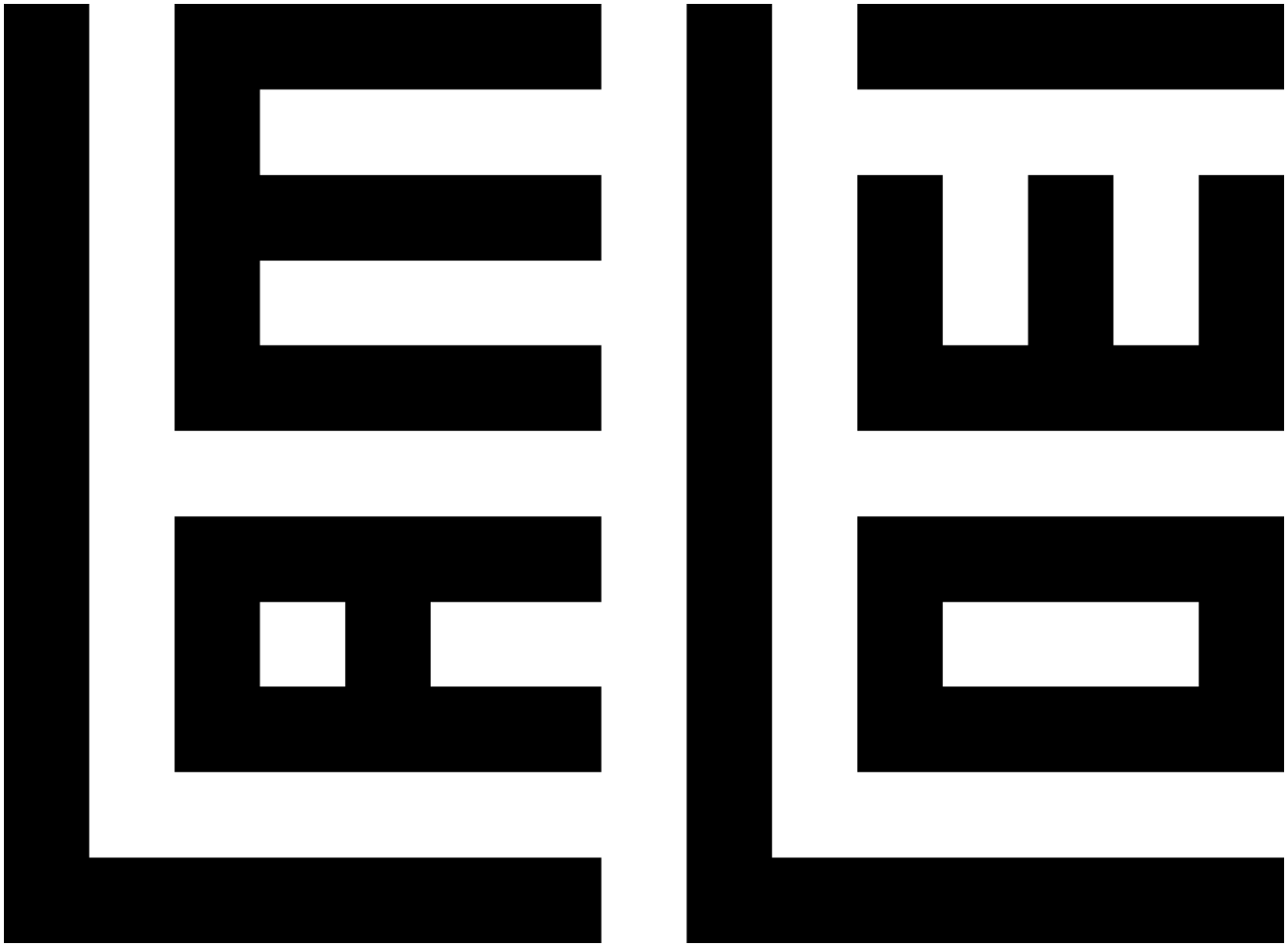


https://www.facebook.com/lamloeicom

WIFI

- WiFi SSID lamloeiWIFI
- WiFi Pass 123456789

https://github.com/lamloei/present2

https://192.168.4.100:9443 หรือ 8080 (Node32Lite)

Admin admin@blynk.cc

Pass admin

อุปกรณ์ที่ใช้

Notebook (แนะนำ Windows)

Mobile มือถือระบบ Android หรือ IOS (แนะนำ Android)

Node32Lite

โปรแกรมอื่นๆ เช่น 7-zip

อุปกรณ์ต่อพ่วงอื่นๆ เช่น สายไฟ โปรโตบอร์ด

Email หรือเป็นสมาชิก Facebook

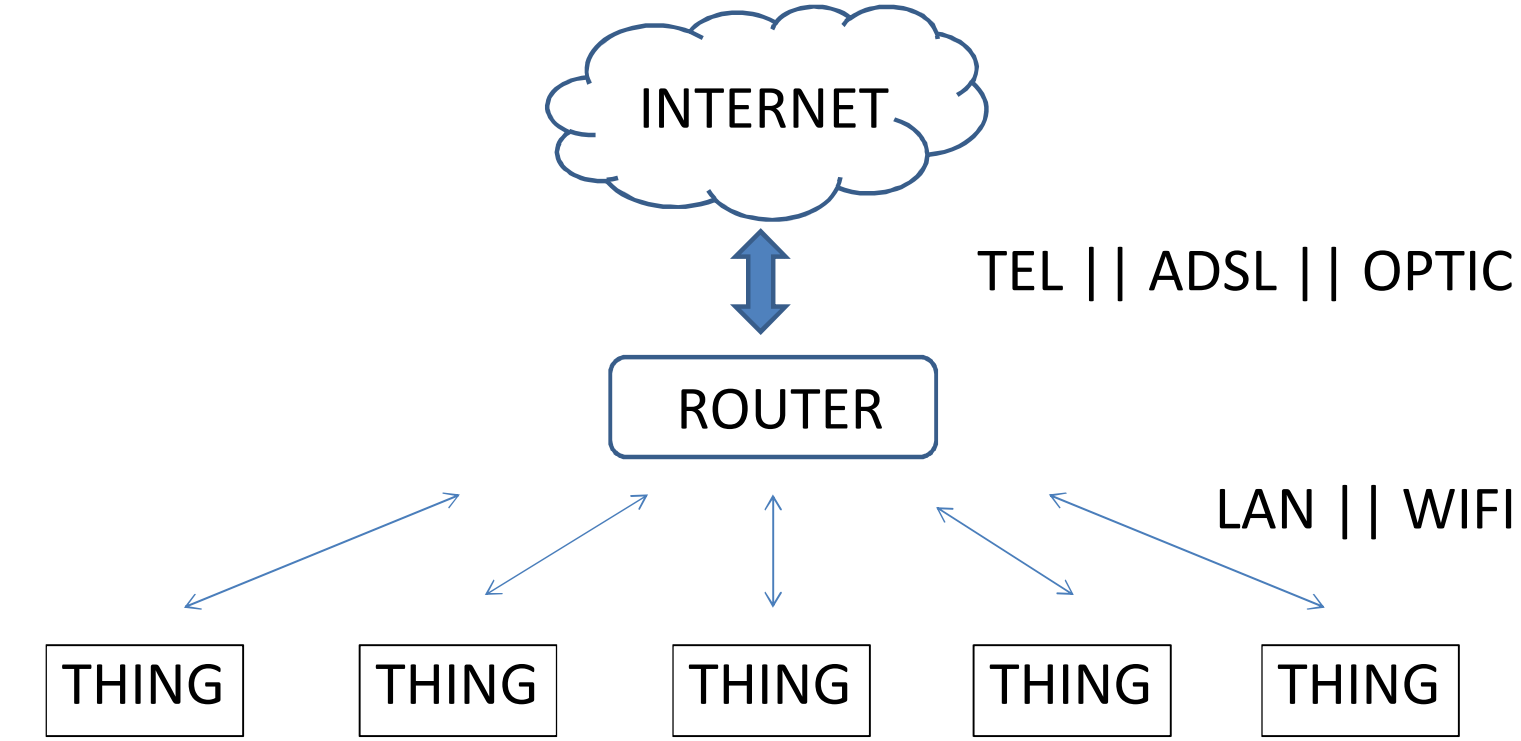
DOWNLOAD **FREE** BLYNK APP TODAY:

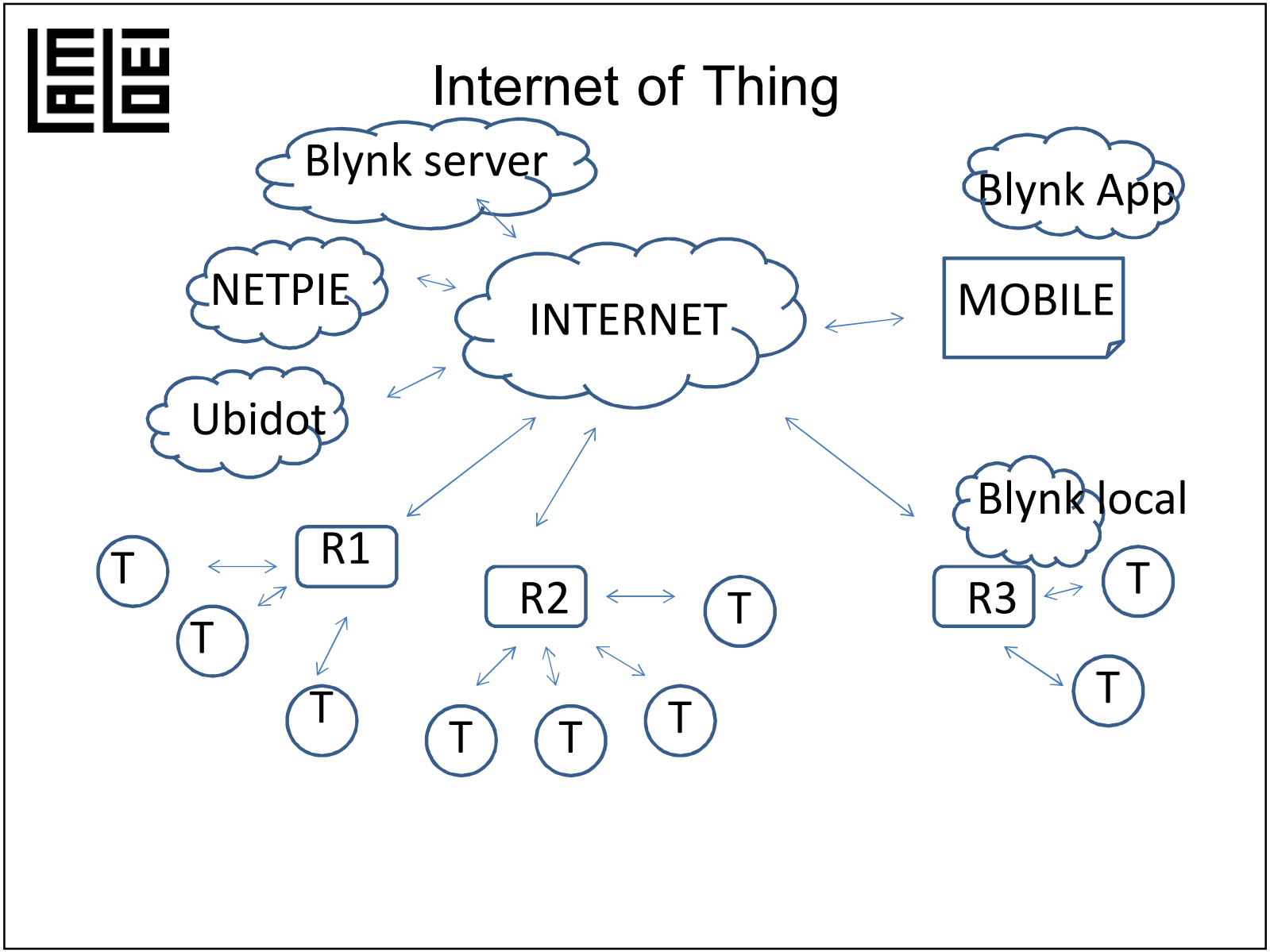
พื้นฐาน

https://www.blynk.cc/

https://github.com/blynkkk/

Internet of Thing




Internet of Thing
Blynk server
Blynk App
NETPIE
INTERNET
MOBILE
Ubidot
Blynk local
R1
R2
R3
T
T
T
T
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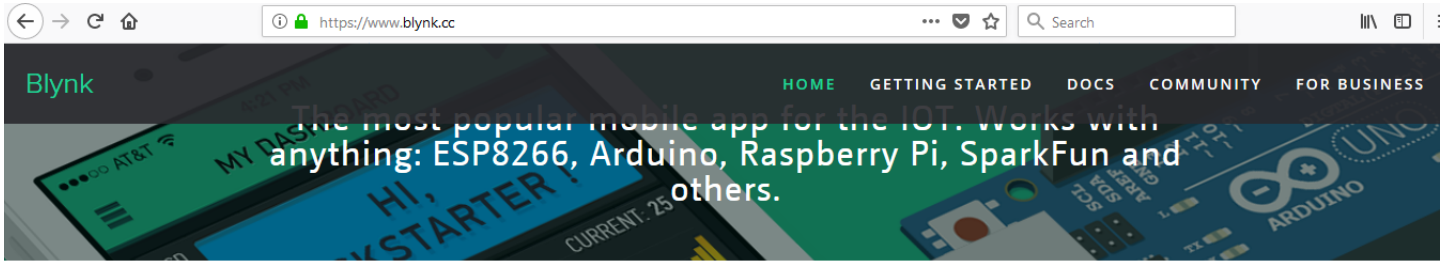
T

Agenda Day 1

1. พื้นฐานโปรแกรม
2. Arduino IDE, ESP32
3. Blynk Server, Blynk Library, Blynk Mobile

https://www.blynk.cc/



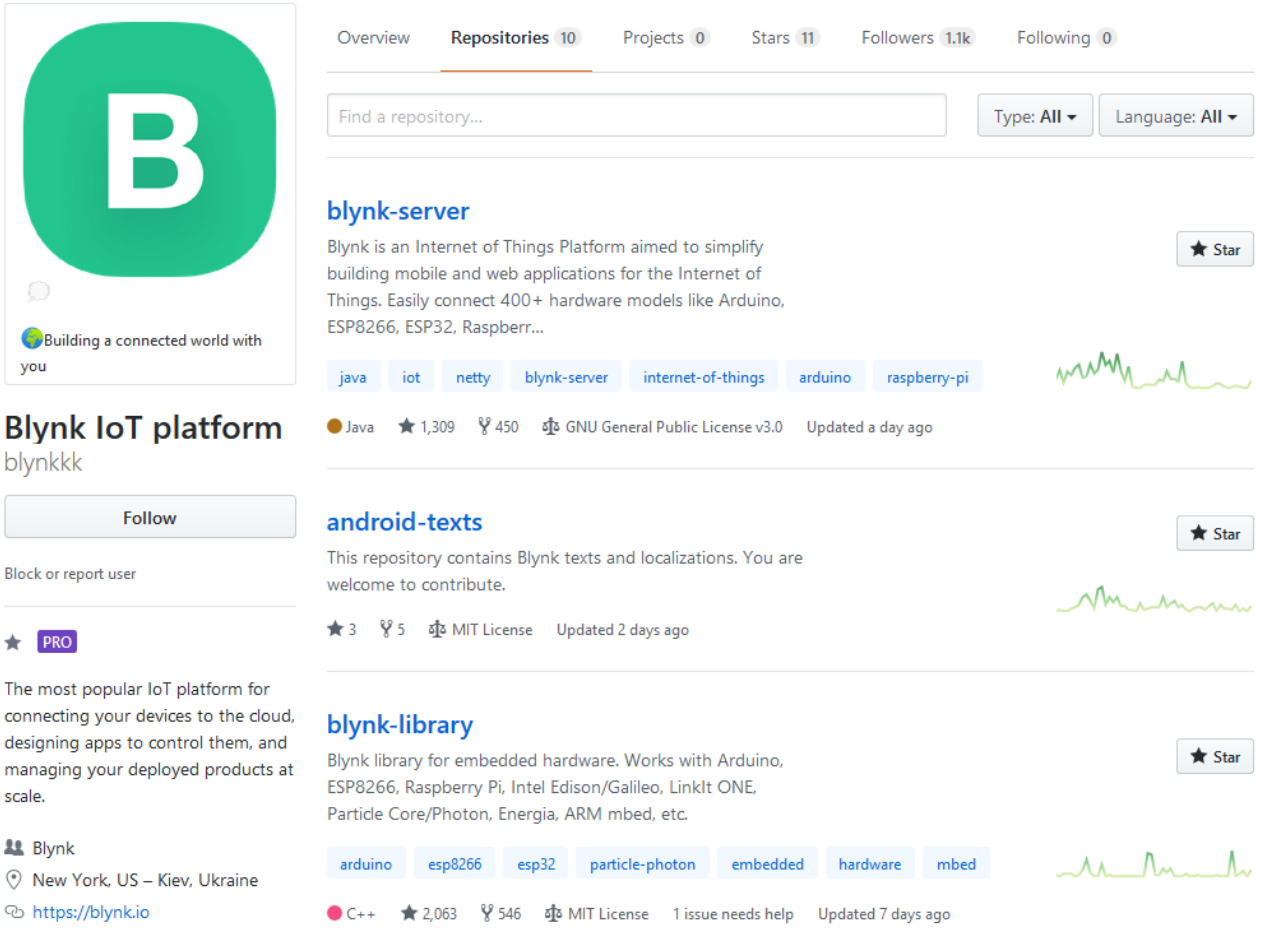
Every project made with Blynk can be branded, and published to App Store and Google Play with your icon and app name.

Interested? Click here

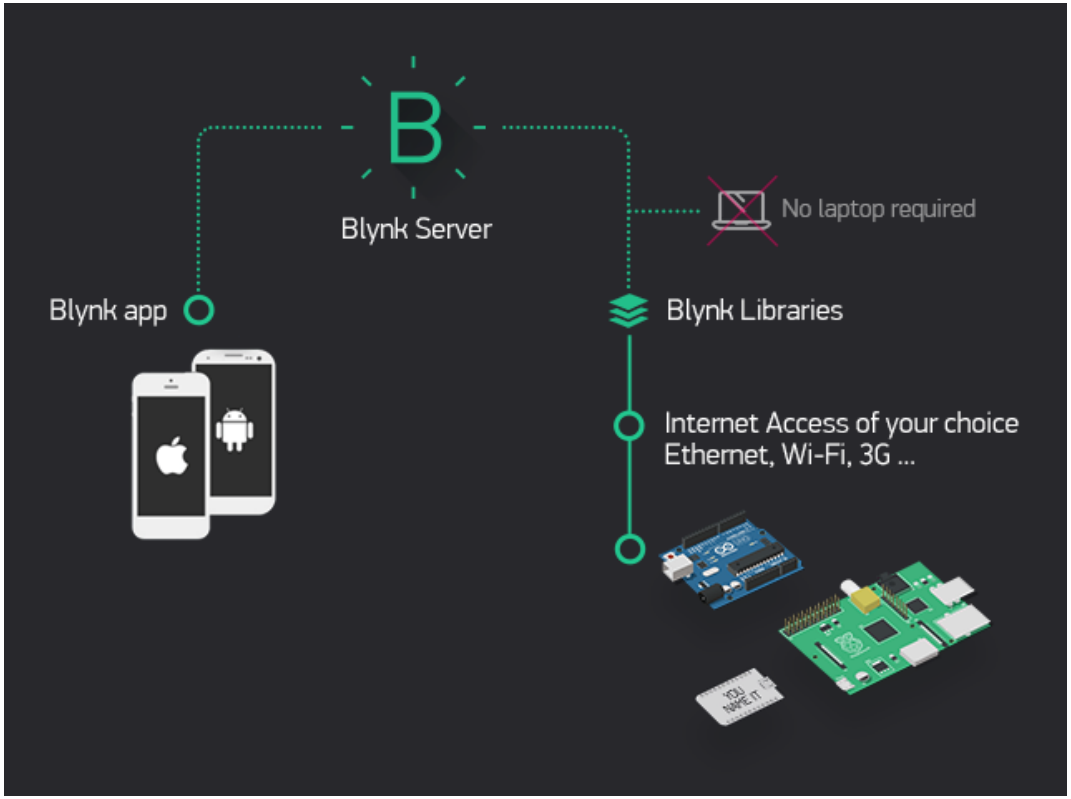
DOWNLOAD **FREE** BLYNK APP TODAY:

Available on the App Store

https://github.com/blynkkk



Blynk


B
Blynk Server
No laptop required
Blynk app
Blynk Libraries
Internet Access of your choice
Ethernet, Wi-Fi, 3G ...

