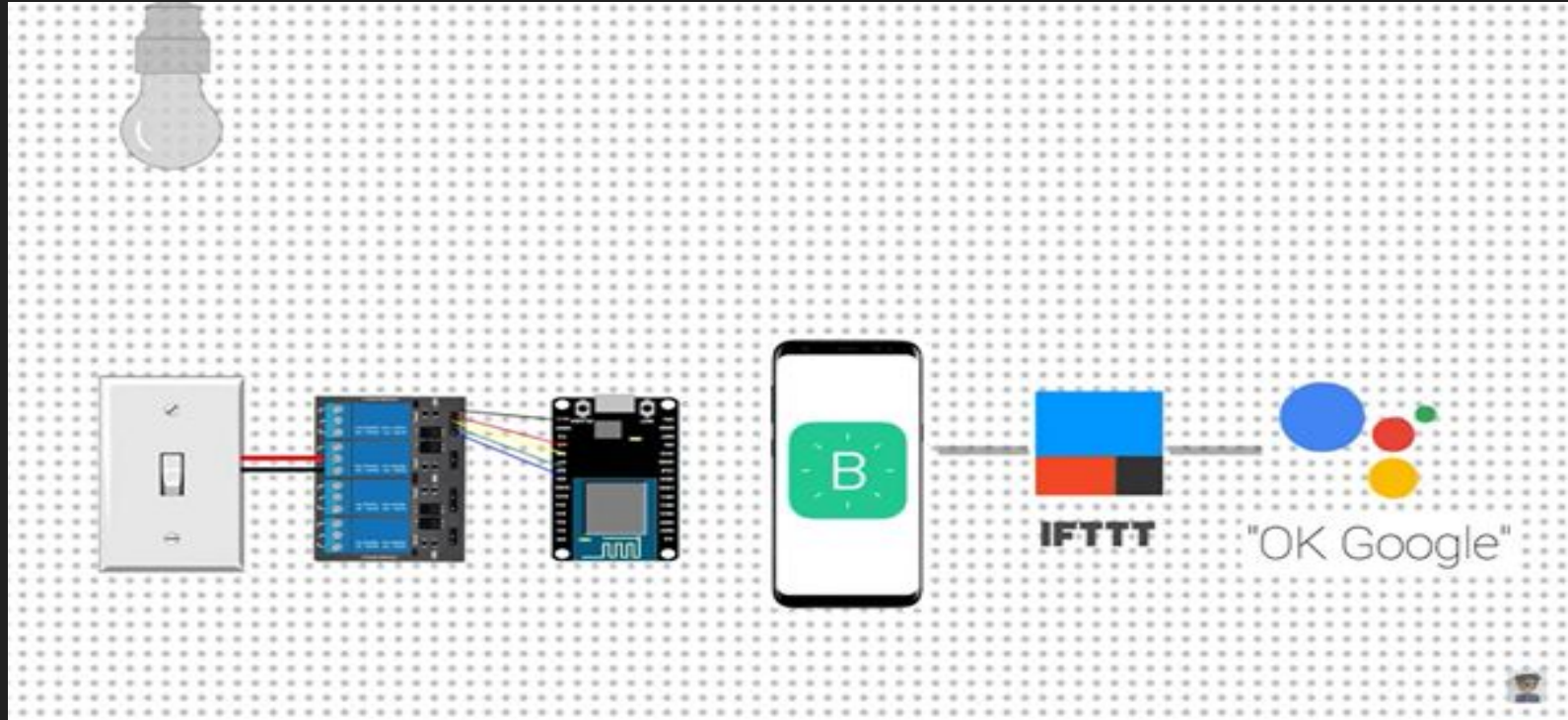


IOT based Home Automation



Introduction

→ Home automation evolution starts with some basic ideas. It minimizes the human efforts and it can be deployed in a lot of fields like military, surveillance application is developed in the modern world.

→ Now a day's Home automation is developed by using Wireless technology. Wireless technology in Home automation starts with WI-FI.

→ We can operate Fan, Ac, Light, Pump, anything we want to do, by using Google Assistant.

Required elements

Hardware Interfaces

→ NodeMCU (ESP8266)

→ RELAY BOARD

→ Arduino IDE

Software Interfaces

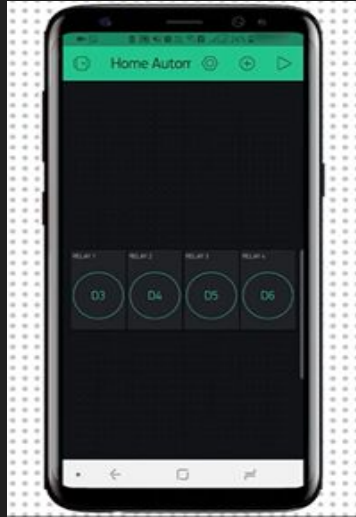
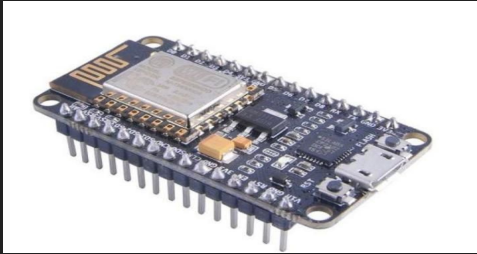
→ Google Assistant application

→ IFTTT Service.

→ BLYNK APPLICATION

NodeMCU (ESP8266)

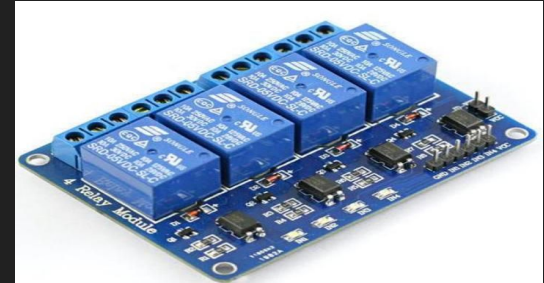
The NodeMCU (Node MicroController Unit) is an open source software and hardware development environment that is built around a very inexpensive System-on-a-Chip (SoC) called the ESP8266.



