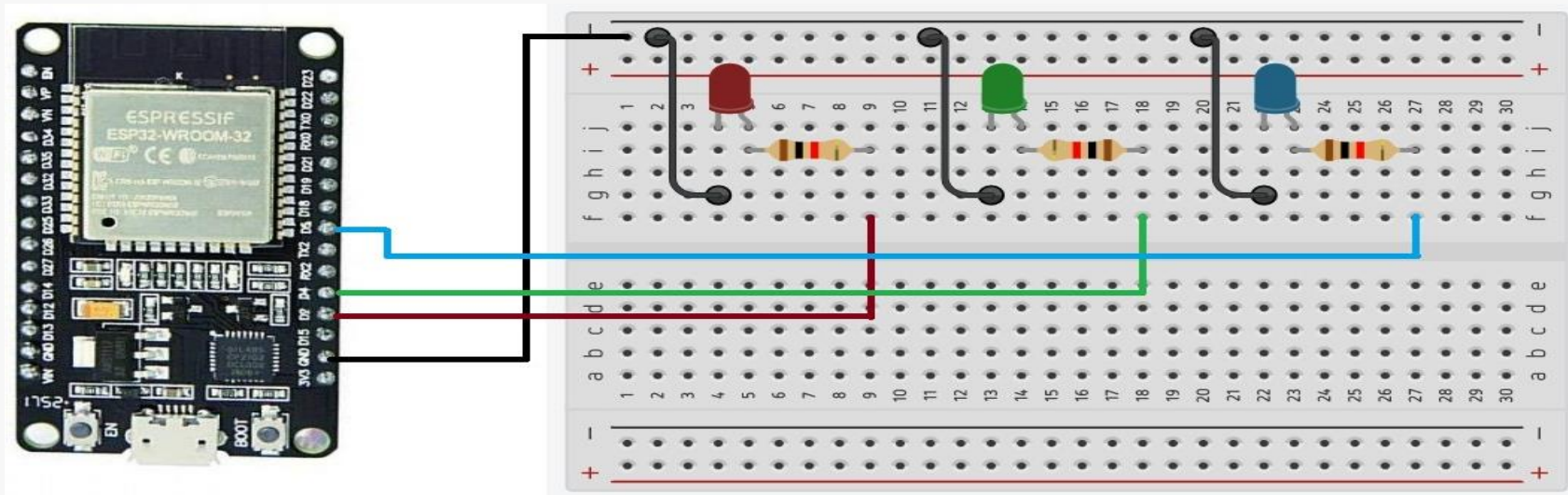
- Now connect the negative terminal of each led to the negative row of breadboard.



- Connect the negative row to breadboard with gnd pin of esp32 board.



- Connect 2nd pin of each resistor with the 3 different gpio pin of esp32 board.



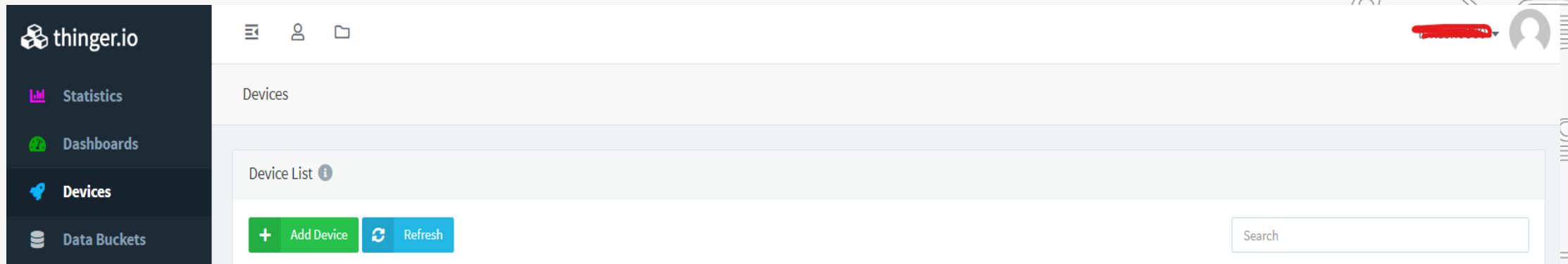
What is thinger.io?