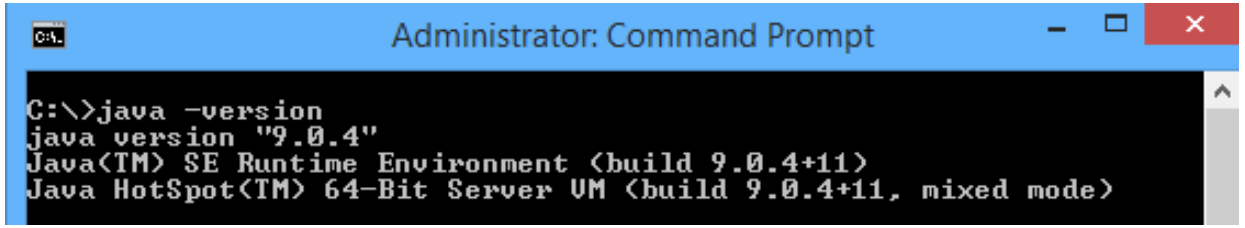
ดาวน์โหลดและติดตั้ง Blynk Server

1. Java version 9 (หรือเวอร์ชั่น 8 ขึ้นไป) และติดตั้ง
2. server-0.41.3-java8.jar

ดาวน์โหลด Java

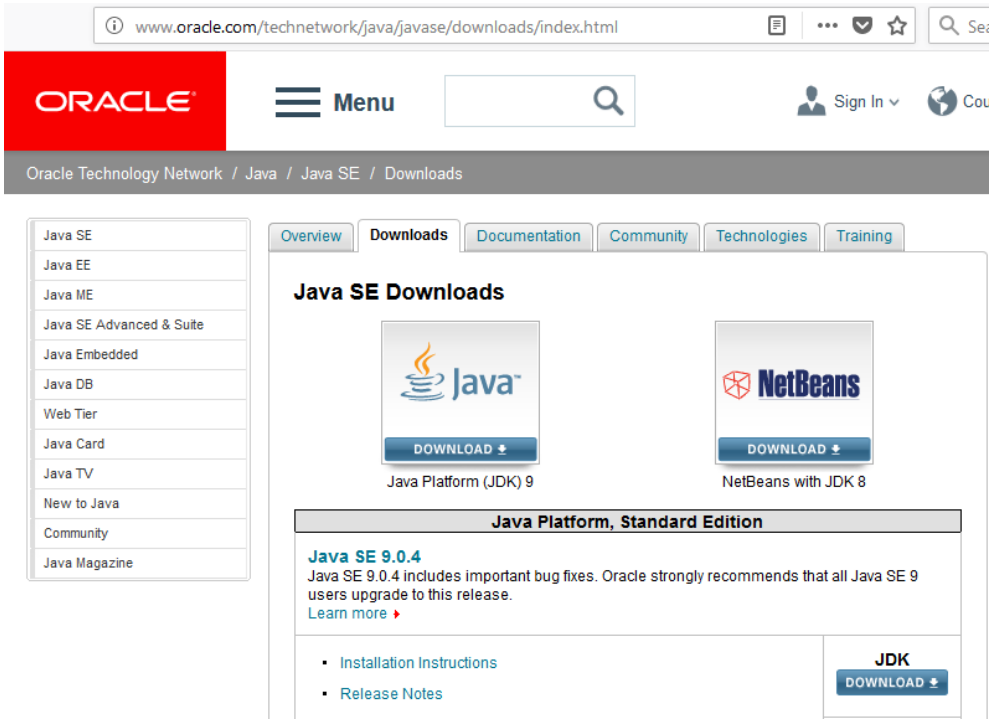
เปิด Command Prompt

พิมพ์คำสั่ง java -version

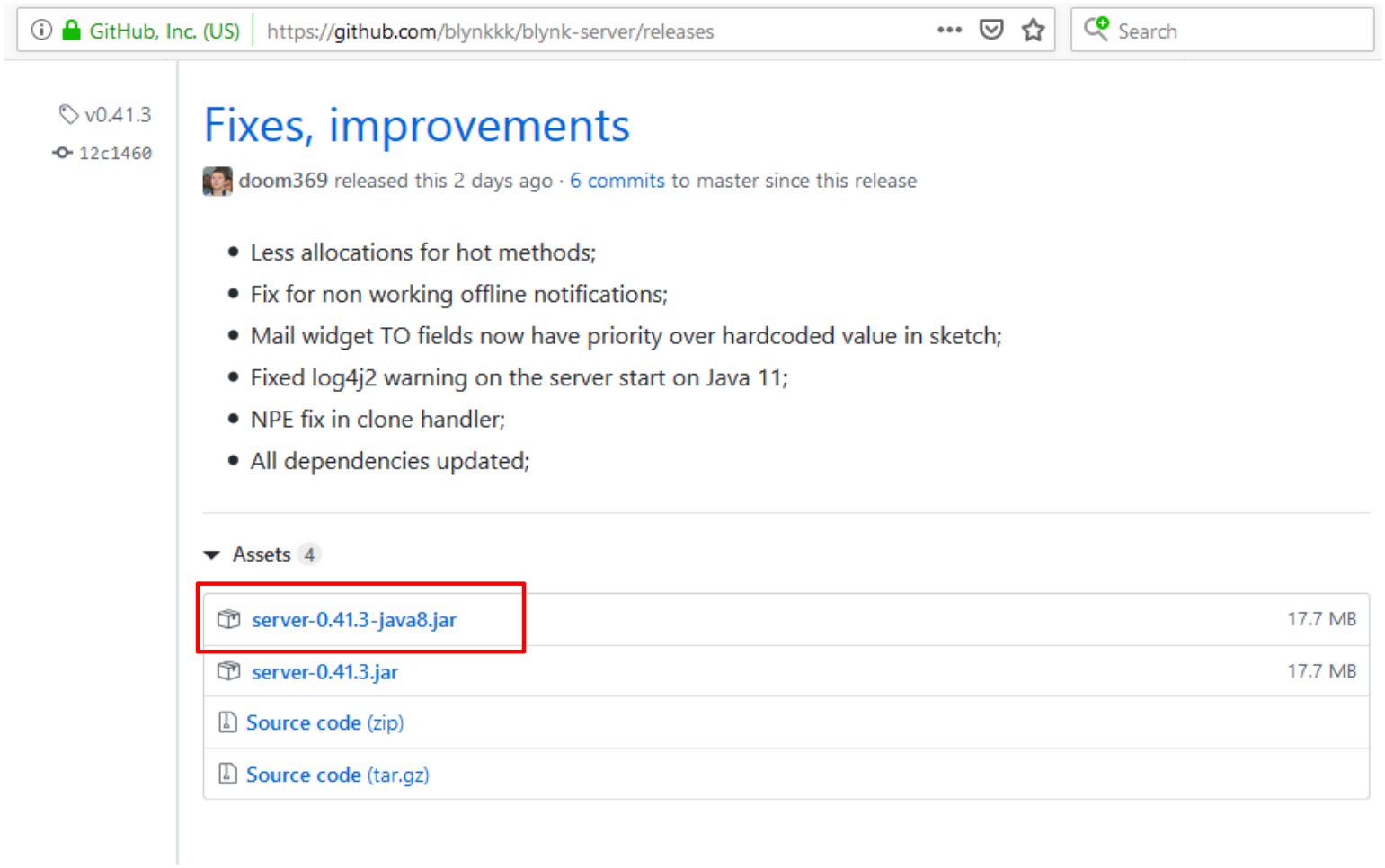


ดาวน์โหลด jdk-9.0.4_windows-x64_bin.exe

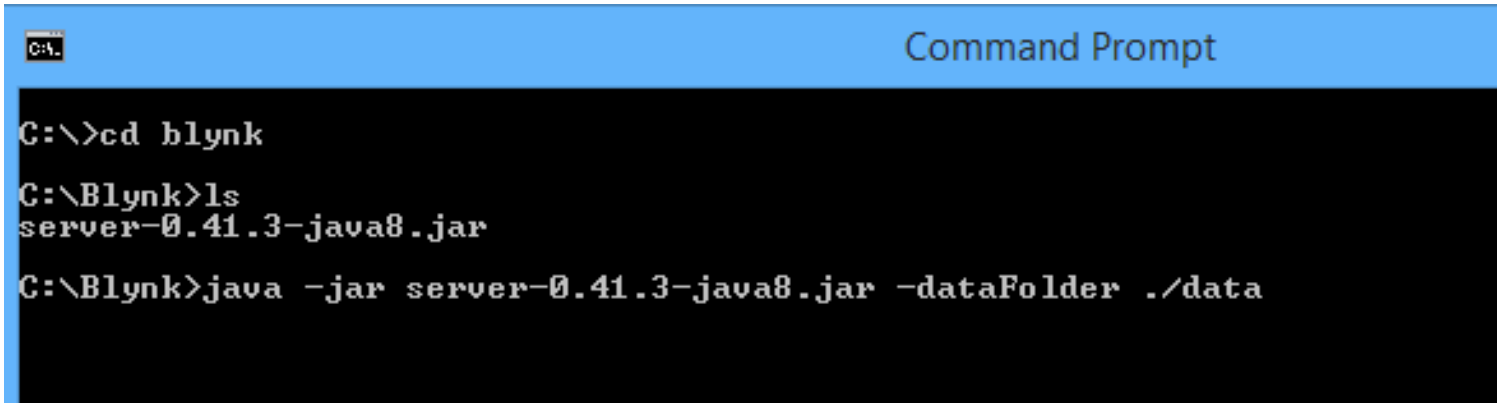
http://www.oracle.com/technetwork/java/javase/downloads/index.html



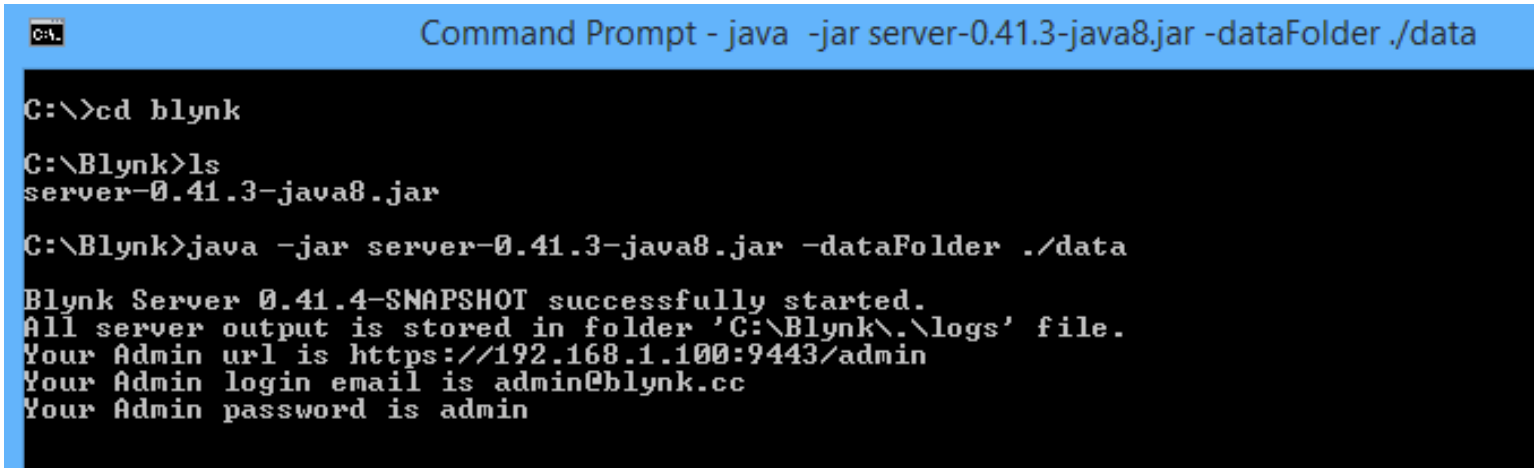
https://github.com/blynkkk/blynk-server/releases



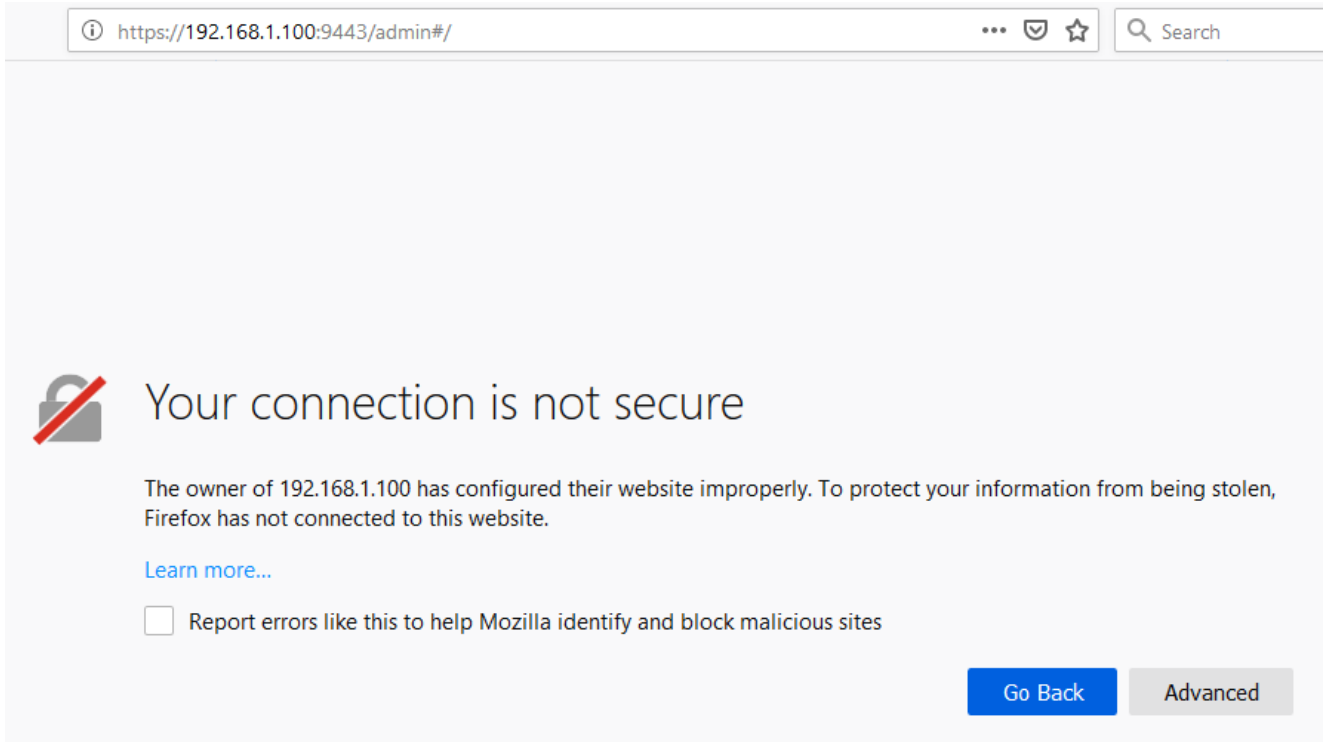
java –jar server-0.41.3-java8.jar –dataFolder ./data



https://192.168.1.100:9443/admin

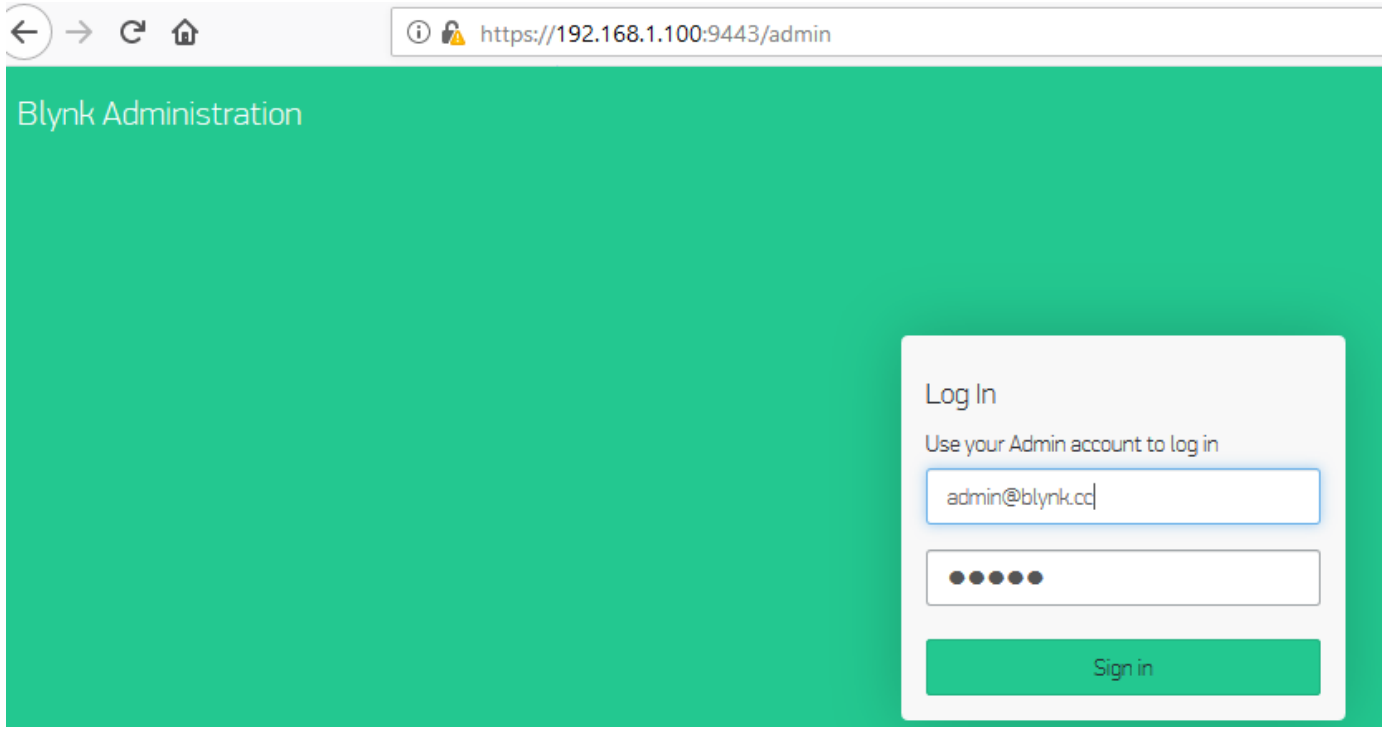


Advanced > Add Exception…

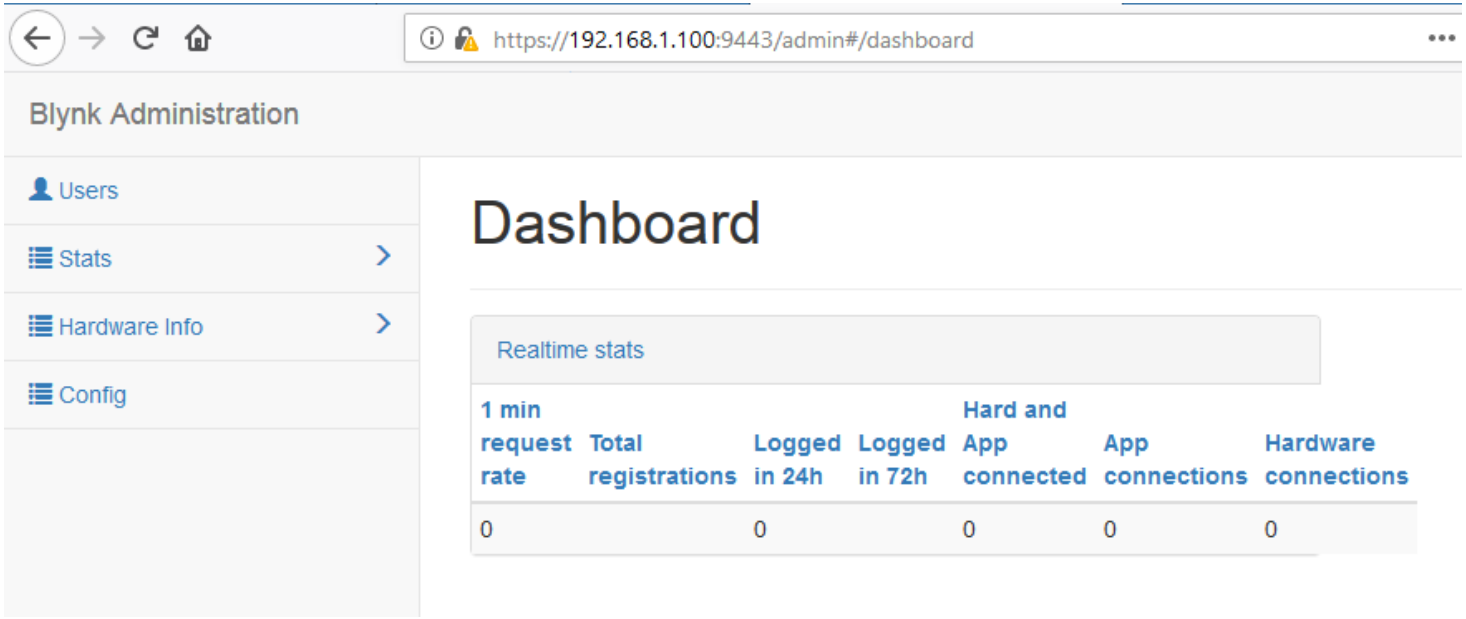


Confirm Security Exception

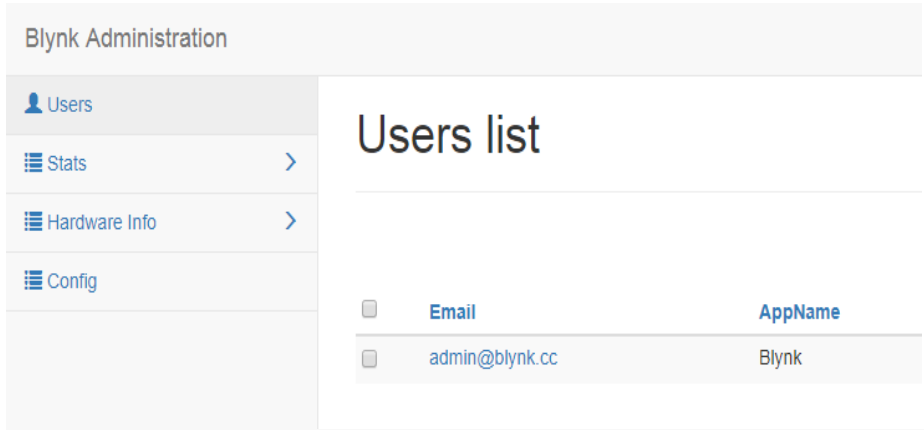
กรอก User และ Password

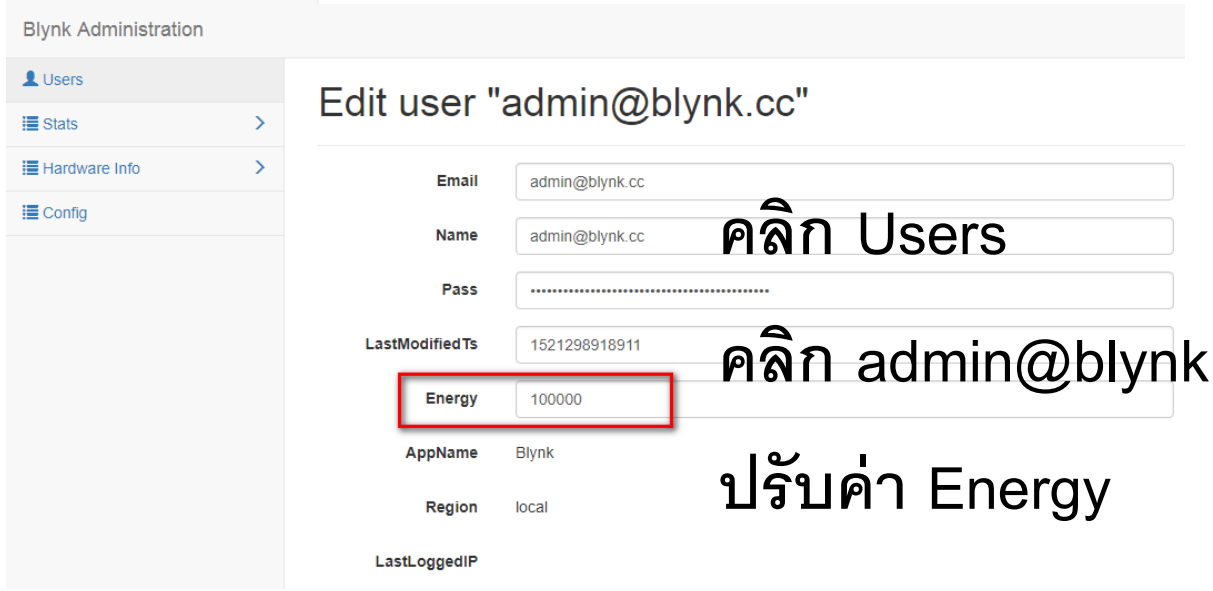


Dashboard


https://192.168.1.100:9443/admin#/dashboard
Blynk Administration
Users
Stats
Hardware Info
Config
Dashboard
Realtime stats
1 min request rate
Total registrations
Logged in 24h
Logged in 72h
Hard and App connected
App connections
Hardware connections
0
0
0
0
0