BLYNK APPLICATION

RELAY BOARD

A relay is an electromagnetic switch. It is activated when a small current of some microampere is applied to it.



STEPS

STEP 1 → Download And Setup The Blynk App

STEP 2 → Setting up Arduino IDE and Blynk Libraries

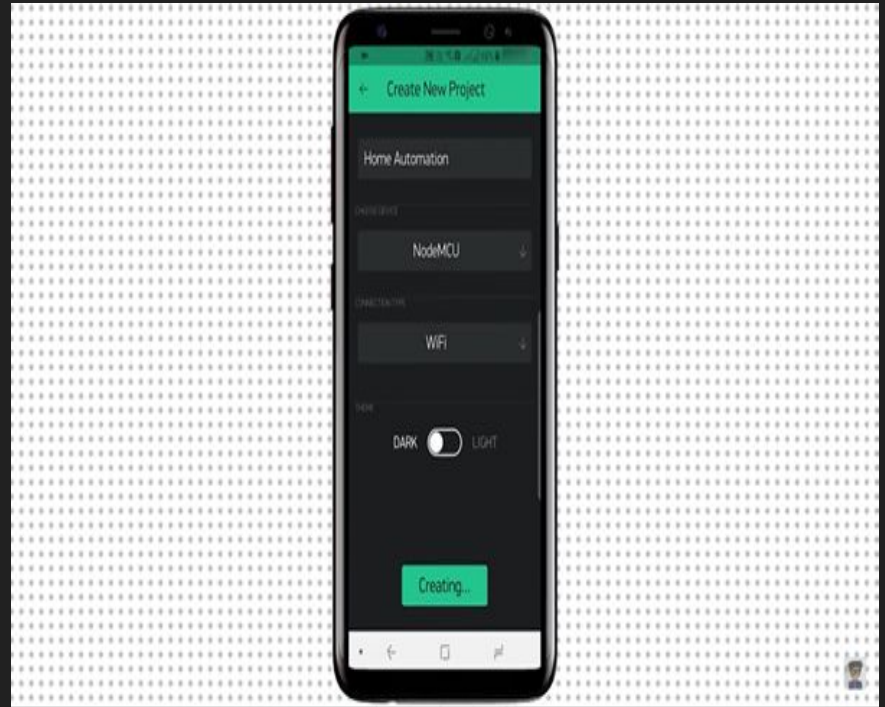
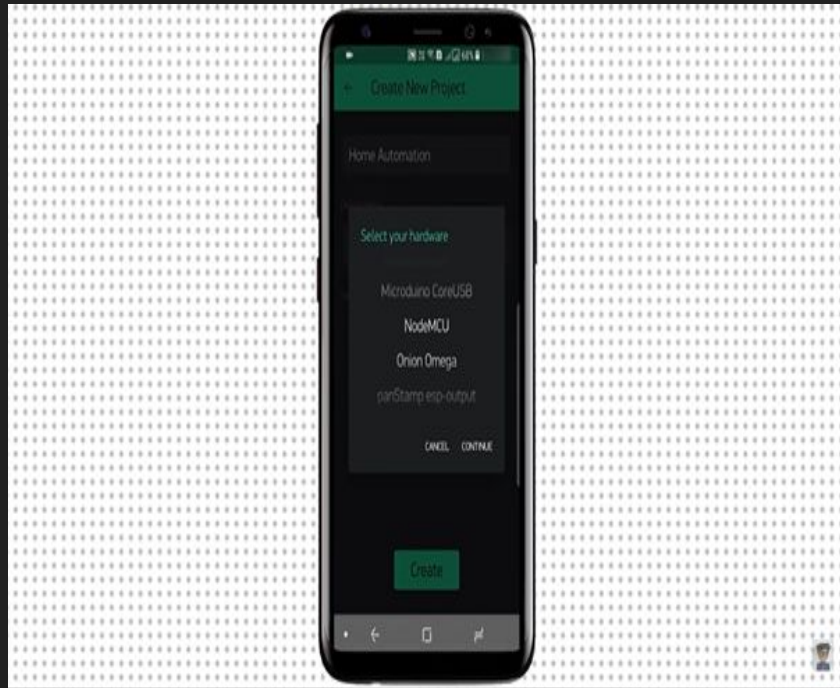
STEP 3 → Hardware Assembly

STEP 4 → Configure IFTTT

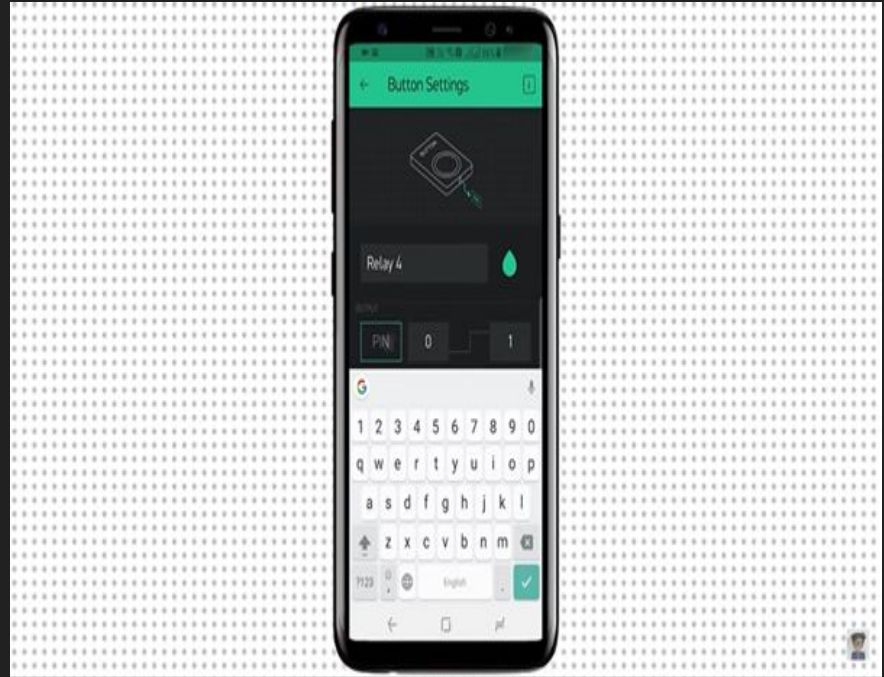
STEP 1: Download And Setup The Blynk App