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

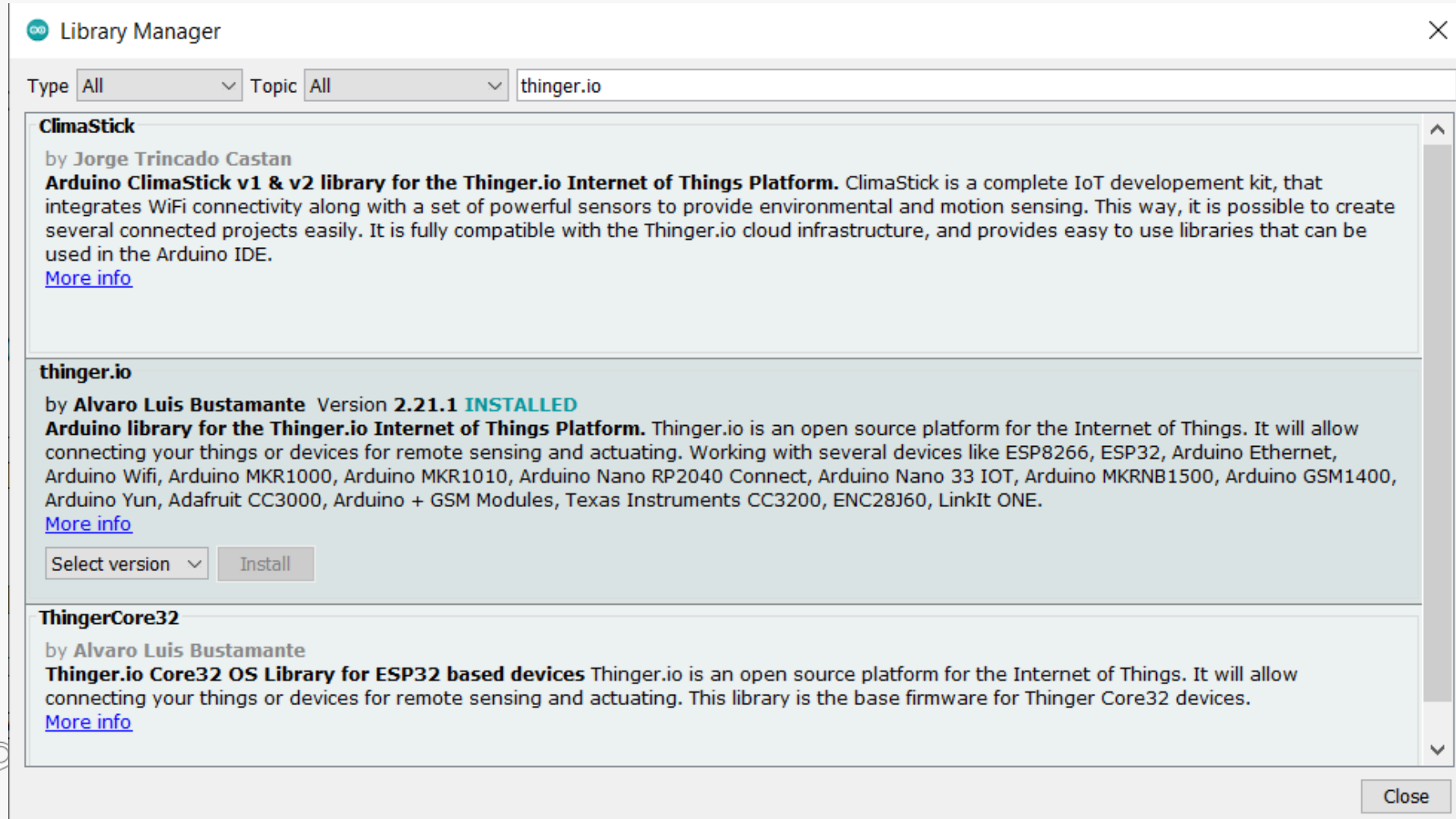
Device Configuration

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>

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

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

int led1 = 12;
int led2 = 13;
int led3 = 14;
```


- **Initialization section:** Here to send signal from sensor to thinger.io platform “>>” symbol is used. Here, “LED-1”, “LED-2” and “LED-3” are **Resource** name that is going to used in widget section in thinger.io. Resource name can be changed according to user.

```
void setup()  
{  
  Serial.begin(115200);  
  pinMode(led1,OUTPUT);  
  pinMode(led2,OUTPUT);  
  pinMode(led3,OUTPUT);  
  WiFi.begin(ssid, password);  
  thing.add_wifi(ssid, password);  
  thing["LED-1"] << digitalPin(led1);  
  thing["LED-2"] << digitalPin(led2);  
  thing["LED-3"] << digitalPin(led3);  
}
```

- Main loop:

```
void loop() {  
  thing.handle();  
}
```

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

Dashboard Details 1/4

Dashboard id ⓘ

Dashboard name ⓘ

Dashboard description ⓘ

✓ Add Dashboard

- 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

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

ASSESSMENT TIME.....

Thank
you!