User



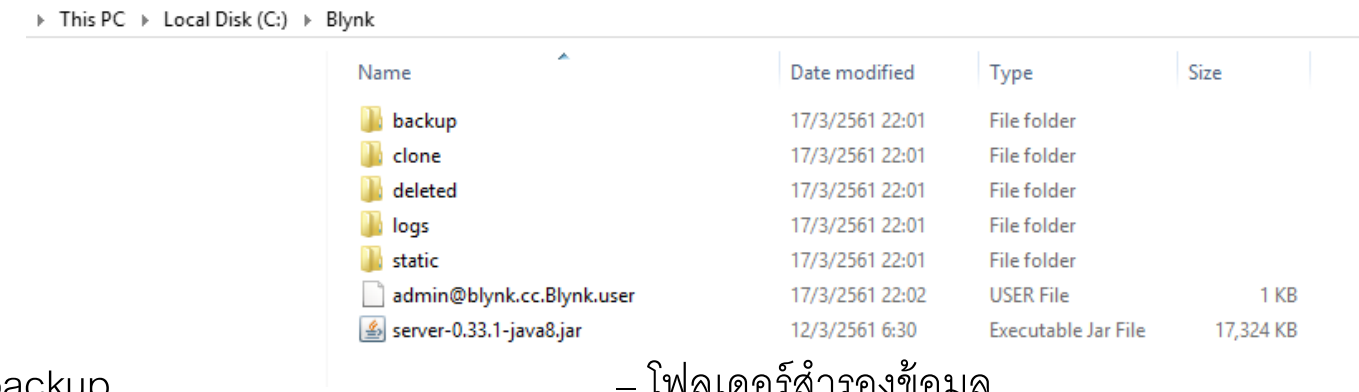


คลิก Users

คลิก admin@blynk.cc

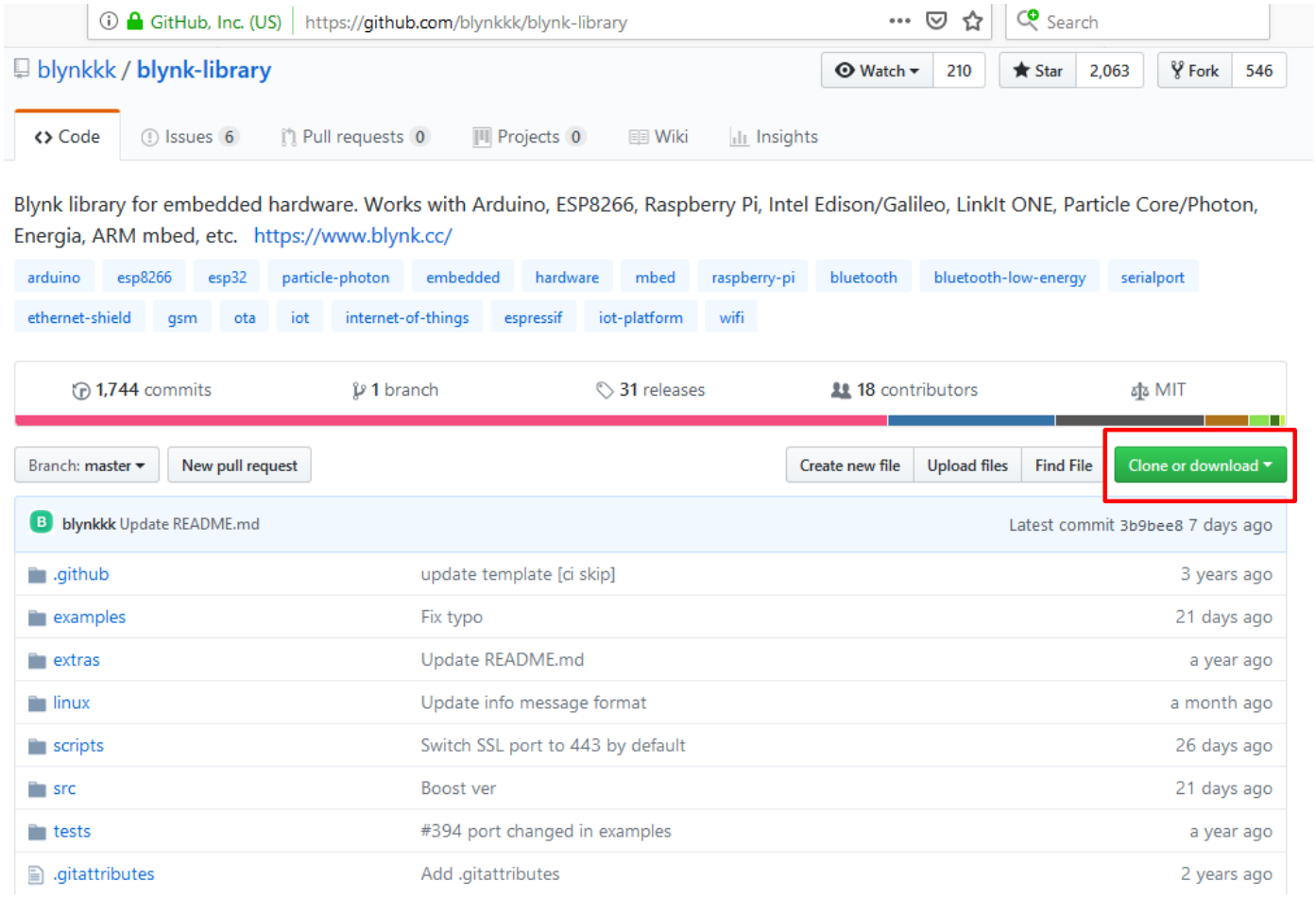
ปรับค่า Energy

Blynk Folder



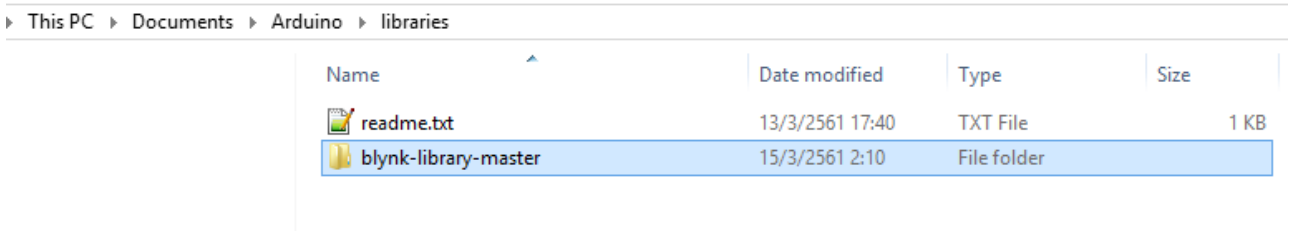
backup	– โฟลเดอร์สำรองข้อมูล
clone	- โฟลเดอร์คัดสำเนา
deleted	–โฟลเดอร์เก็บสิ่งที่ถูกลบ
logs	–โฟลเดอร์สถิติการใช้งาน
static	- โฟลเดอร์หน้าเว็บ
admin@blynk.cc.Blynk.user	- ไฟล์ข้อมูลผู้ใช้งาน
server-0.41.3-java8.jar	- ไฟล์รันเซิร์ฟเวอร์

Blynk Library

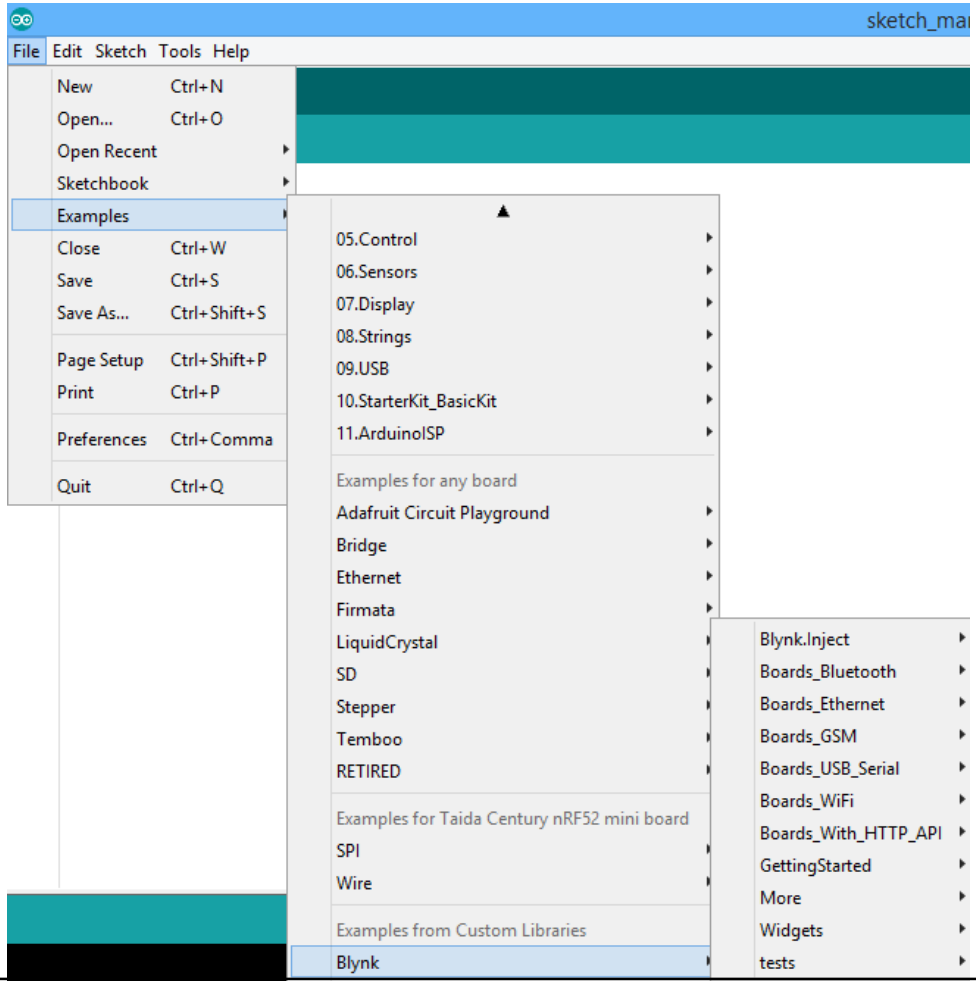


แตกไฟล์ blynk-library-master.zip ไปที่

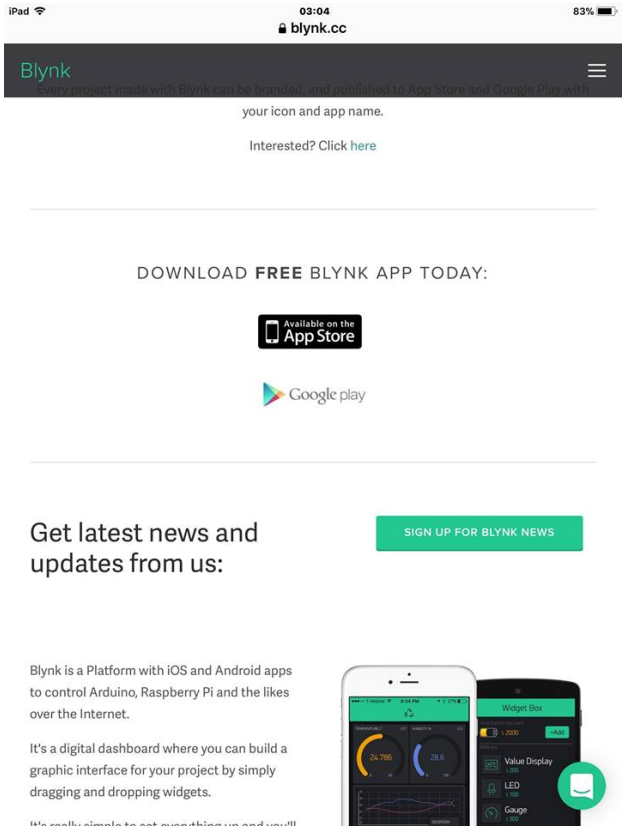
C:\Users\[admin]\Documents\Arduino\libraries

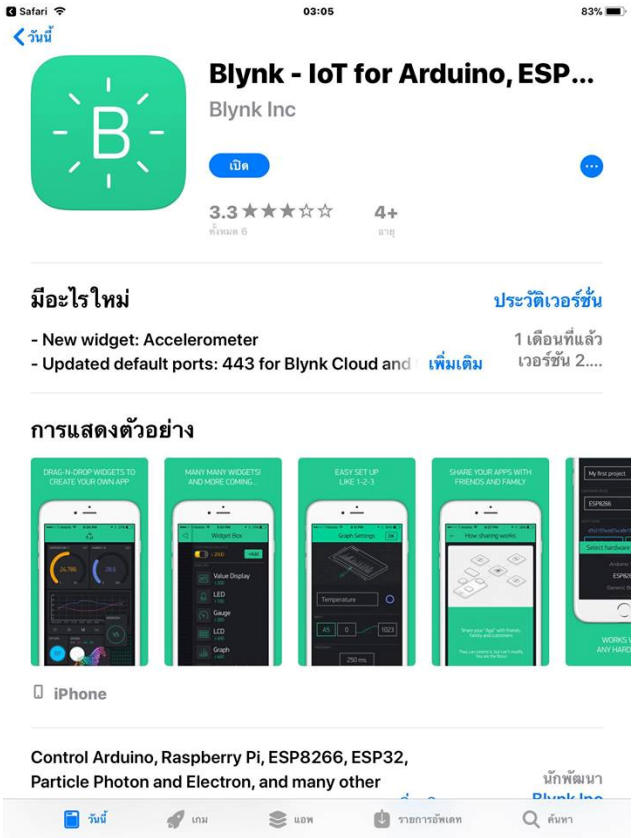


File > Examples > Blynk

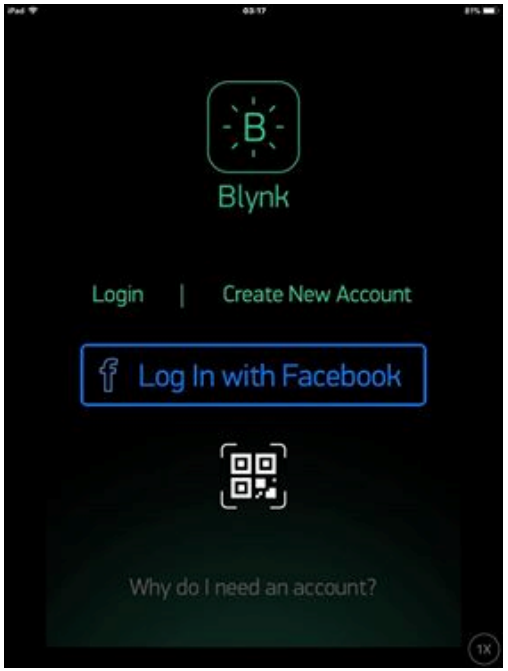


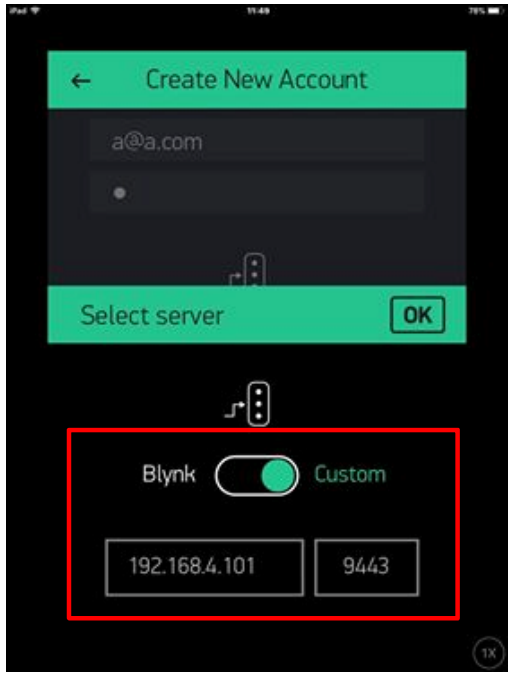
ติดตั้งบนมือถือ Blynk (App Store, Google Play)

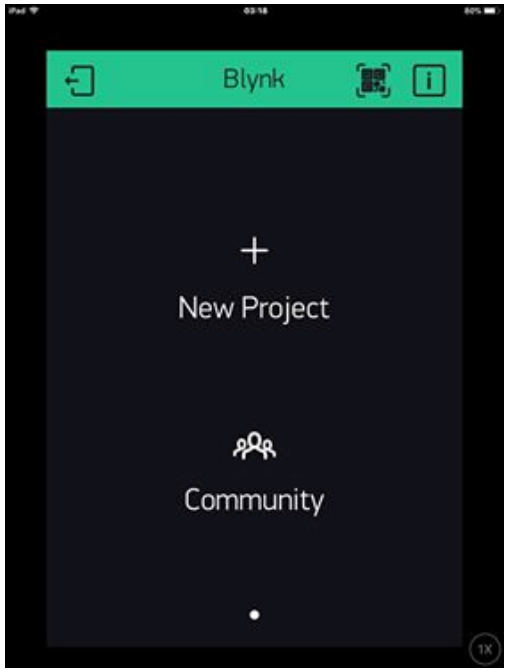




Create New Account (local)