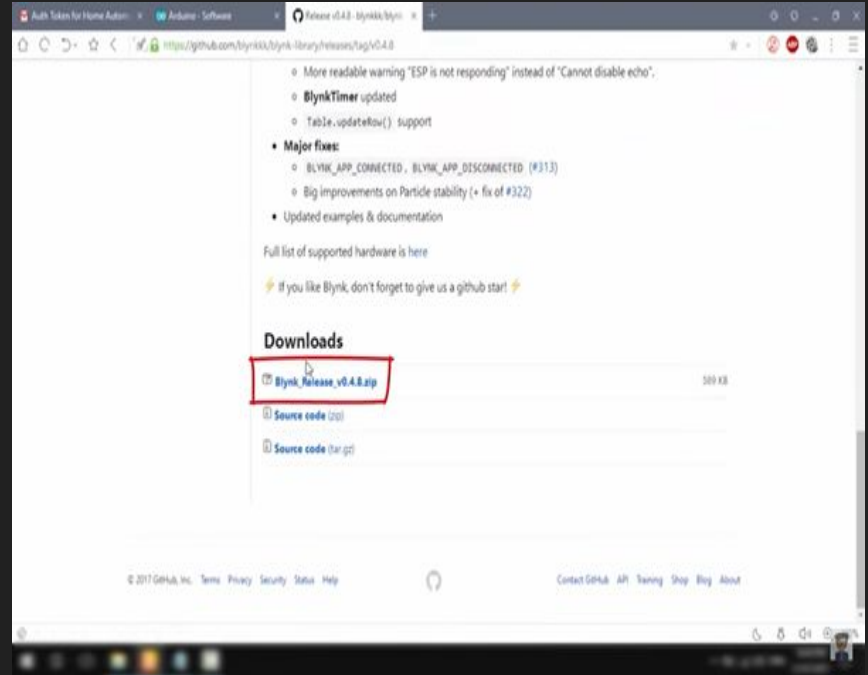
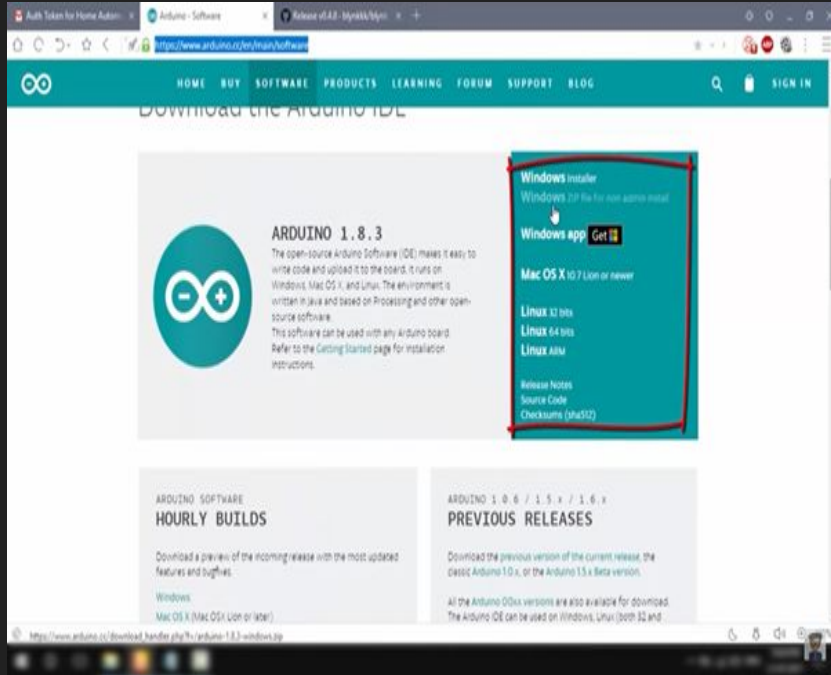
→ Congfigure Blynk



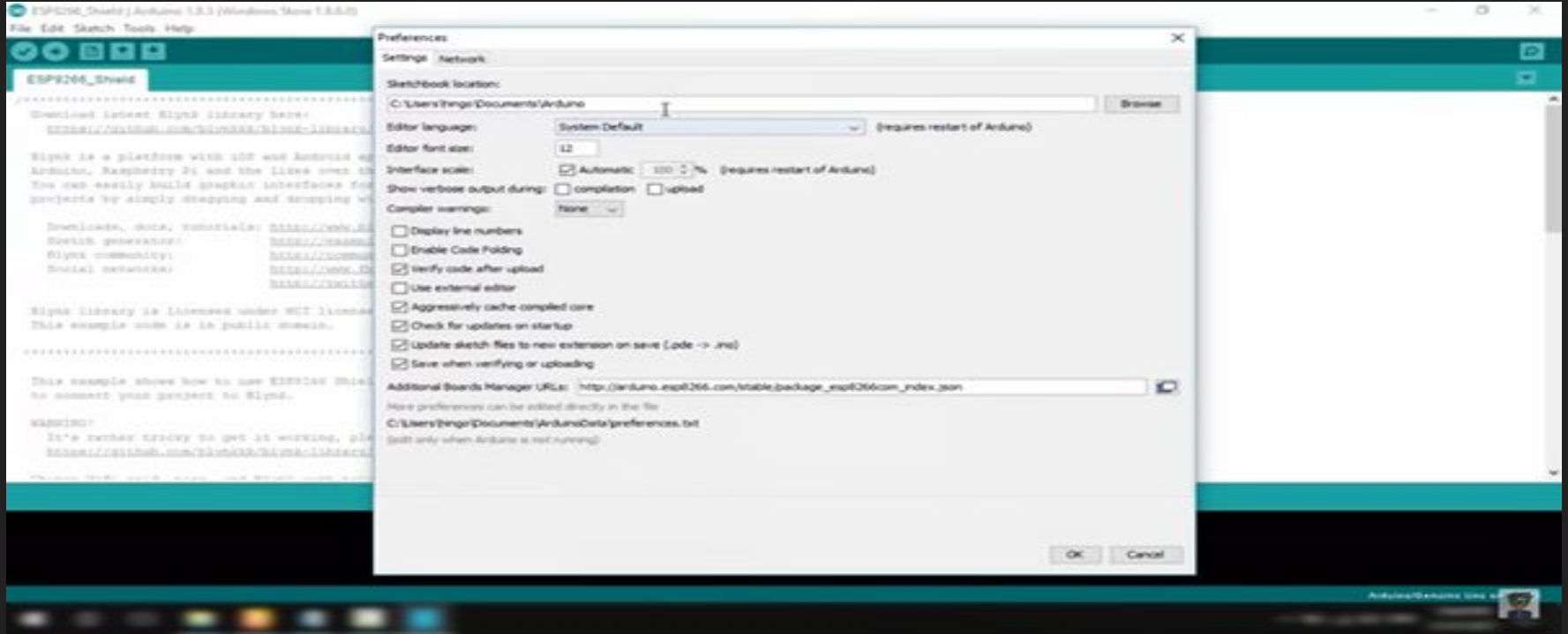
→ Buttons and their names with pin number