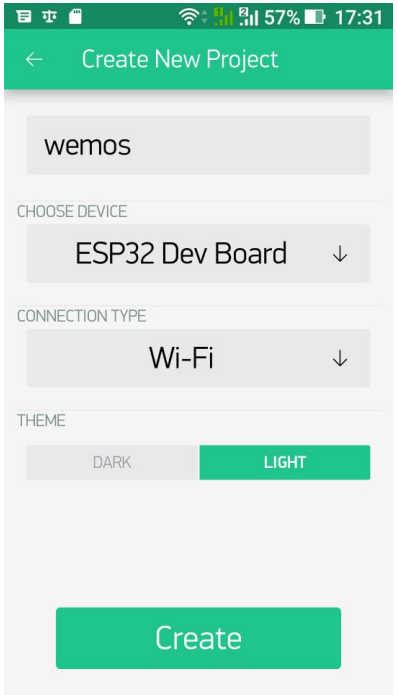




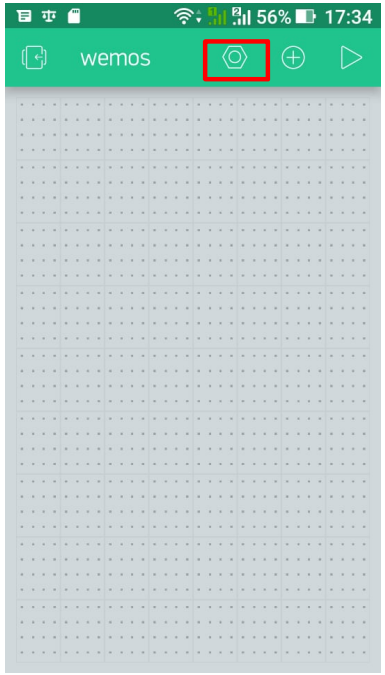


Create New Account … Select server local + New Project

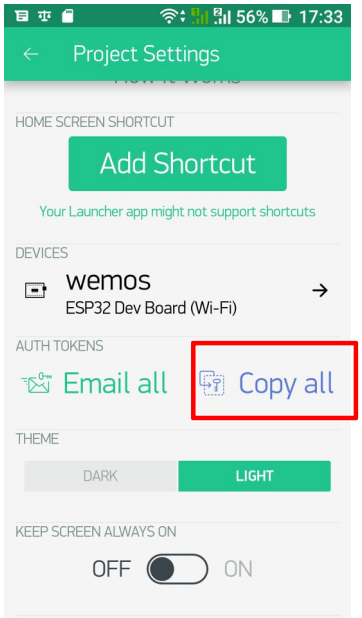
คัดลอก Auth Token



New Project

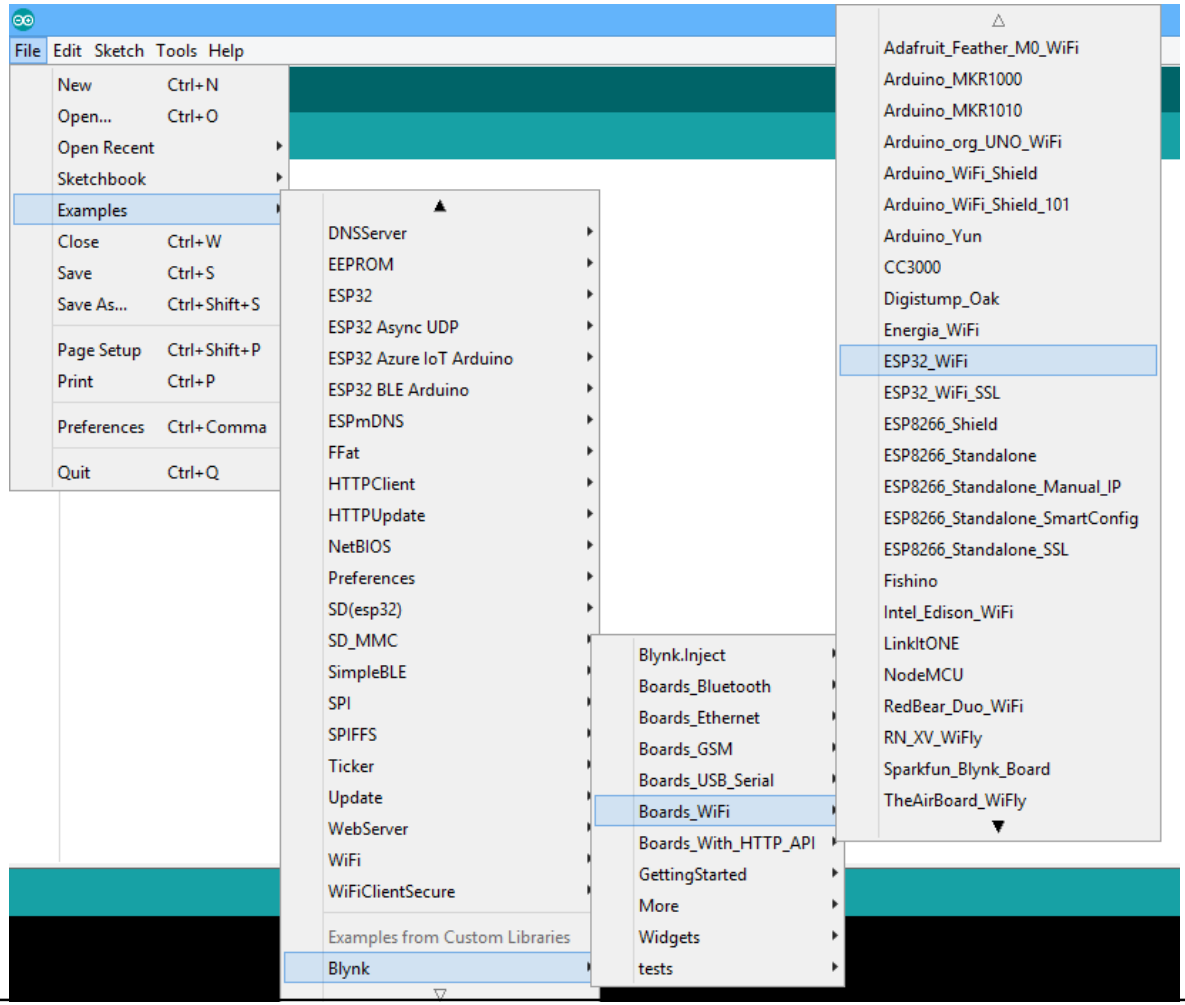


ตั้งค่า (รูปหกเหลี่ยม)



Copy Auth Token

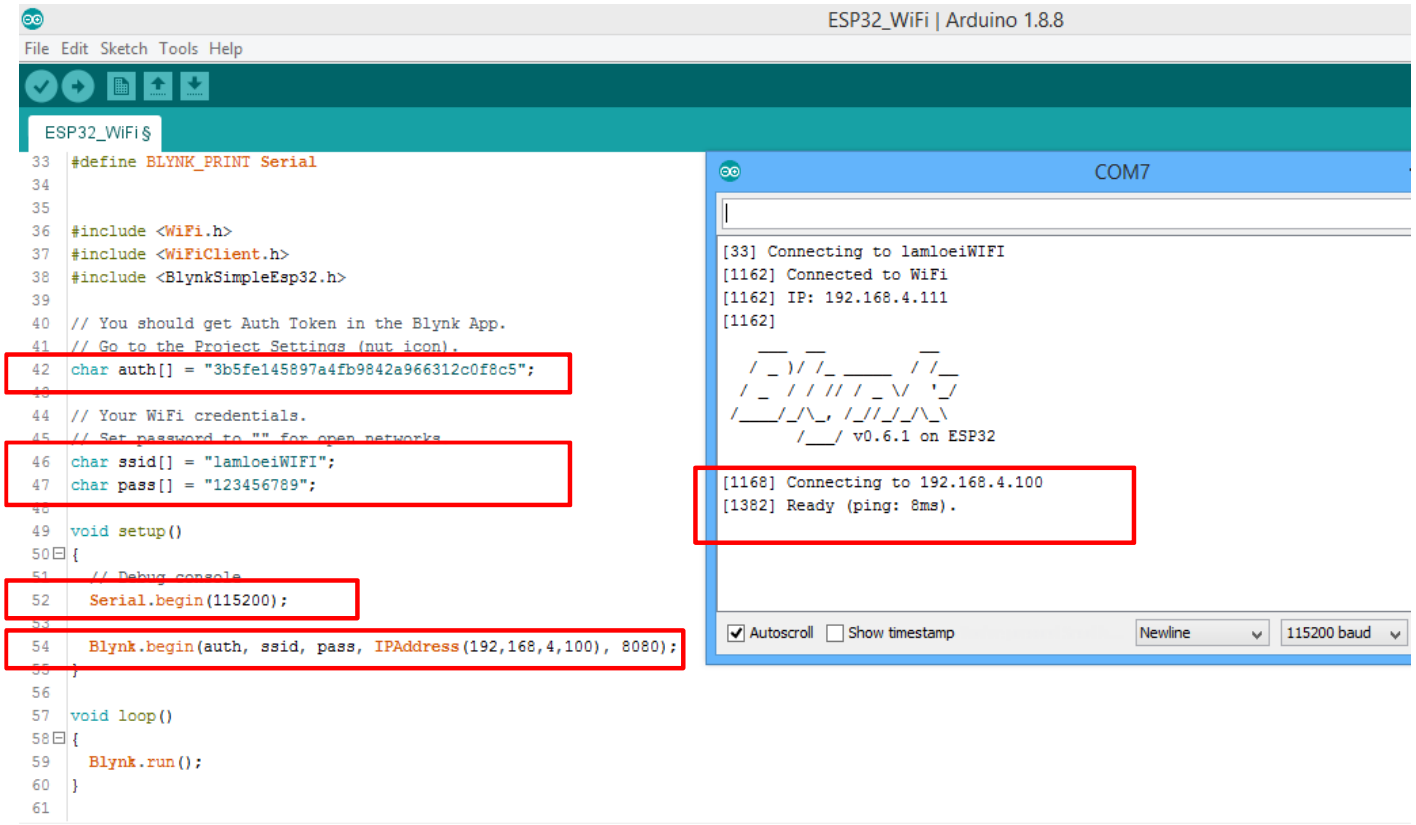
File>Examples>Blynk>Boards_WiFi>ESP32_WIFI



ปรับโค้ด

```
char auth[] = "3b5fe145897a4fb9842a966312c0f8c5";

char ssid[] = "lamloeiWIFI";
char pass[] = "123456789";

Serial.begin(115200);

Blynk.begin(auth, ssid, pass, IPAddress(192,168,4,100), 8080);
```

Result


ESP32_WiFi | Arduino 1.8.8
File Edit Sketch Tools Help
ESP32_WiFi §
#define BLYNK_PRINT Serial
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
// You should get Auth Token in the Blynk App.
// Go to the Project Settings (nut icon).
char auth[] = "3b5fe145897a4fb9842a966312c0f8c5";
// Your WiFi credentials.
// Set password to "" for open networks.
char ssid[] = "lamloeiWIFI";
char pass[] = "123456789";
void setup()
{
// Debug console
Serial.begin(115200);
Blynk.begin(auth, ssid, pass, IPAddress(192,168,4,100), 8080);
}
void loop()
{
Blynk.run();
}
COM7
[33] Connecting to lamloeiWIFI
[1162] Connected to WiFi
[1162] IP: 192.168.4.111
[1162]
v0.6.1 on ESP32
[1168] Connecting to 192.168.4.100
[1382] Ready (ping: 8ms).
Autoscroll
Show timestamp
Newline
115200 baud

สรุป

- Local blynk

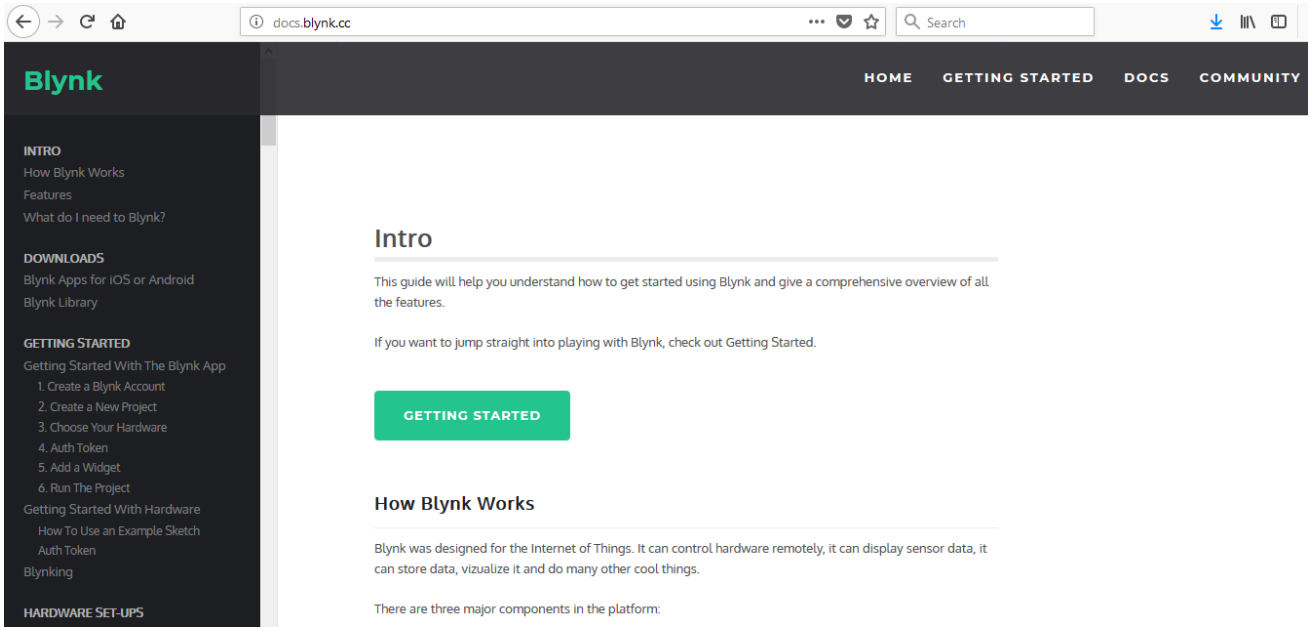
Blynk.begin(auth, ssid, pass, IPAddress(192,168,4,100), 8080);

- Server blynk.cc

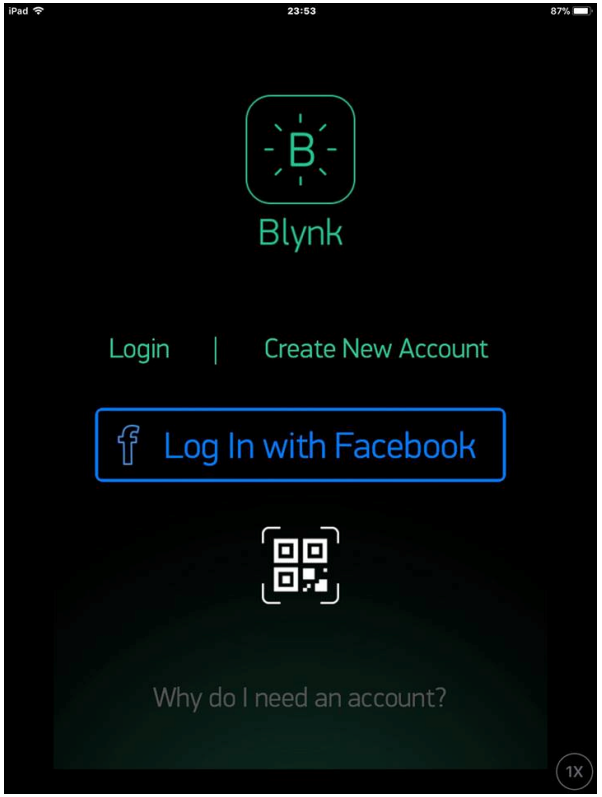
Blynk.begin(auth, ssid, pass);

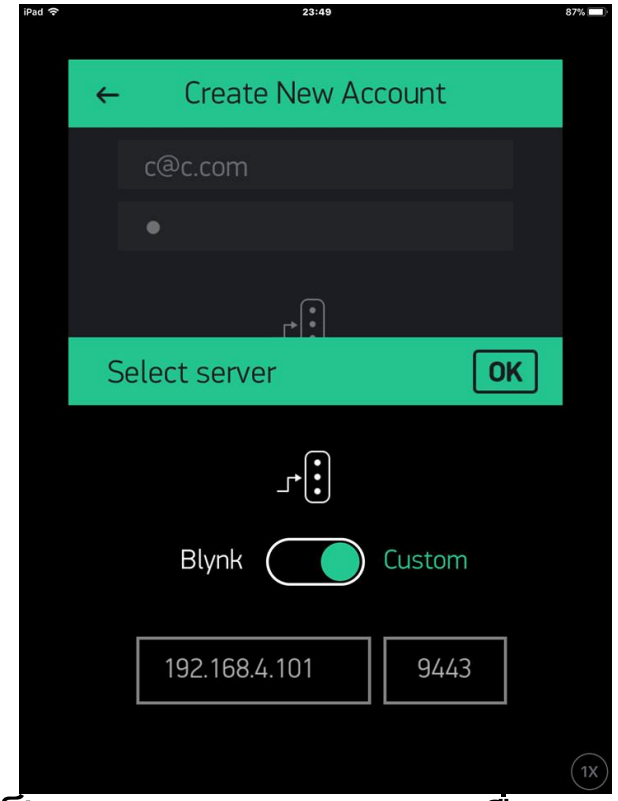
http://docs.blynk.cc

- Blynk
- Virtual PIN, Widget



เปิด Blynk App แล้ว Create New Account

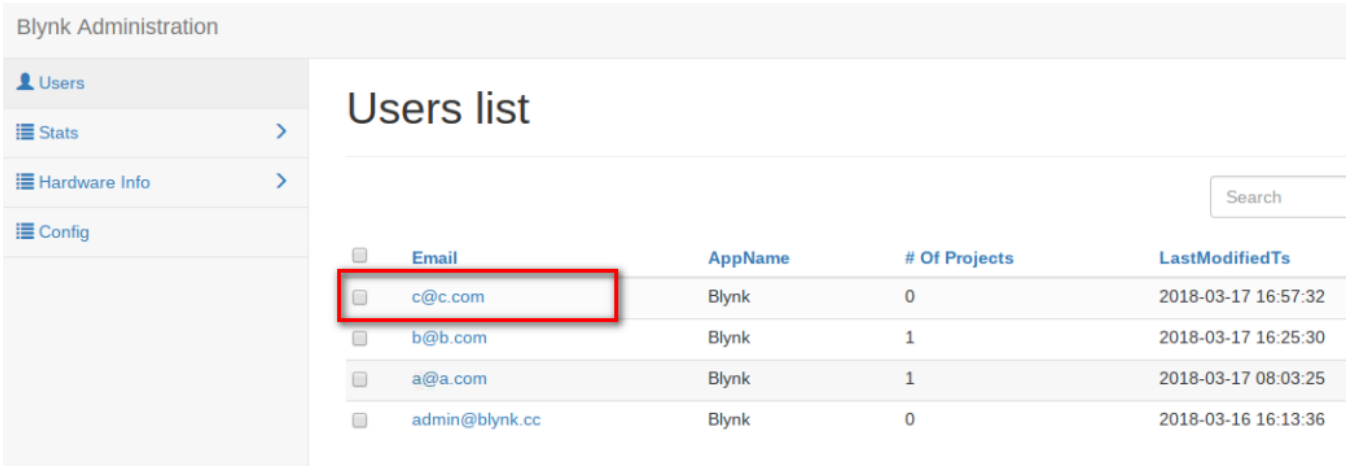




เป็น IP ADDRESS ของเครื่องคุณ

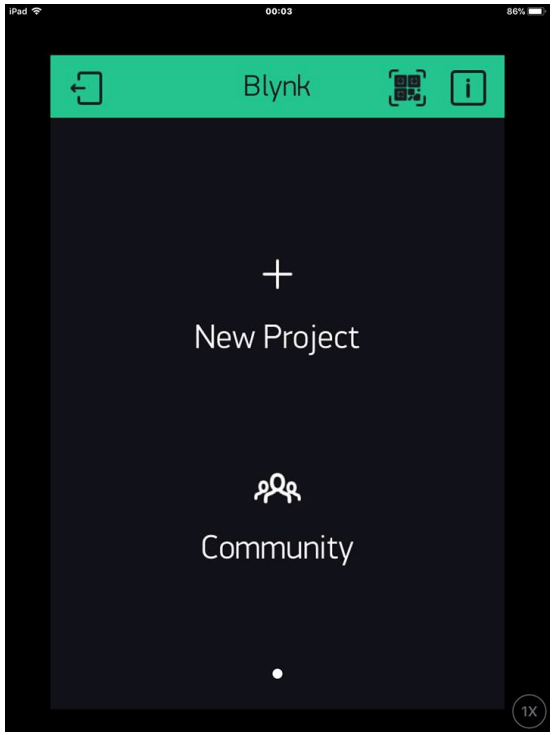
Select Server เป็น 192.168.4.101 port 9443

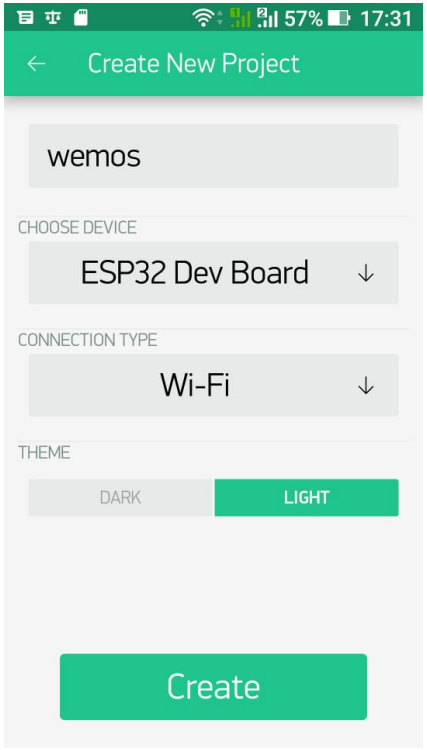
Users list



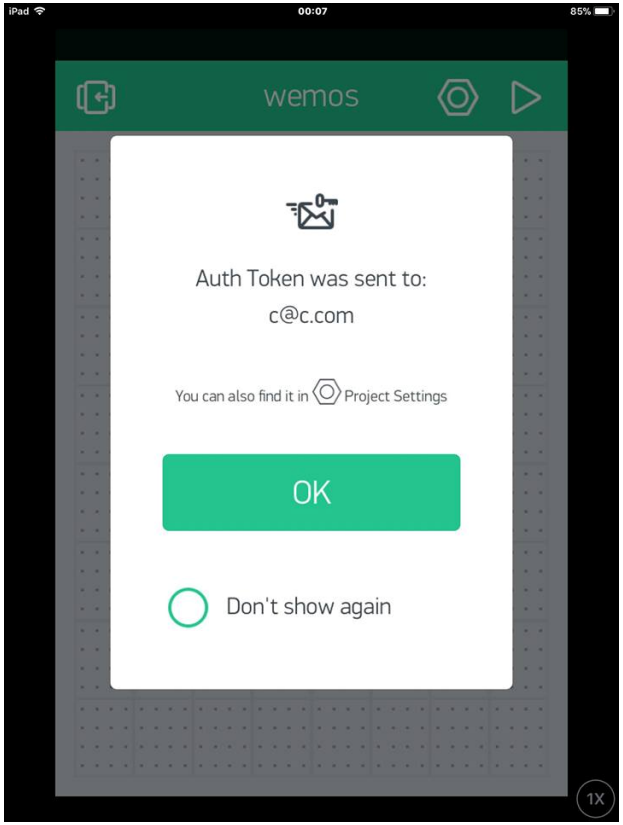
Refresh ที่ users dashboard จะปรากฏ user ใหม่

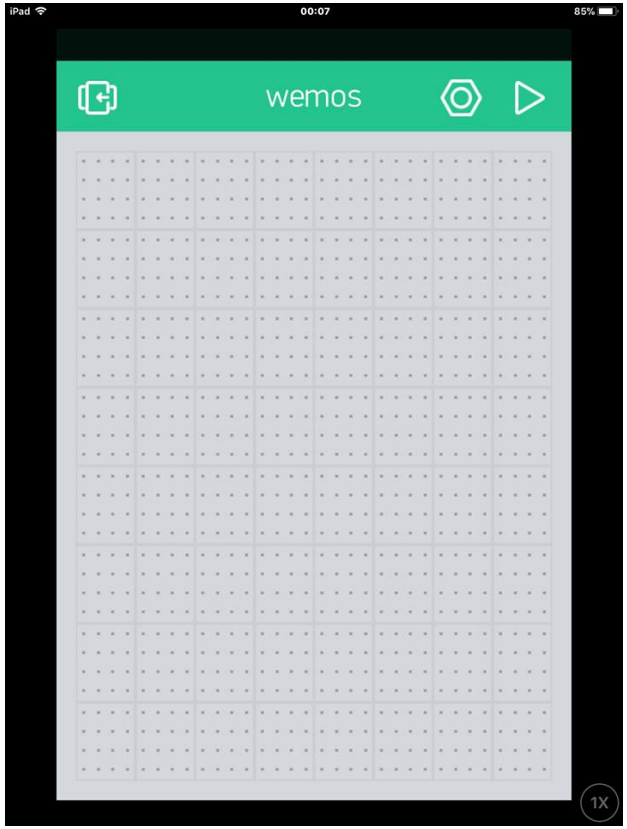
New Project แล้วตั้งชื่อโปรเจ็ค



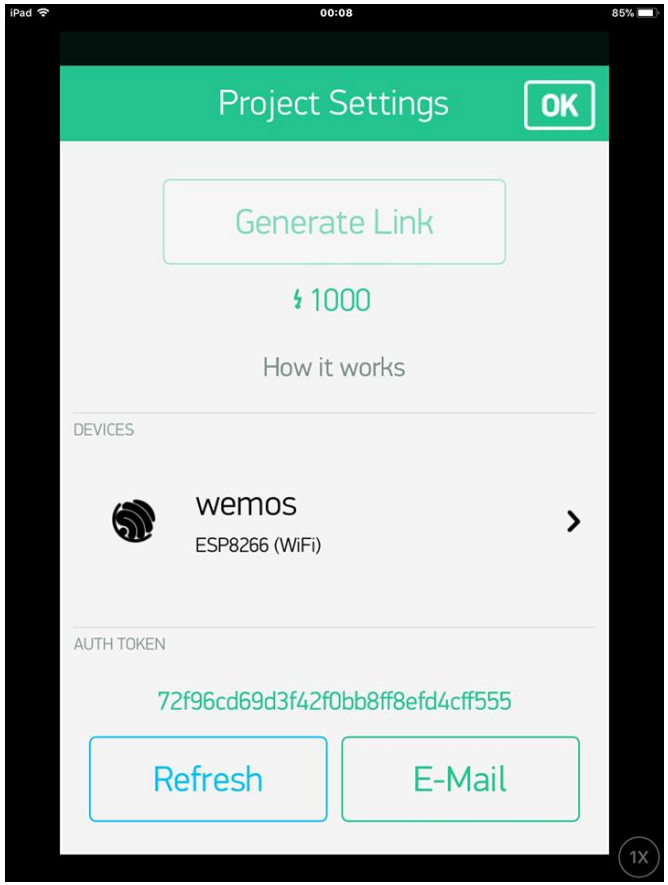


คลิก ok แล้วคลิกปุ่ม หกเหลี่ยม

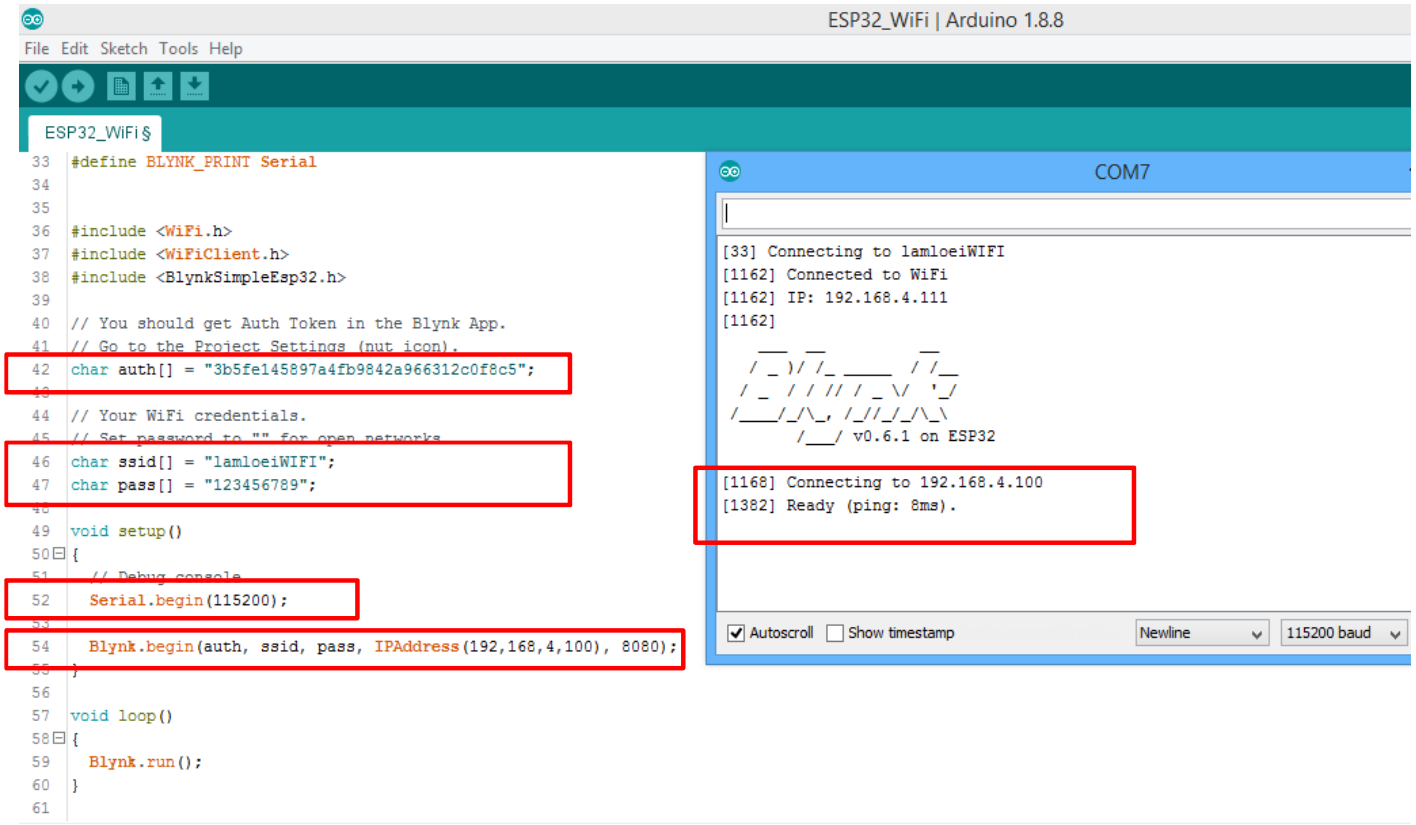




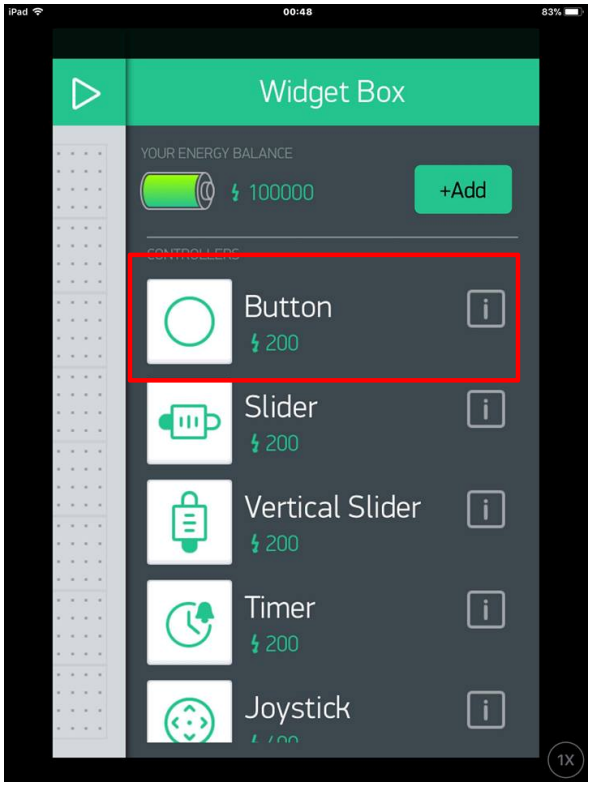
คัดลอก Auth Token

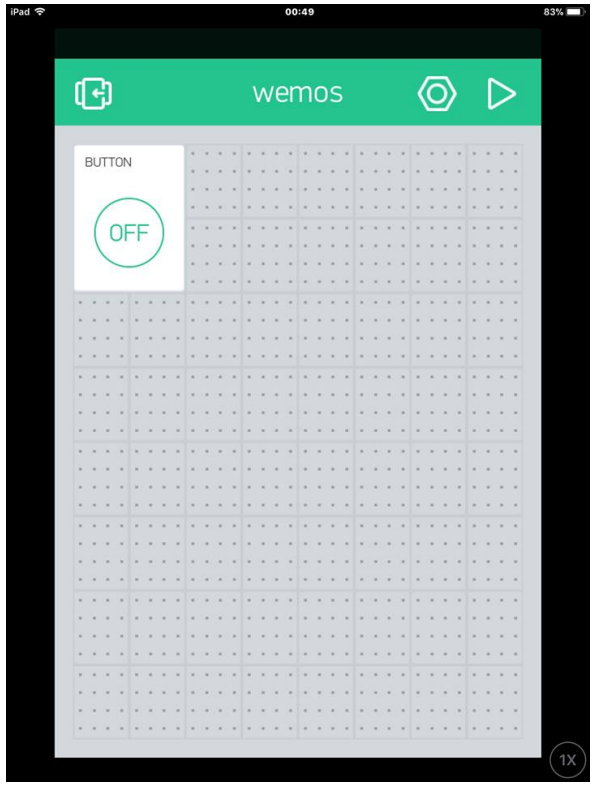


File>Examples>Blynk>Boards_WiFi>ESP32_WIFI



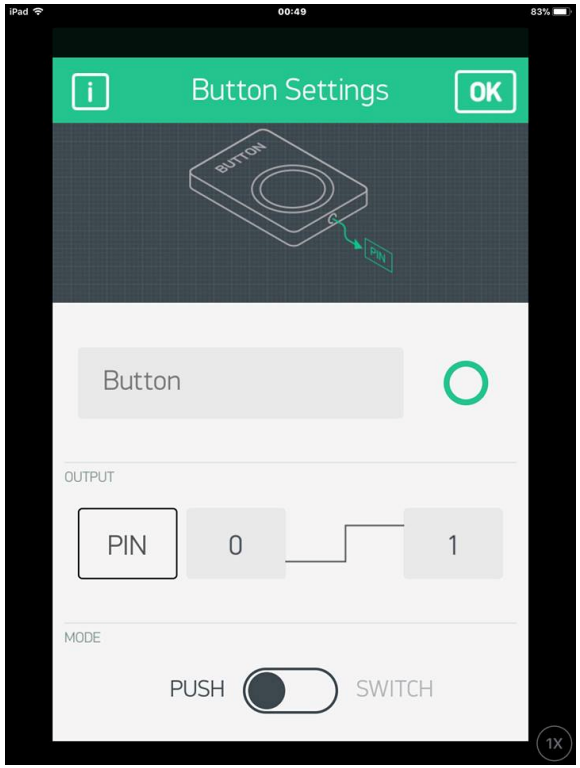
+Add Button

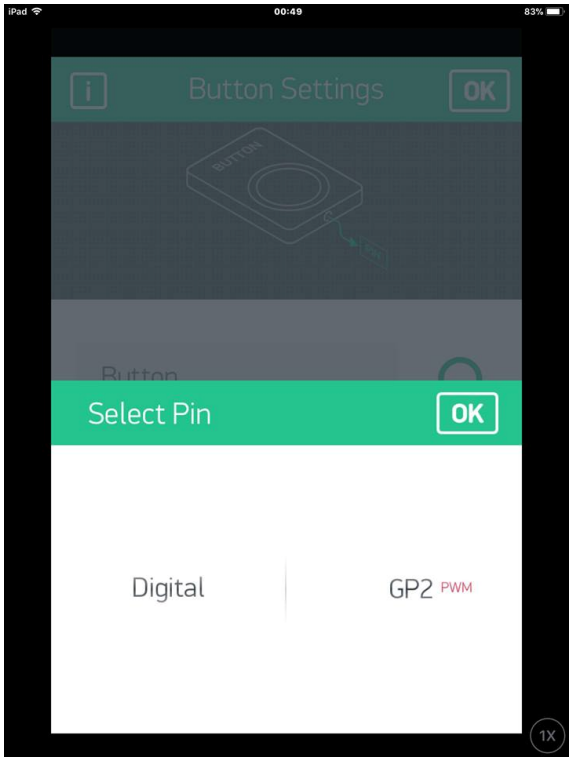




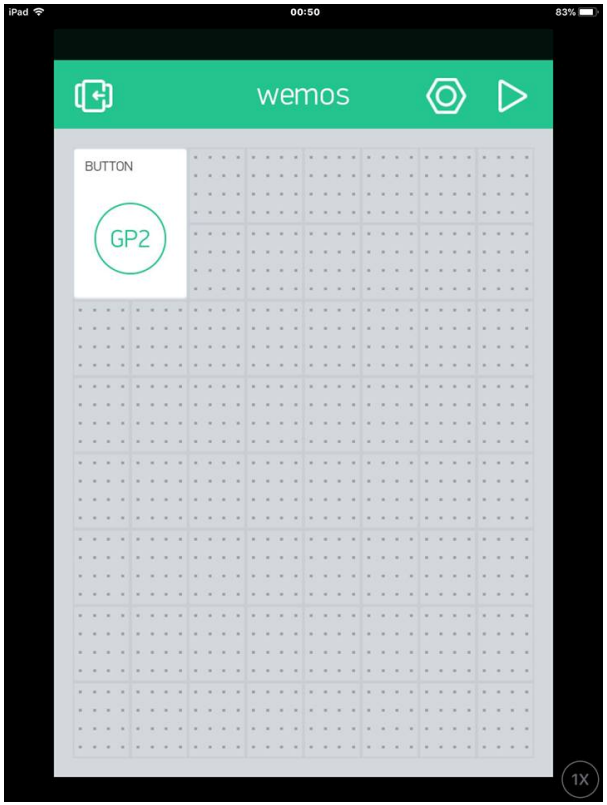
คลิก BUTTON

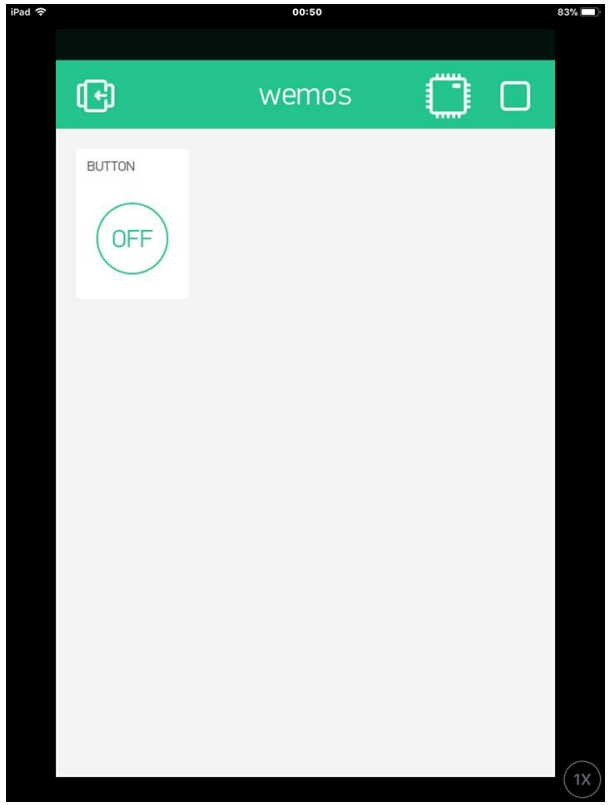
คลิก PIN เลือกเป็น Digital GP2





คลิกปุ่ม สามเหลี่ยม เพื่อรัน





เมื่อกดปุ่ม ไฟจะดับ เมื่อปล่อยปุ่มไฟจะติด

สรุป ขั้นตอนปรับโค้ด

1. ปรับ include

```
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
```

2. ปรับค่า auth, ssid, pass

```
char auth[] = “YOUR AUTH";
char ssid[] = "lamloeiWIFI";
char pass[] = "123456789";
```

3. ปรับ Blynk begin

```
Blynk.begin(auth, ssid, pass, IPAddress(192,168,4,101), 8080);
```

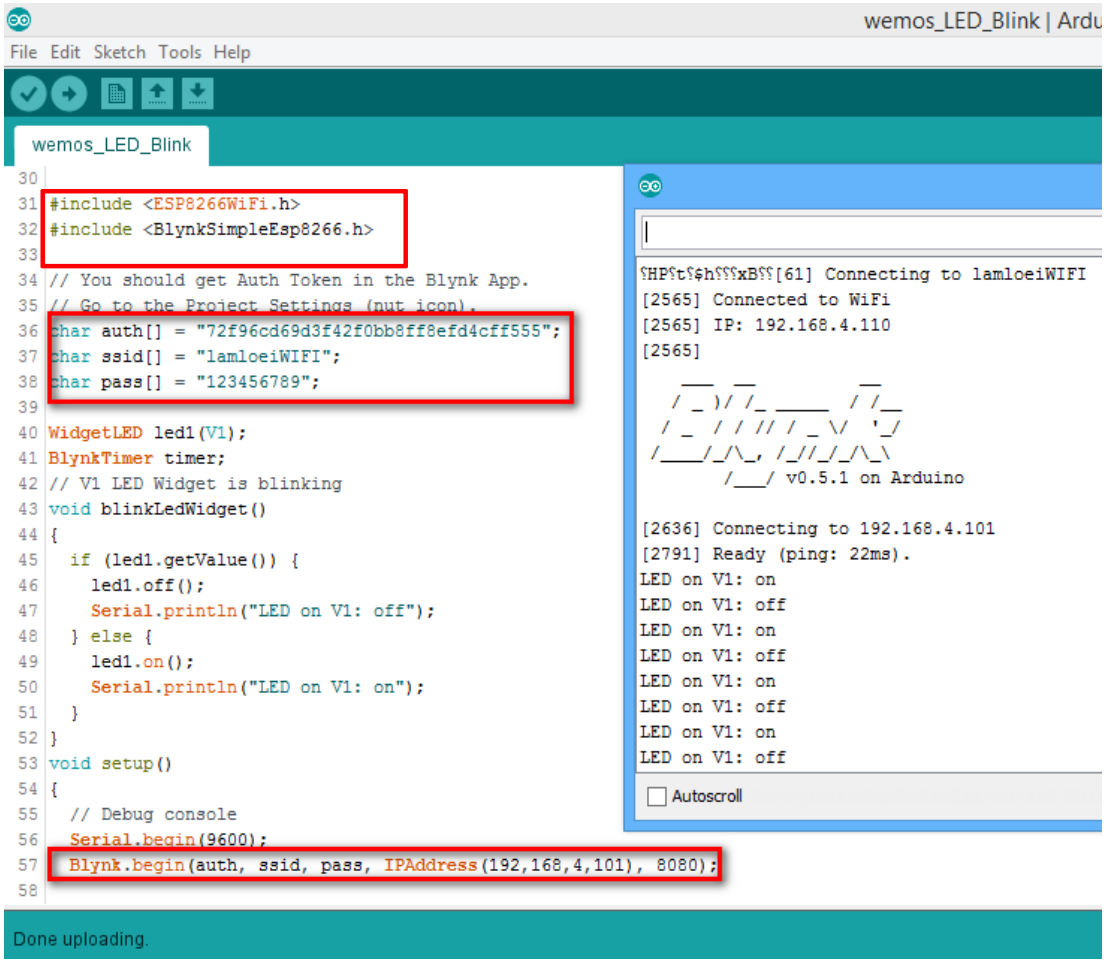
แบบฝึกหัด

- ให้ใส่ PIN ขาอื่น
- เปลี่ยนปุ่มจาก PUSHเป็น SWITCH

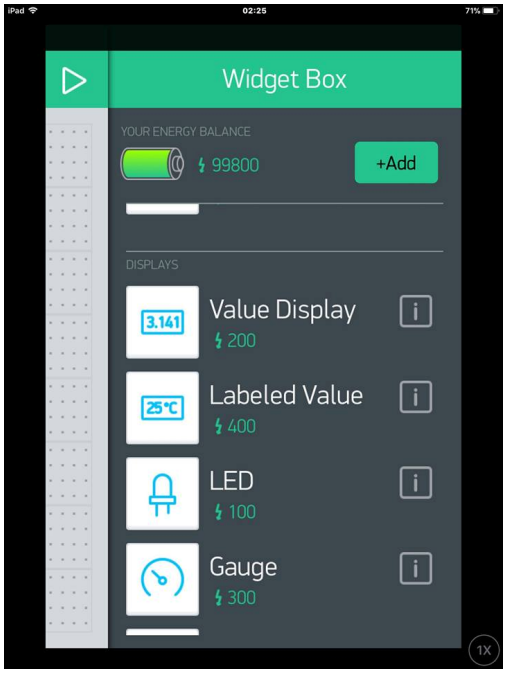
Virtual Pins

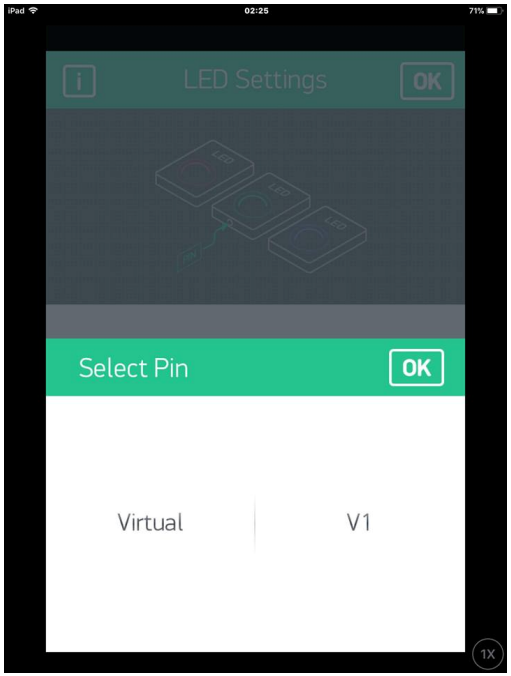
- Blynk can control Digital and Analog I/O Pins on you hardware directly. You don't even need to write code for it. It's great for blinking LEDs, but often it's just not enough…
- We designed Virtual Pins to send **any** data from your microcontroller to the Blynk App and back.
- V0 – V127 สำหรับ นำเข้า หรือ นำออก ข้อมูล