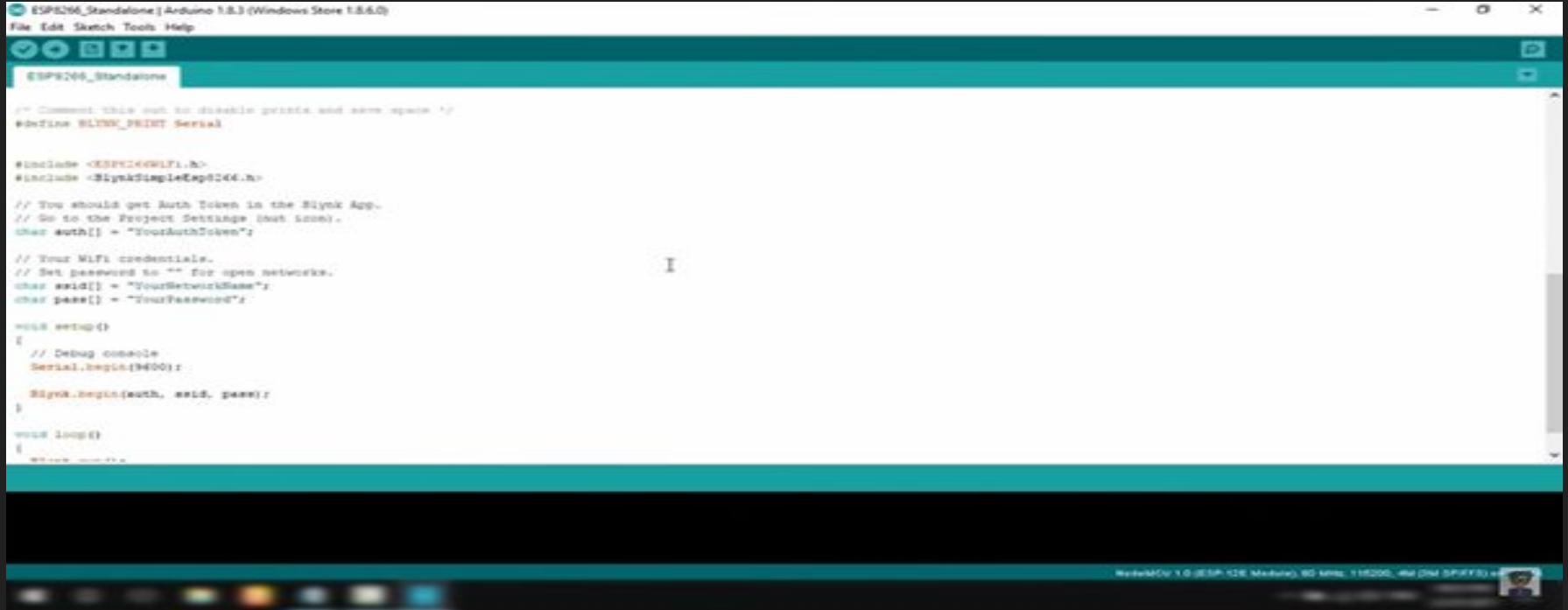
STEP 2:- Setting up Arudino IDE and Blynk Libraries



→ Copy Libraries and tools to this path.