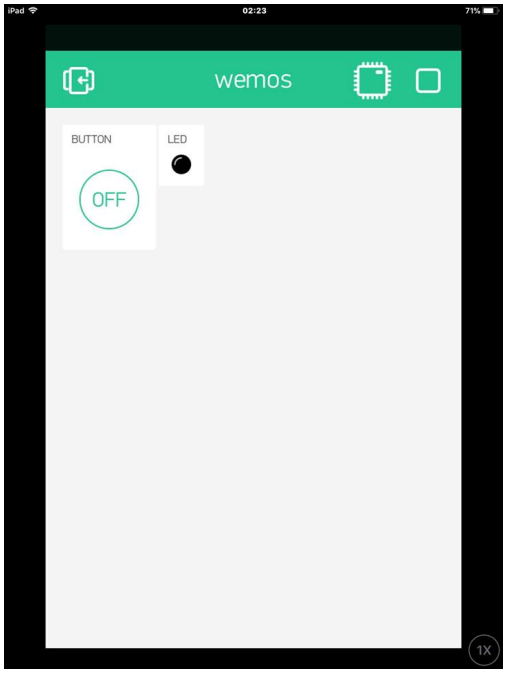
File > Examples > Blynx > Widgets > LED > LED_Blink



LED Blink







จะเห็น LED กระพริบ

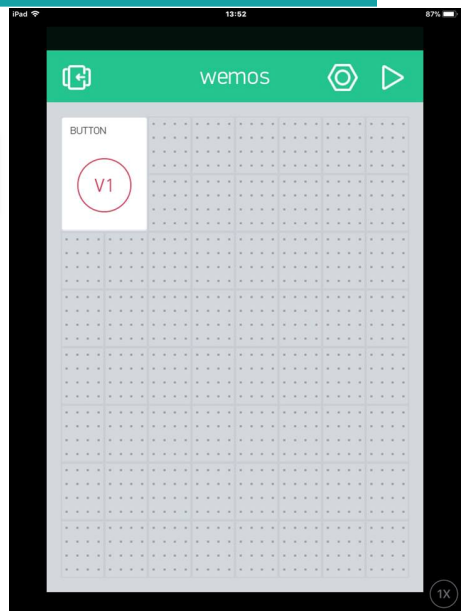
File > Examples > Blynx > More > Sync > ButtonPoll

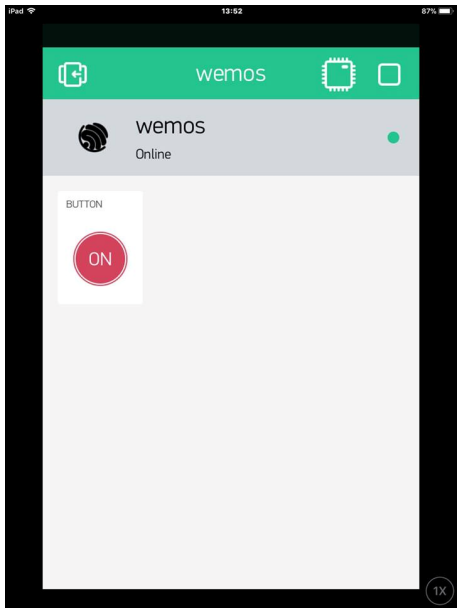
wemos_ButtonPoll

File Edit Sketch Tools Help

wemos_ButtonPoll

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

// You should get Auth Token in the Blynk App.
// Go to the Project Settings (nut icon).
char auth[] = "72f96cd69d3f42f0bb8ff8efd4cff555";
char ssid[] = "lamloeiWIFI";
char pass[] = "123456789";

int prevState = -1;
int currState = -1;
long lastChangeTime = 0;

void checkPin()
{
  // Invert state, since button is "Active LOW"
  int state = !digitalRead(2);

  // Debounce mechanism
  long t = millis();
  if (state != prevState) {
    lastChangeTime = t;
  }
  if (t - lastChangeTime > 50) {
    if (state != currState) {
      currState = state;
      Blynk.virtualWrite(V1, state);
    }
```

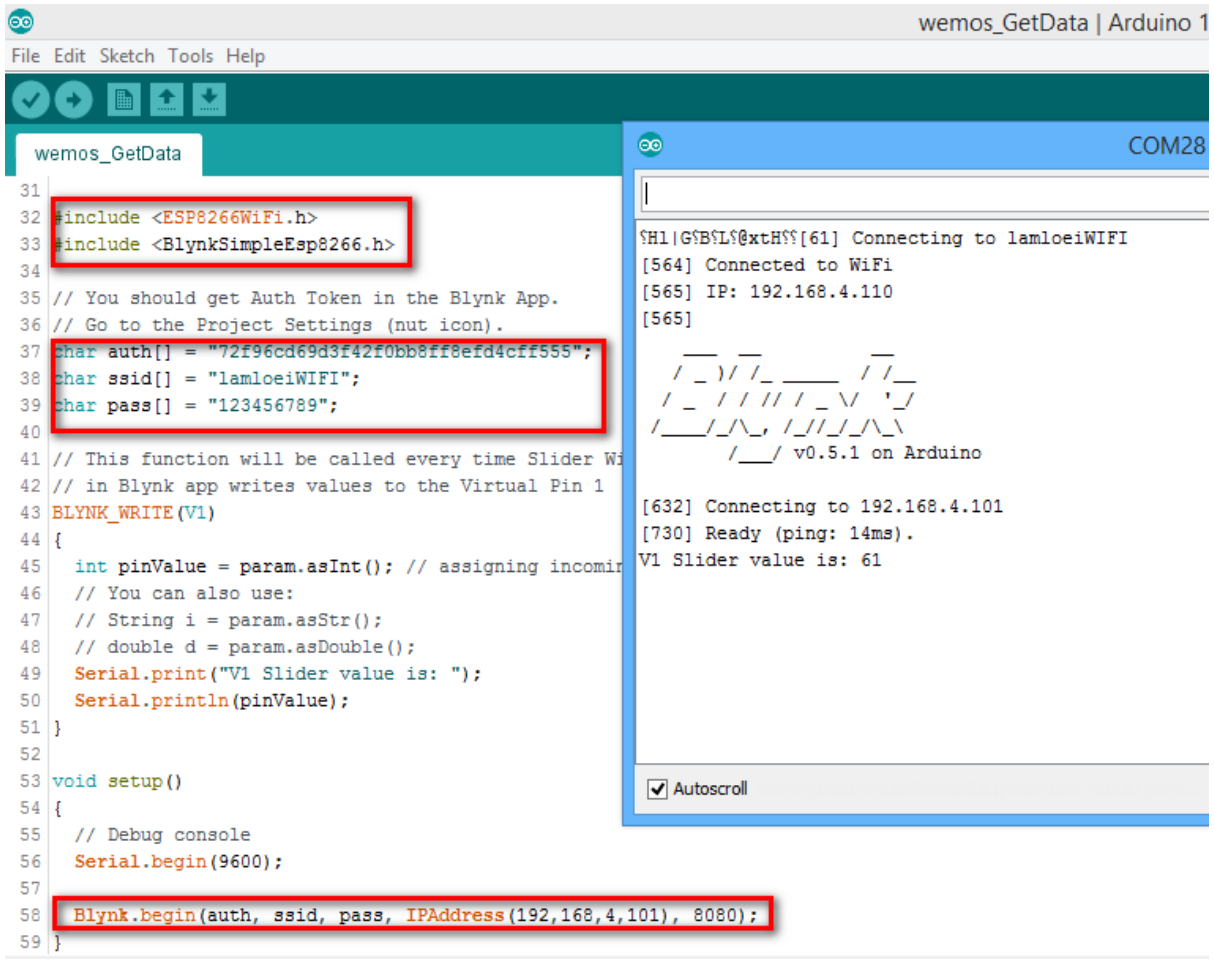




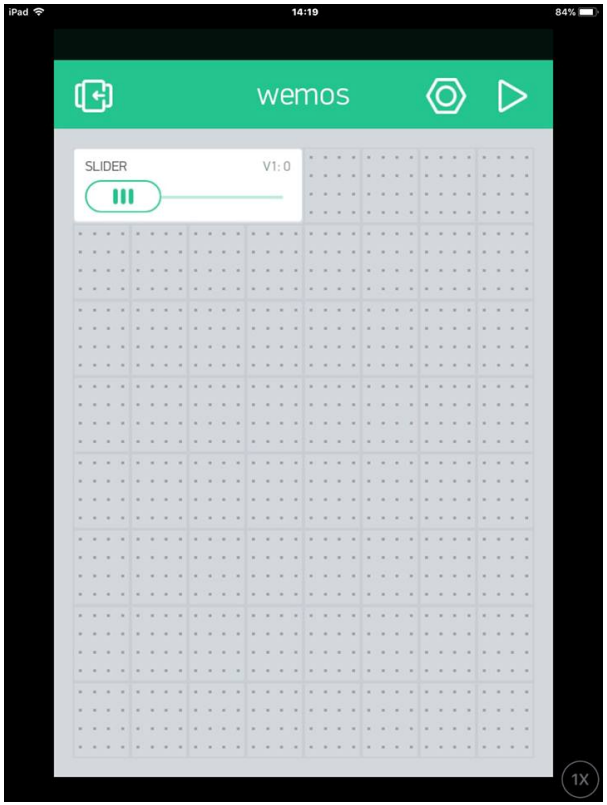
ปรับ BUTTON เป็น PIN V1

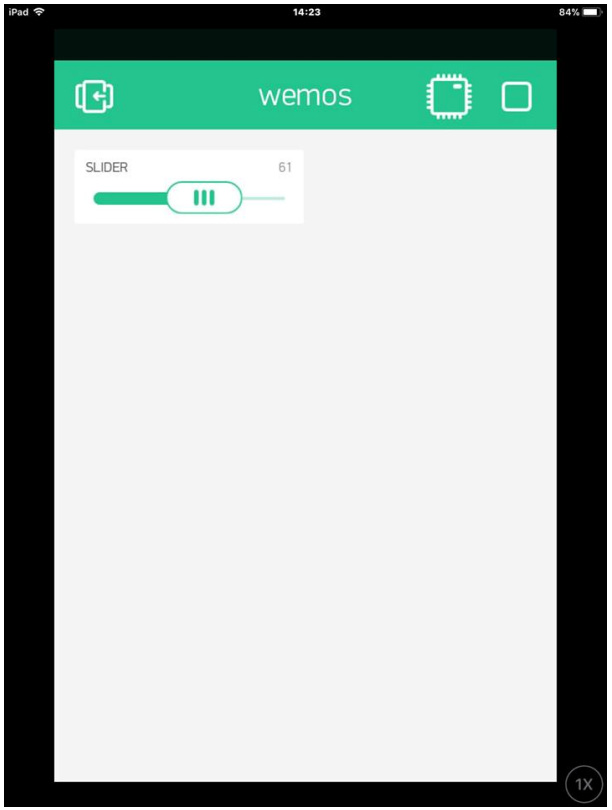
เมื่อกดสวิตซ์ low ที่ ขา 2 จะเห็นไฟแสดงที่ปุ่ม

File > Examples > Blynx > GettingStarted > GetData



เพิ่ม Widget Slider ที่ขา V1





สรุป Virtual Pin

- **นำเข้า**

  led

  WidgetLED led1(V1); led1.on(); led1.off();

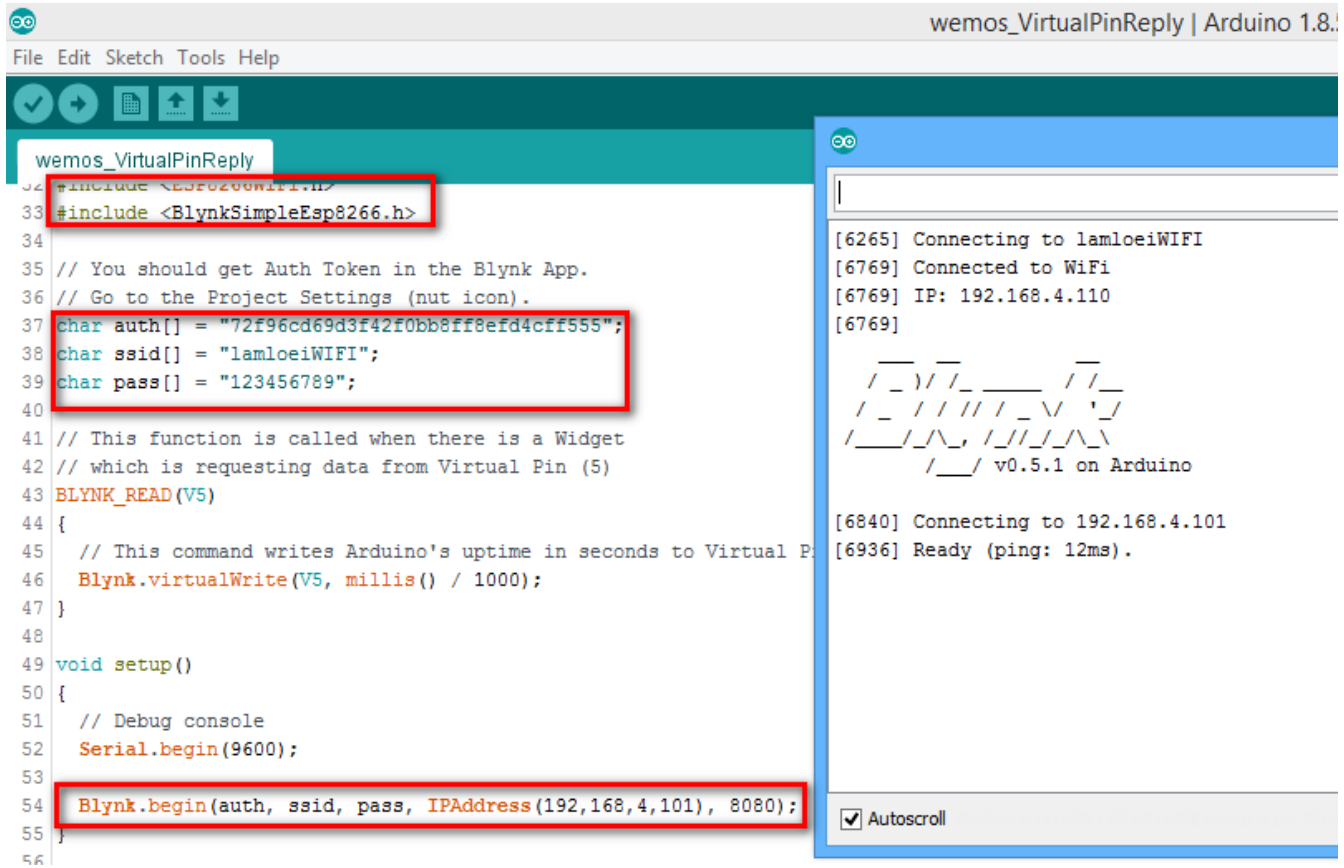
  Button และอื่นๆ

  Blynk.virtualWrite(V1, state);

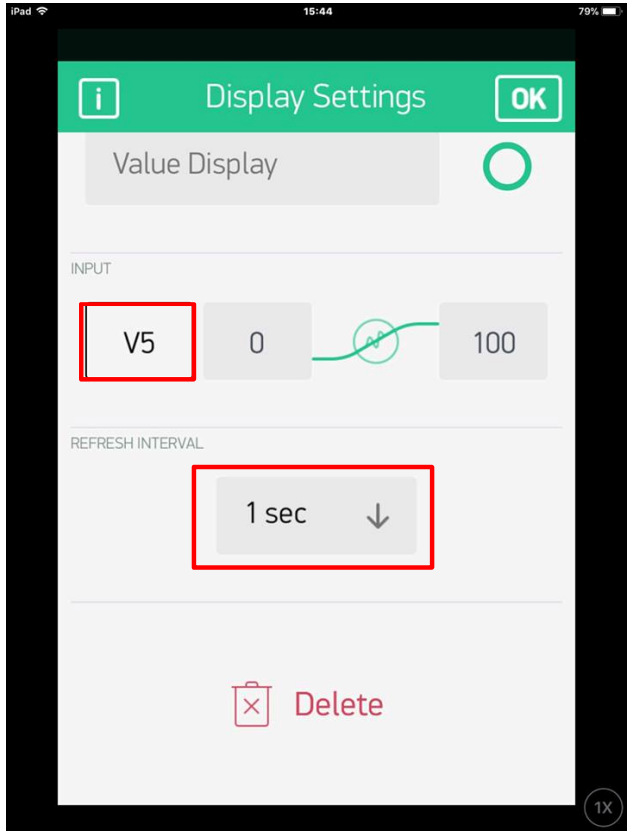
- **นำออก**

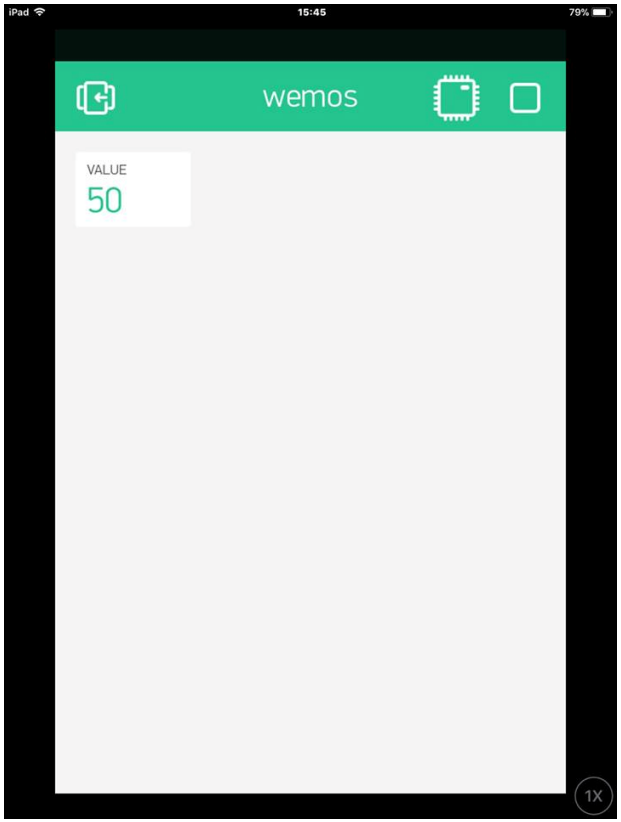
```
BLYNK_WRITE(V1)
{
  int pinValue = param.asInt();
}
```

File > Examples > Blynx > GettingStarted > VirtualPinReply

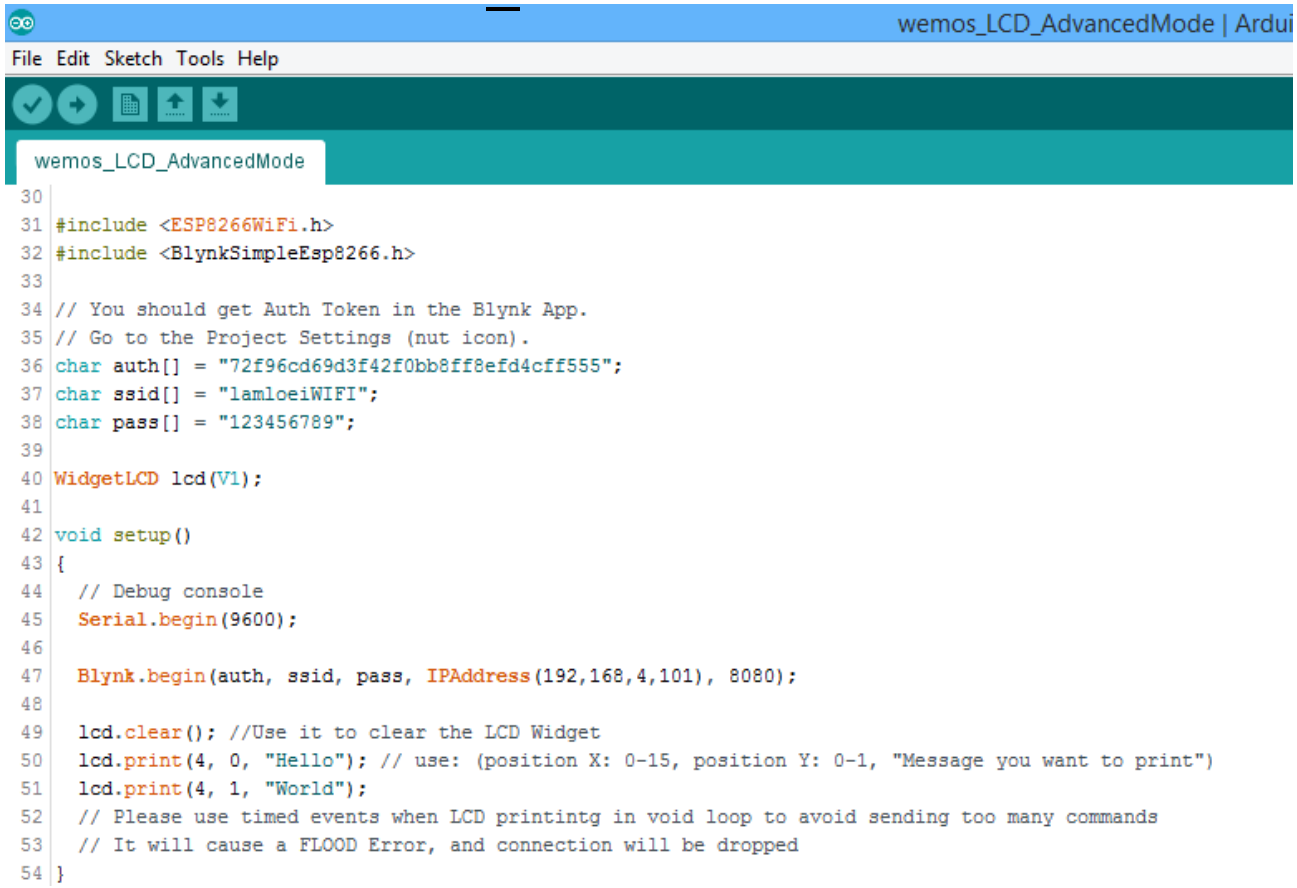


Widget Value Display



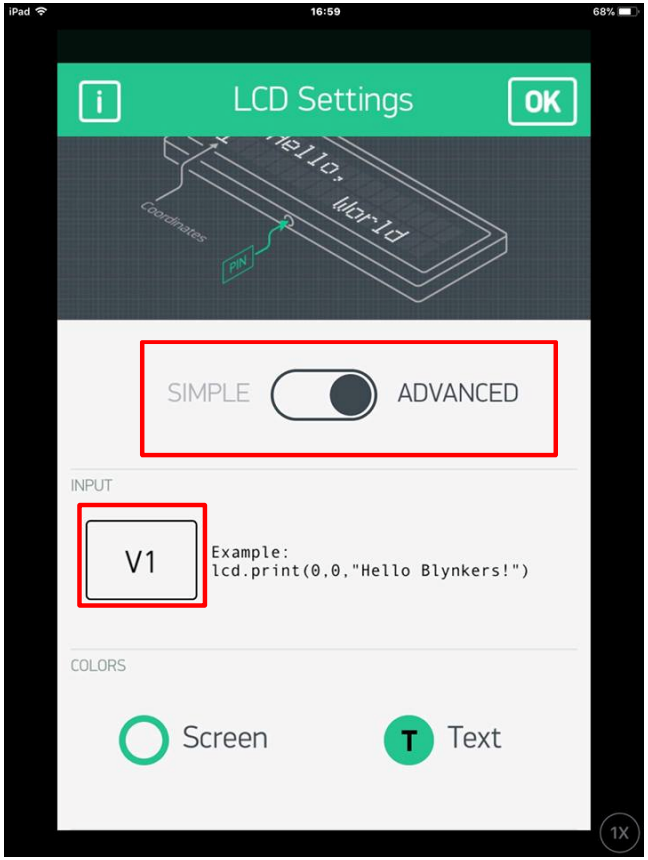


File > Examples > Blynx > Widgets > LCD > LCD_AdvancedMode



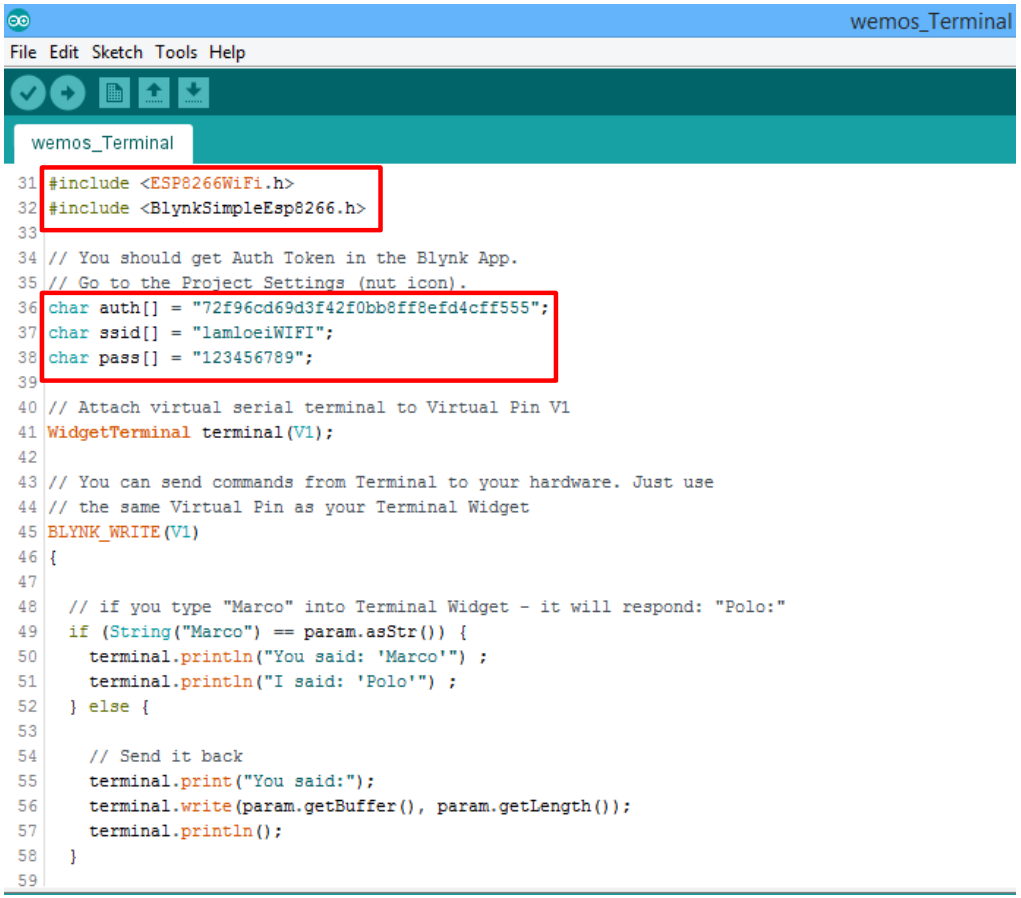

```
30
31 #include <ESP8266WiFi.h>
32 #include <BlynkSimpleEsp8266.h>
33
34 // You should get Auth Token in the Blynk App.
35 // Go to the Project Settings (nut icon).
36 char auth[] = "72f96cd69d3f42f0bb8ff8efd4cff555";
37 char ssid[] = "lamloeiWIFI";
38 char pass[] = "123456789";
39
40 WidgetLCD lcd(V1);
41
42 void setup()
43 {
44   // Debug console
45   Serial.begin(9600);
46
47   Blynk.begin(auth, ssid, pass, IPAddress(192,168,4,101), 8080);
48
49   lcd.clear(); //Use it to clear the LCD Widget
50   lcd.print(4, 0, "Hello"); // use: (position X: 0-15, position Y: 0-1, "Message you want to print")
51   lcd.print(4, 1, "World");
52   // Please use timed events when LCD printintg in void loop to avoid sending too many commands
53   // It will cause a FLOOD Error, and connection will be dropped
54 }
```

Widget LCD


iPad
16:59
68%
LCD Settings
OK
Coordinates
PIN
SIMPLE
ADVANCED
INPUT
V1
Example:
lcd.print(0,0,"Hello Blynkers!")
COLORS
Screen
T
Text
1X

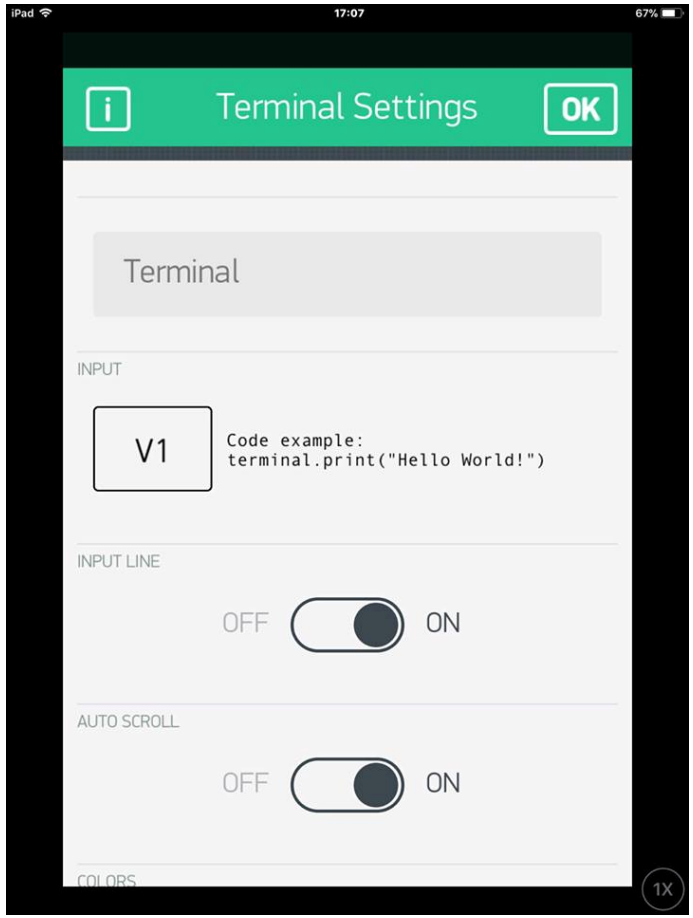

iPad
16:58
68%
wemos
Hello
World
眩眼电子
1X

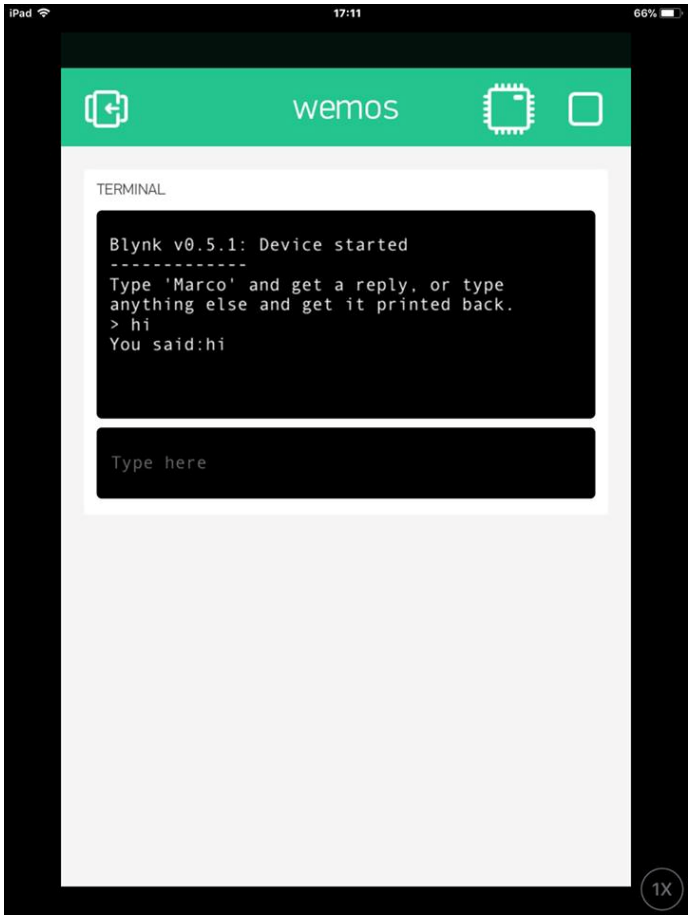
File > Examples > Blynx > Widgets > Terminal



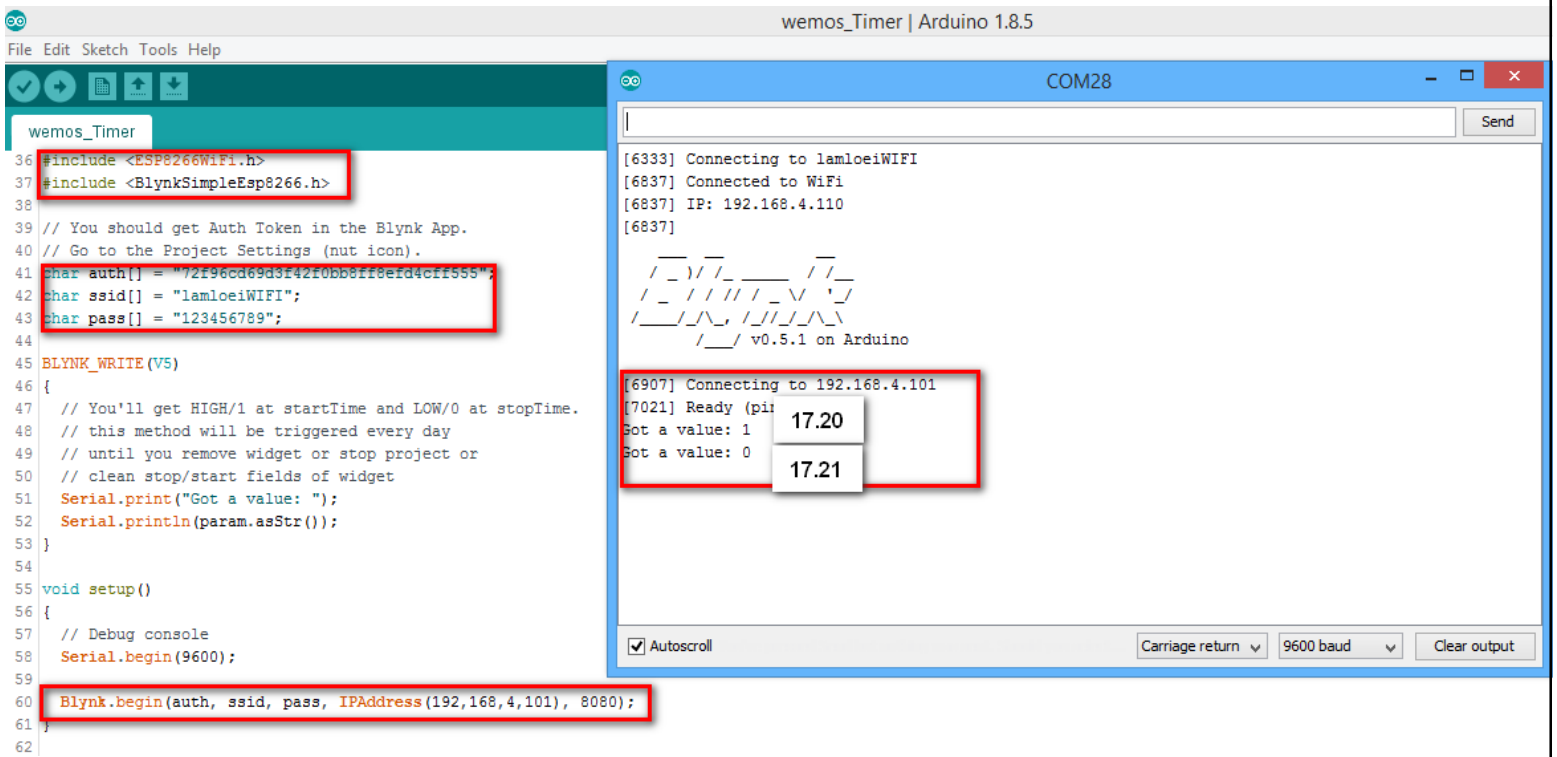

```
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

// You should get Auth Token in the Blynk App.
// Go to the Project Settings (nut icon).
char auth[] = "72f96cd69d3f42f0bb8ff8efd4cff555";
char ssid[] = "lamloeiWIFI";
char pass[] = "123456789";

// Attach virtual serial terminal to Virtual Pin V1
WidgetTerminal terminal(V1);

// You can send commands from Terminal to your hardware. Just use
// the same Virtual Pin as your Terminal Widget
BLYNK_WRITE(V1)
{

  // if you type "Marco" into Terminal Widget - it will respond: "Polo:"
  if (String("Marco") == param.asStr()) {
    terminal.println("You said: 'Marco'") ;
    terminal.println("I said: 'Polo'") ;
  } else {

    // Send it back
    terminal.print("You said:");
    terminal.write(param.getBuffer(), param.getLength());
    terminal.println();
  }

```

Widget Terminal

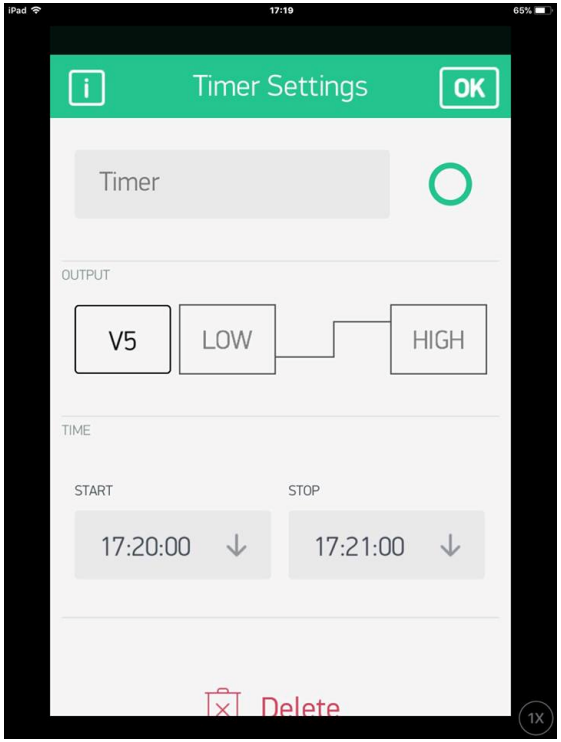


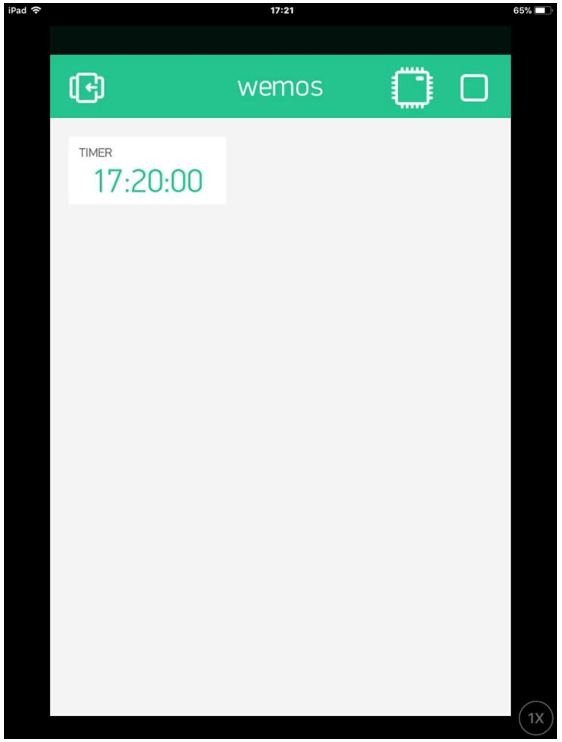


File > Examples > Blynx > Widget > Timer



Widget Timer





เมื่อเวลา 17:20 จะได้ค่า 1

เมื่อเวลา 17:21 จะได้ค่า 0

File > Examples > Blynx > Widget > WebHook > WebHook_GET

wemos_WebHook_GET | Arduino 1.8.5

File Edit Sketch Tools Help

wemos_WebHook_GET

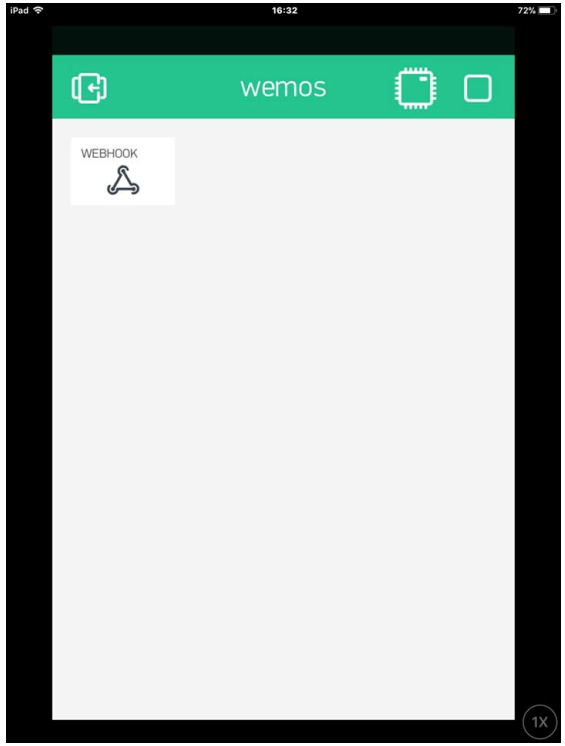
```
28 #define BLYNK_PRINT Serial
29 // Allow for receiving messages up to 512 bytes long
30 //#define BLYNK_MAX_READBYTES 512
31
32 #include <ESP8266WiFi.h>
33 #include <BlynkSimpleEsp8266.h>
34
35 // You should get Auth Token in the Blynk App.
36 // Go to the Project Settings (nut icon).
37 char auth[] = "72f96cd69d3f42f0bb8ff8efd4cff555";
38 char ssid[] = "lamloeiWIFI";
39 char pass[] = "123456789";
40
41 BLYNK_WRITE(V0)
42 {
43   Serial.println("WebHook data:");
44   Serial.println(param.asStr());
45 }
46
47 void setup()
48 {
49   // Debug console
50   Serial.begin(9600);
51
52   Blynk.begin(auth, ssid, pass, IPAddress(192,168,4,101), 8080);
53
54   Blynk.virtualWrite(V0, "https://raw.githubusercontent.com/blynkkk/blynk-library/master/extras/logo.txt");
55
```

COM28

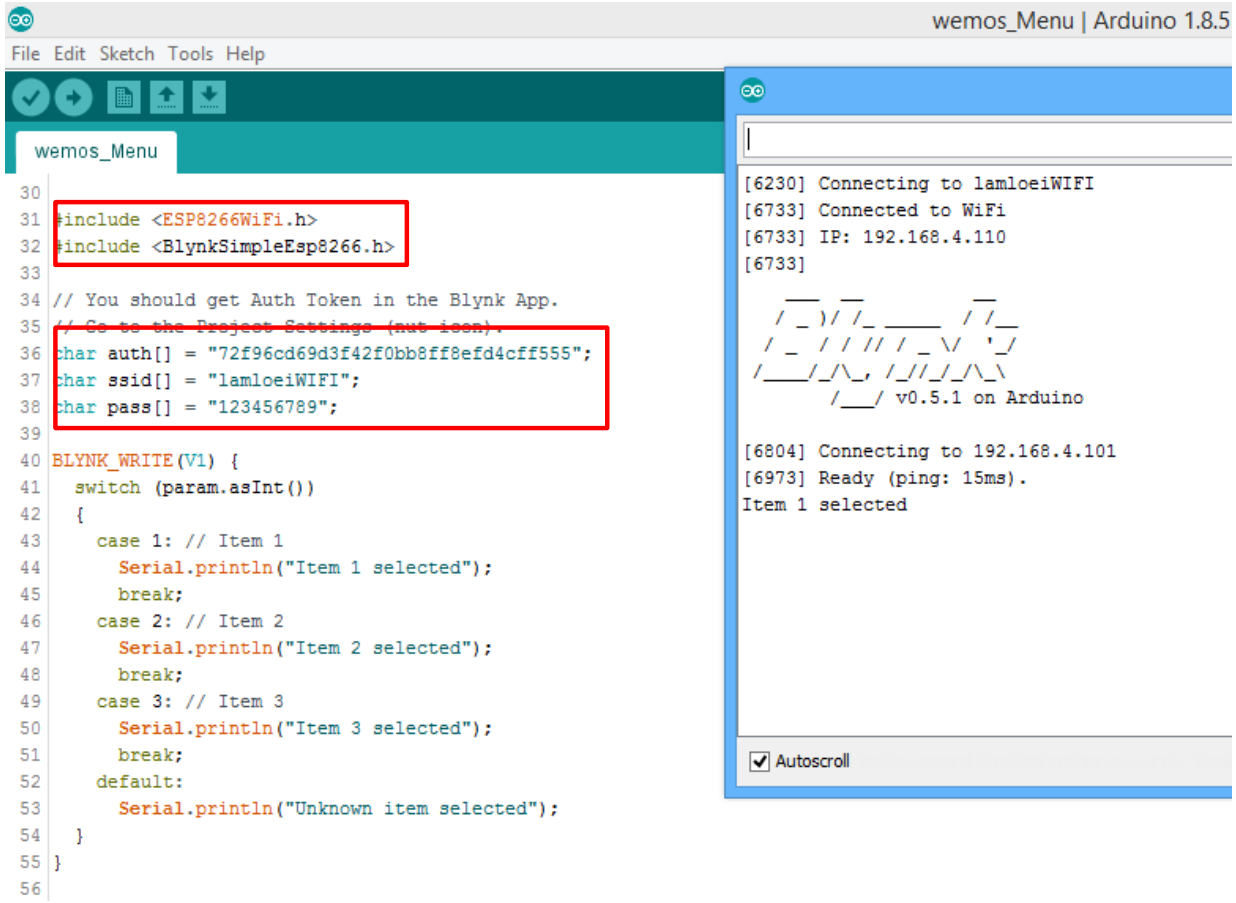
```
[6285] Connecting to lamloeiWIFI
[6789] Connected to WiFi
[6789] IP: 192.168.4.110
[6789]
    ___  __          __
   / _ )/ /_ _____  / /__
  / _  / / // / _ \/  '_/
 /____/_/\_, /_//_/_/\_\
        /___/ v0.5.1 on Arduino