→ Code of node mcu



```
ESP8266_Standalone | Arduino 1.8.3 (Windows Store 1.8.6.0)
File Edit Sketch Tools Help

ESP8266_Standalone

/* Comment this out to disable prints and save space */
#define BLYNK_PRINT Serial

#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

// You should get Auth Token in the Blynk App.
// Go to the Project Settings (not icon).
char auth[] = "YourAuthToken";

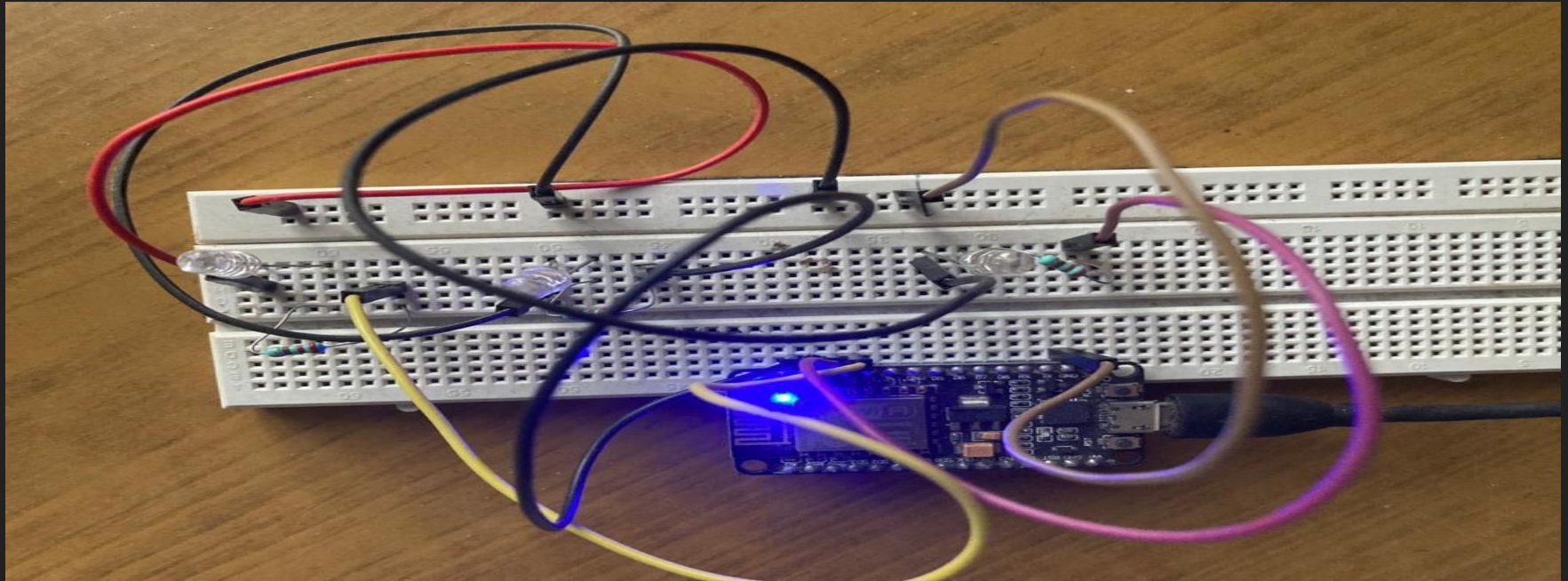
// Your WiFi credentials.
// Set password to "" for open networks.
char ssid[] = "YourNetworkName";
char pass[] = "YourPassword";

void setup()
{
  // Debug console
  Serial.begin(115200);

  Blynk.begin(auth, ssid, pass);
}

void loop()
{
  www.mcu...
```

STEP 3 → Hardware Assembly



STEP 4:- Configure IFTTT

Manage Applets - IFTTT

https://ifttt.com/my_applets

IFTTT Discover Search My Applets Activity

Applets Services

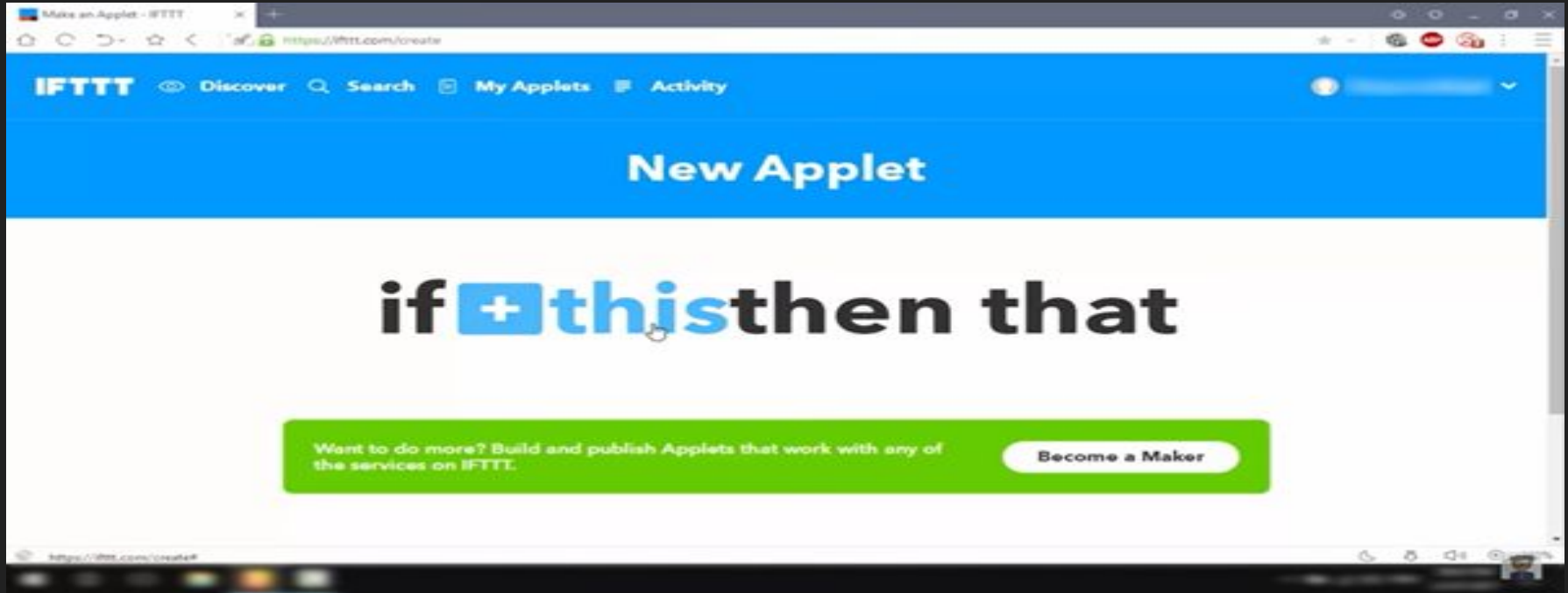
New Applet

Get an email with the latest IFTTT updates

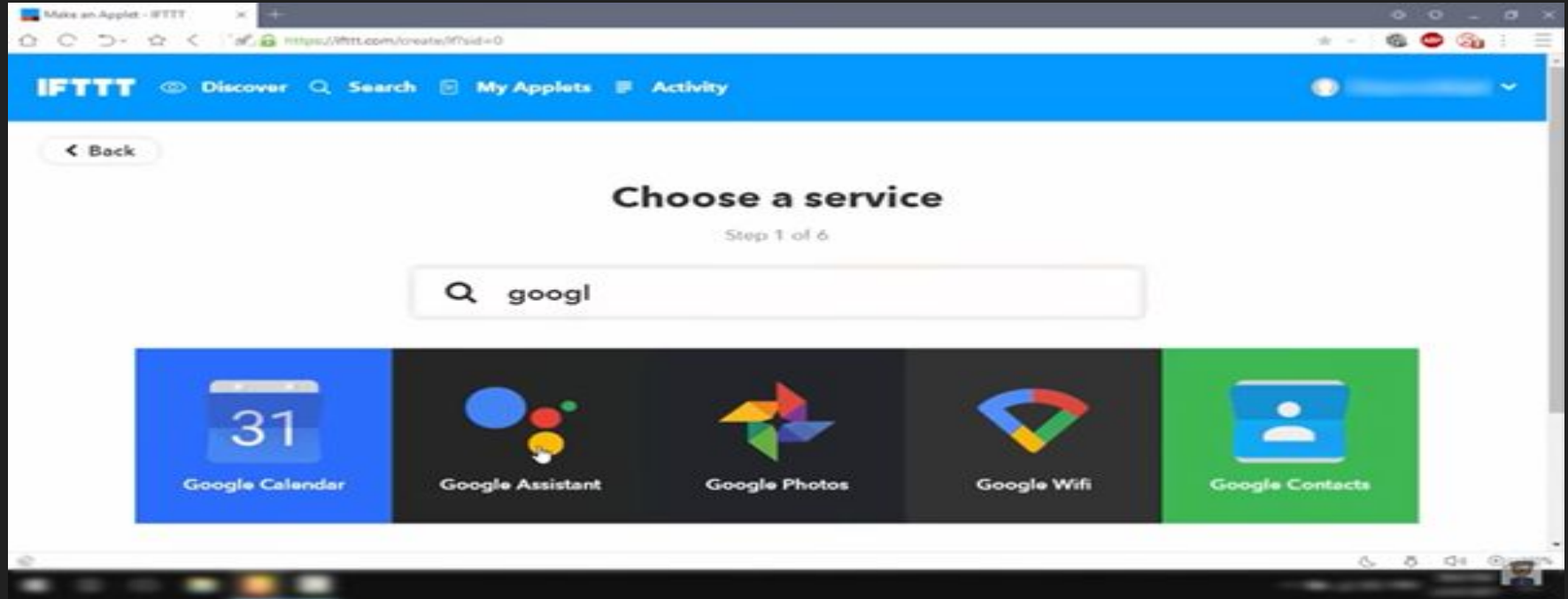
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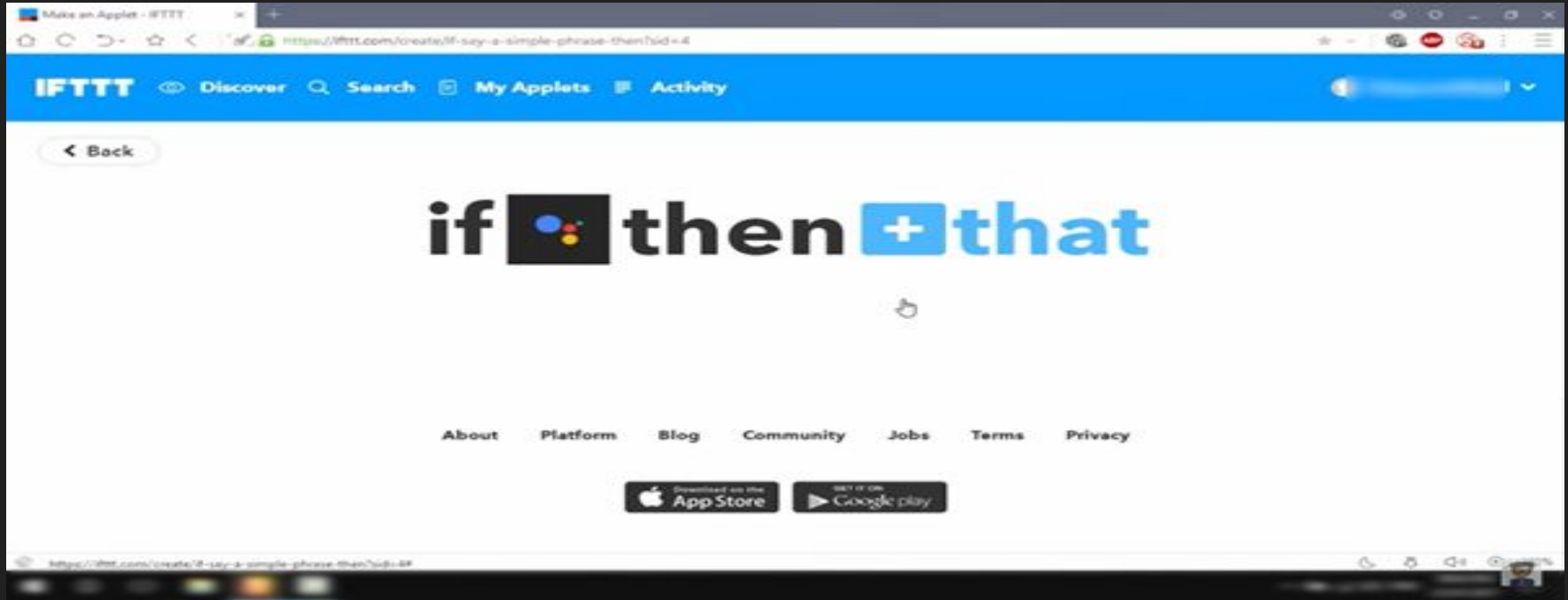
→ How to operate “this”?



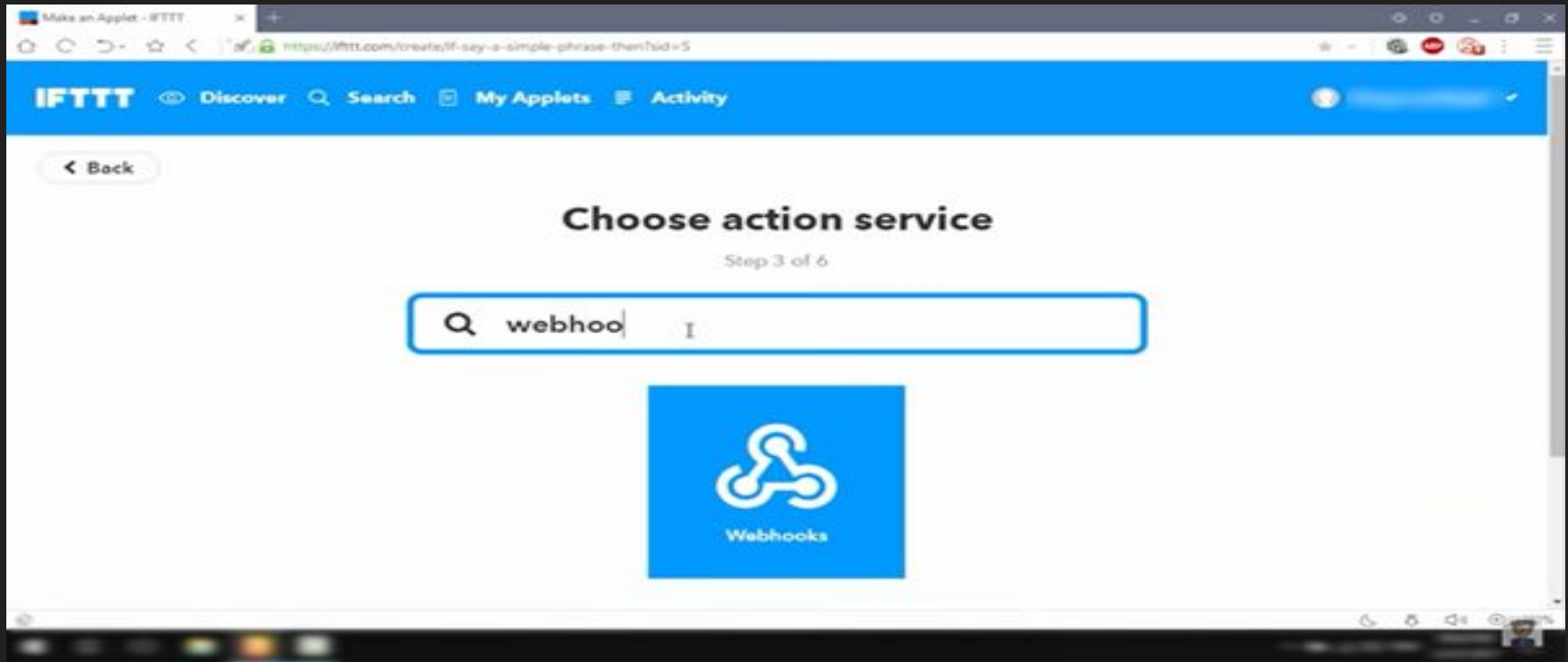
→ Choose Google Assistant



→ How to operate “that”

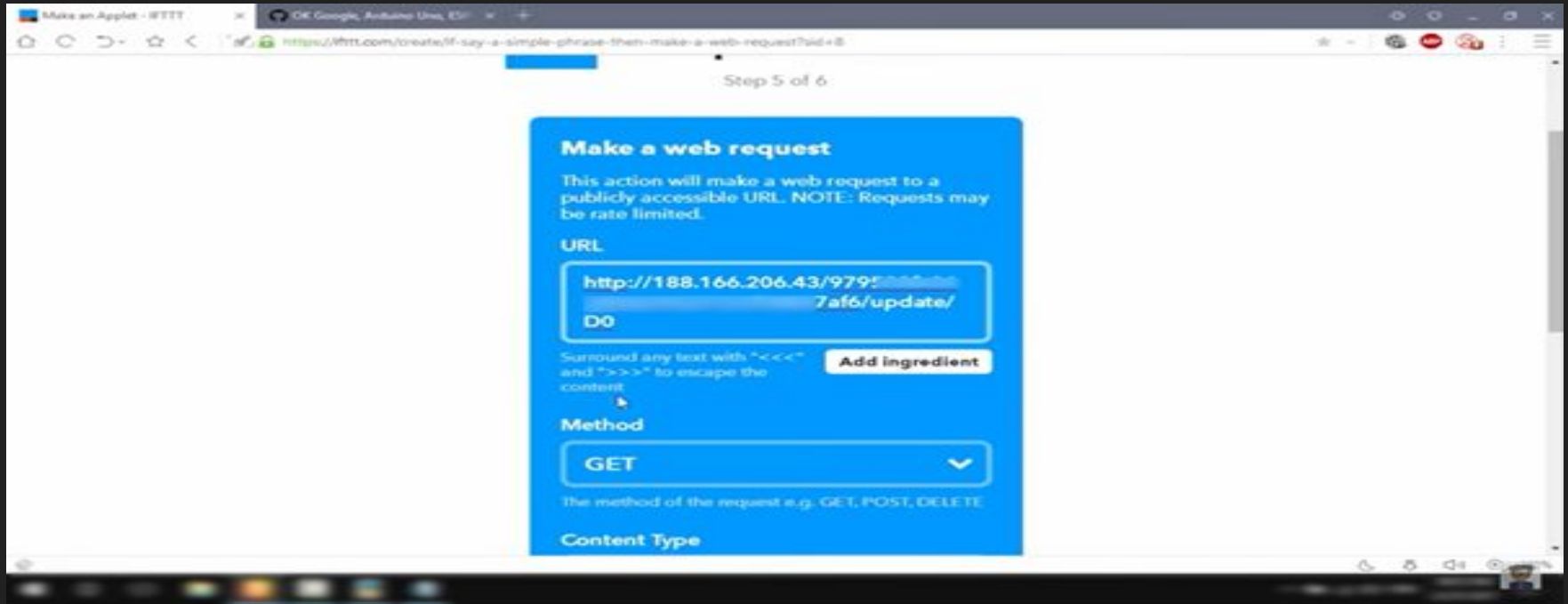


Choose Webhooks



The image shows a screenshot of a web browser window displaying the IFTTT 'Make an Applet' interface. The browser's address bar shows the URL <https://ifttt.com/create/if-say-a-simple-phrase-then?id=5>. The IFTTT logo and navigation links (Discover, Search, My Applets, Activity) are visible in the blue header. The main content area is titled 'Choose action service' and is labeled 'Step 3 of 6'. A search bar contains the text 'webhook'. Below the search bar, a blue square button with a white icon of three interlocking loops and the text 'Webhooks' is displayed. A 'Back' button is located in the top left corner of the main content area.

Auth Token and Pin Number



The screenshot shows a web browser window with the URL <https://ifttt.com/create/ift-say-a-simple-phrase-then-make-a-web-request?aid=8>. The page is titled "Step 5 of 6" and features a blue card with the heading "Make a web request". Below the heading, it states: "This action will make a web request to a publicly accessible URL. NOTE: Requests may be rate limited." The card contains three sections: "URL" with a text input field containing "http://188.166.206.43/979?auth_token=7af6/update/DO", "Method" with a dropdown menu set to "GET", and "Content Type" which is currently empty. A small tooltip is visible over the URL field, explaining that text should be surrounded by "<<<" and ">>>" to escape content. An "Add ingredient" button is located to the right of the URL field.

Make a web request

This action will make a web request to a publicly accessible URL. NOTE: Requests may be rate limited.

URL

`http://188.166.206.43/979?auth_token=7af6/update/DO`

Surround any text with "<<<" and ">>>" to escape the content.

Add ingredient

Method

GET

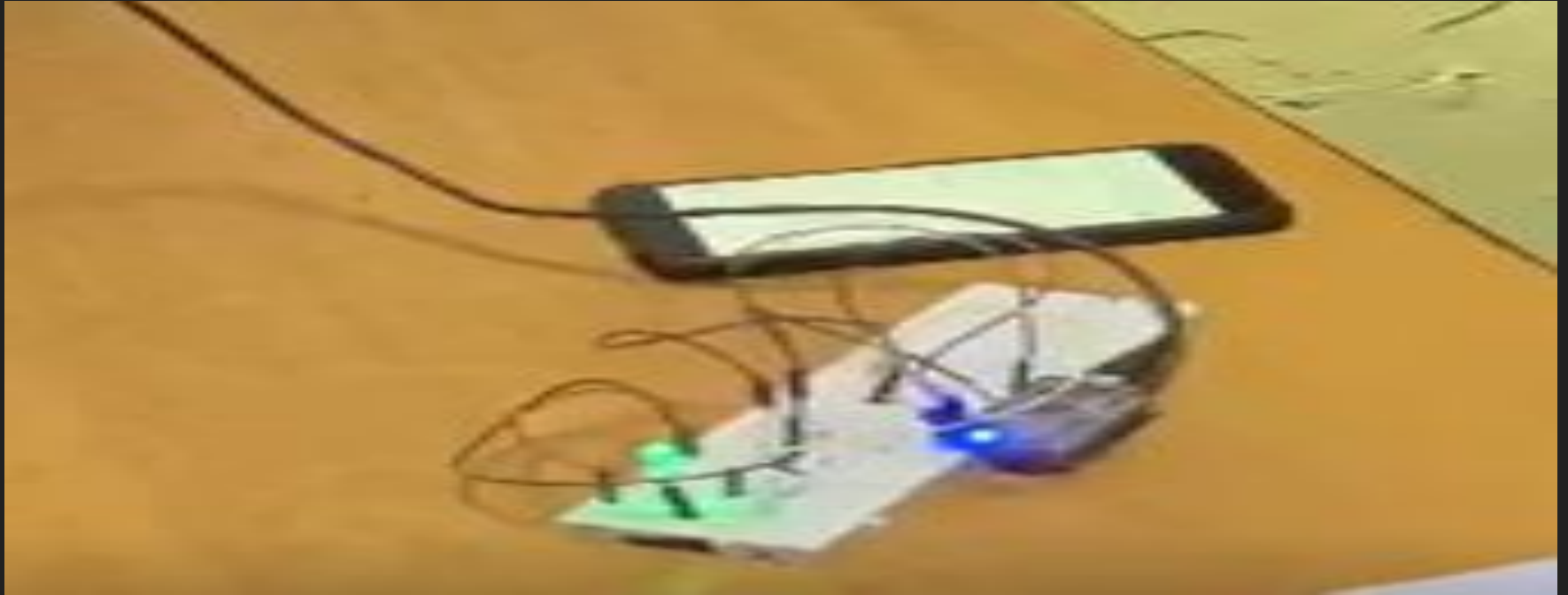
The method of the request e.g. GET, POST, DELETE.

Content Type

Google Assistant



RESULT



FUTURE SCOPE

Using this home automation system as a reference, the system can be expanded to include various other options which could include home security feature like capturing the photo of a person moving around the house and storing it onto the cloud. Moreover, if we want to operate a particular device at some place then this will be helpful to do that.

References

- [1] IFTTT: <https://ifttt.com/discover>
- [2] Blynk : <https://www.blynk.cc/> <https://docs.blynk.cc/>
- [3] NodeMCU: <https://nodemcu.readthedocs.io/en/master>
<https://iotbytes.wordpress.com/nodemcupinout/>
- [4] Google Assistant: https://assistant.google.com/intl/en_in/
[https://www.pocketlint.com/Apps/Appsnews/Googleapp news](https://www.pocketlint.com/Apps/Appsnews/Googleapp%20news)
- [5] <https://www.youtube.com/watch?v=5SvRolROPxA>
- [6] Wikipedia: <https://www.wikipedia.org/>

THANK YOU...!!