[6860] Connecting to 192.168.4.101
[6993] Ready (ping: 19ms).
WebHook data:
    ___  __          __
   / _ )/ /_ _____  / /__
  / _  / / // / _ \/  '_/
 /____/_/\_, /_//_/_/\_\
        /___/
```

Autoscroll

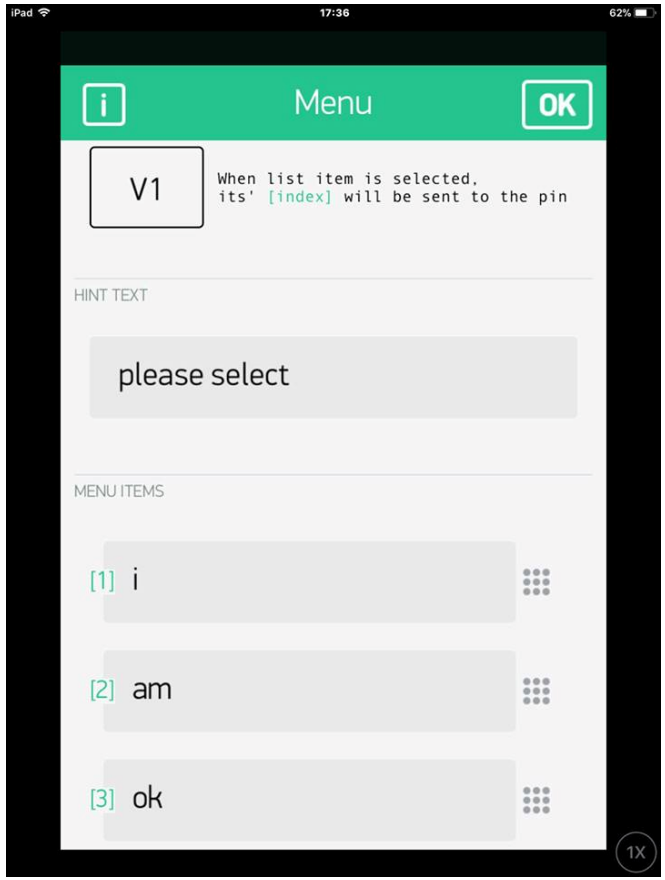
Widget WebHook

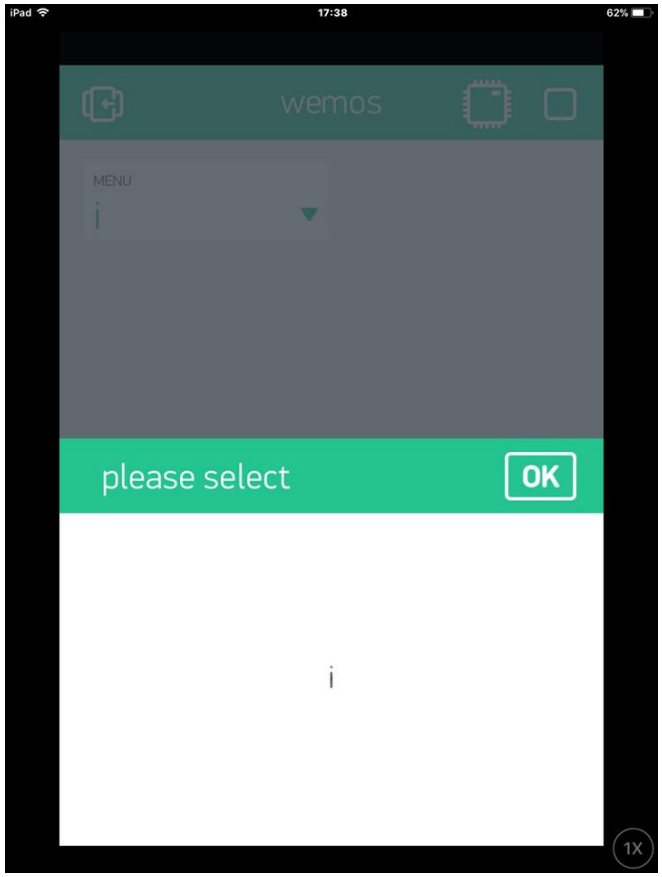


File > Examples > Blynx > Widgets > Menu

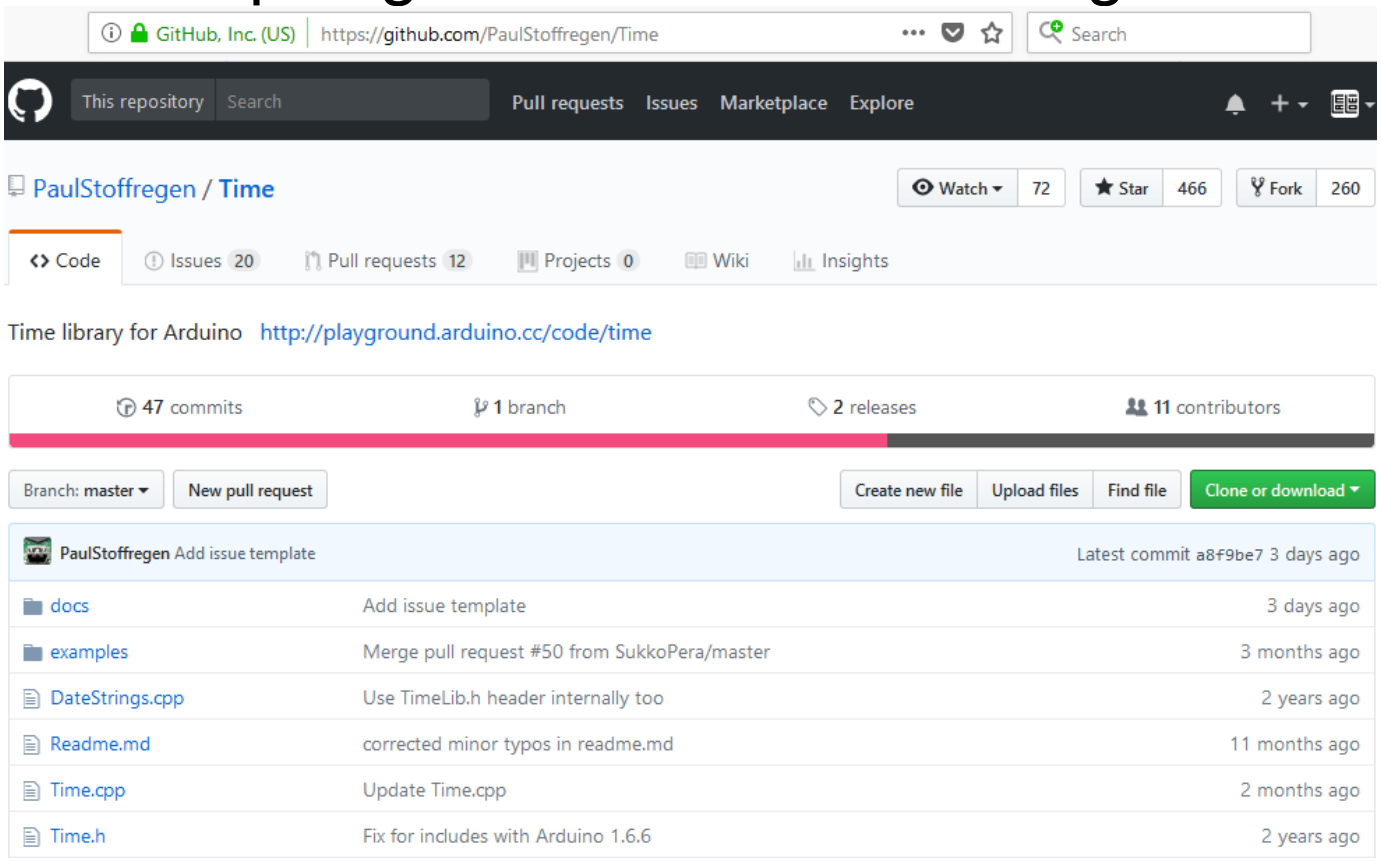


Widget Menu


iPad
17:36
62%
i
Menu
OK
V1
When list item is selected,
its' [index] will be sent to the pin
HINT TEXT
please select
MENU ITEMS
[1] i
[2] am
[3] ok
1X

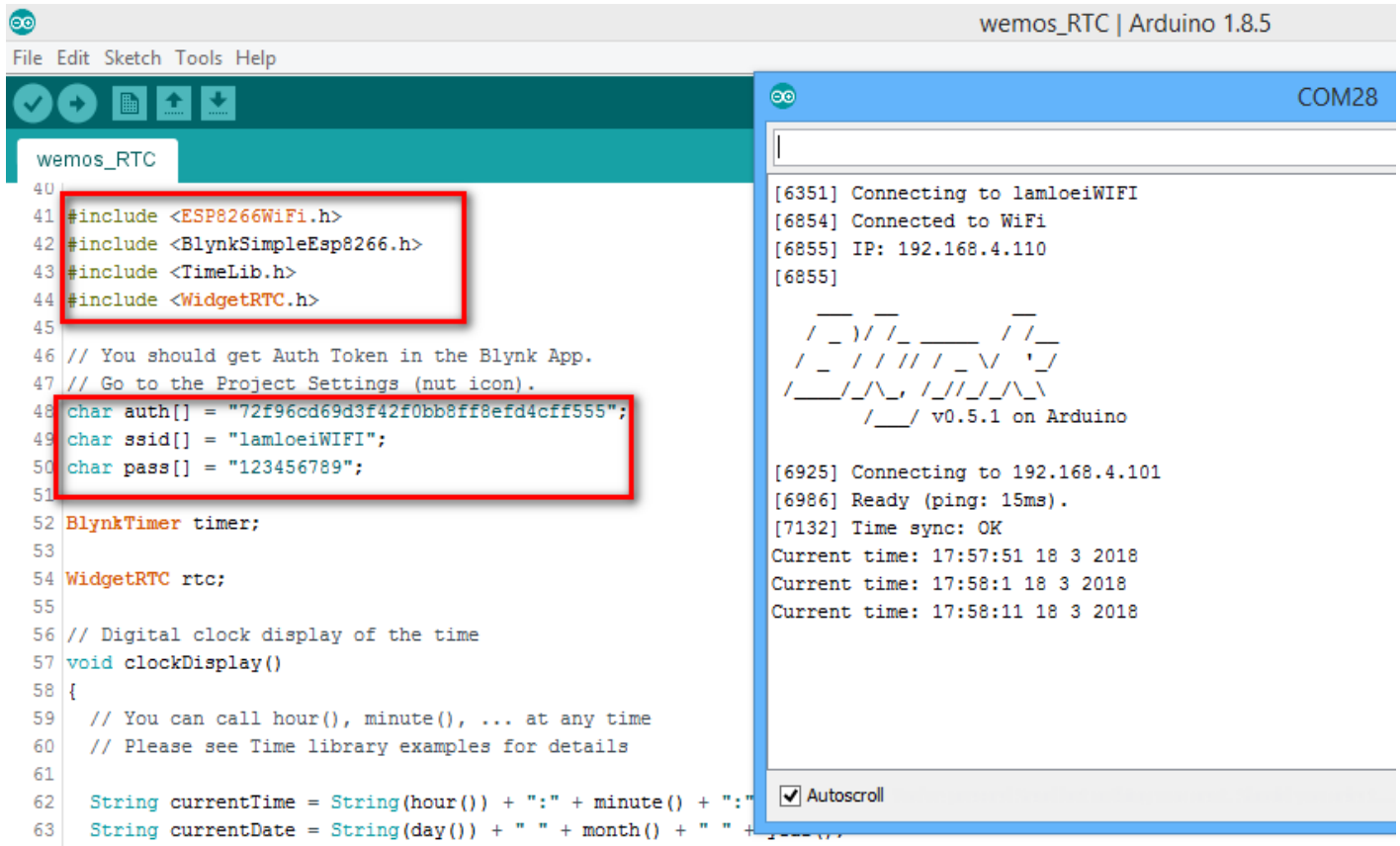

iPad
17:38
62%
wemos
MENU
i
please select
OK
i
1X

https://github.com/PaulStoffregen/Time

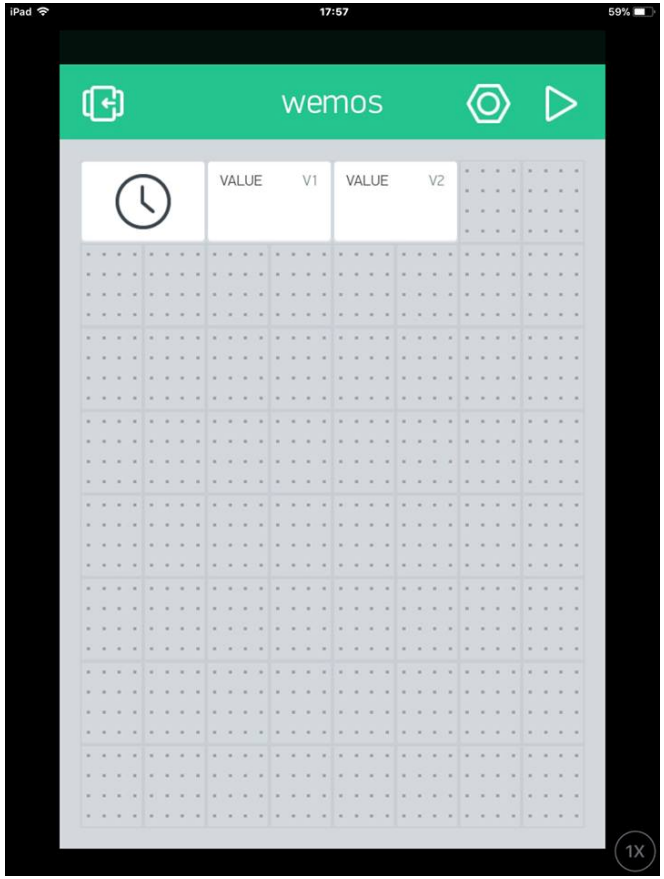


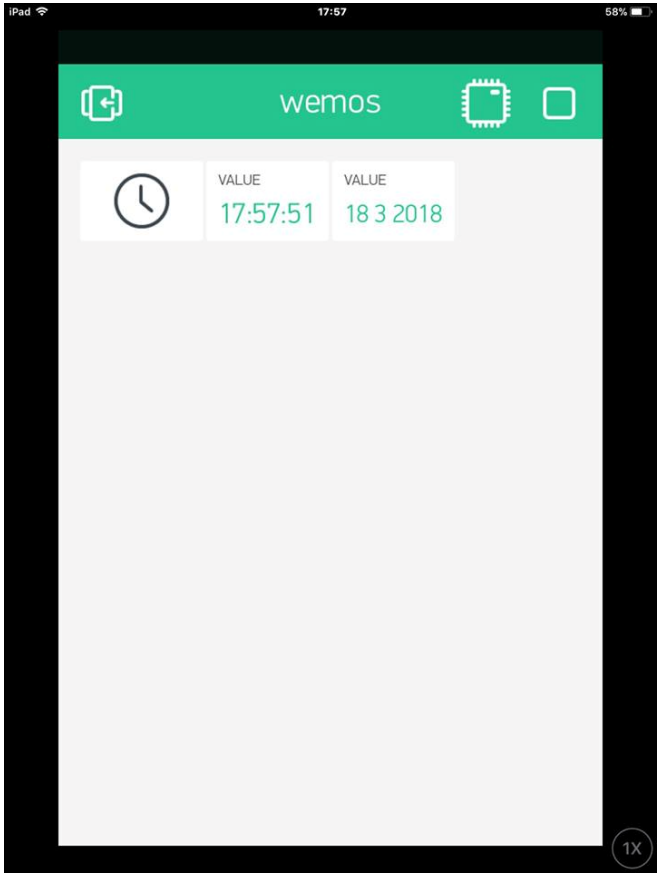
Clone Time ลง Arduino libraries

File > Examples > Blynx > Widgets > RTC

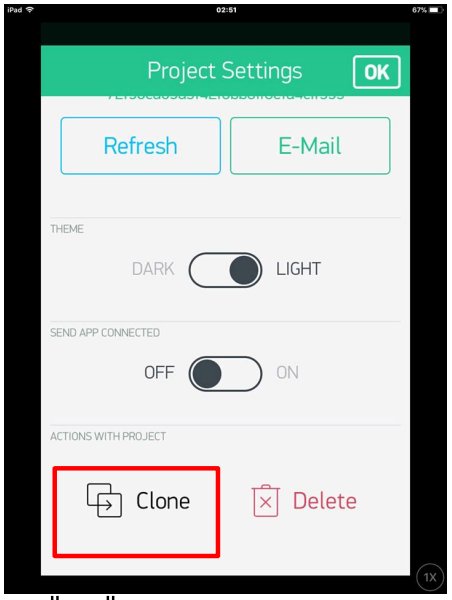


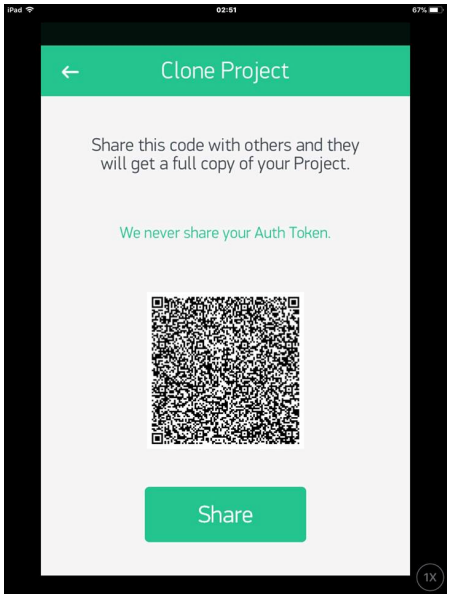
Widget RTC

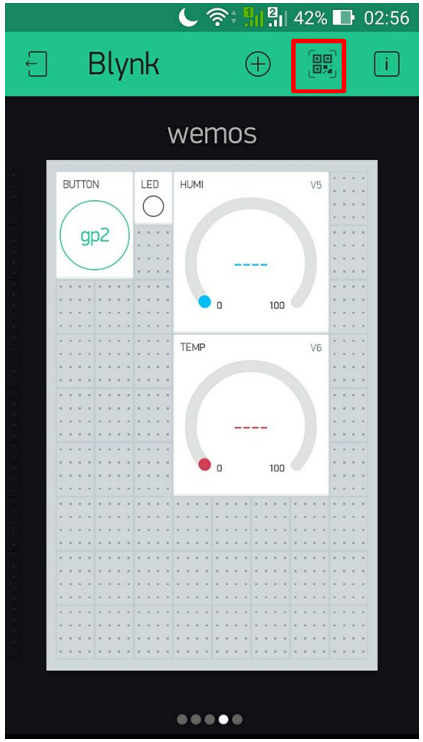

iPad
17:57
59%
wemos
VALUE V1
VALUE V2
1X


iPad
17:57
58%
wemos
VALUE
17:57:51
VALUE
18 3 2018
1X

clone







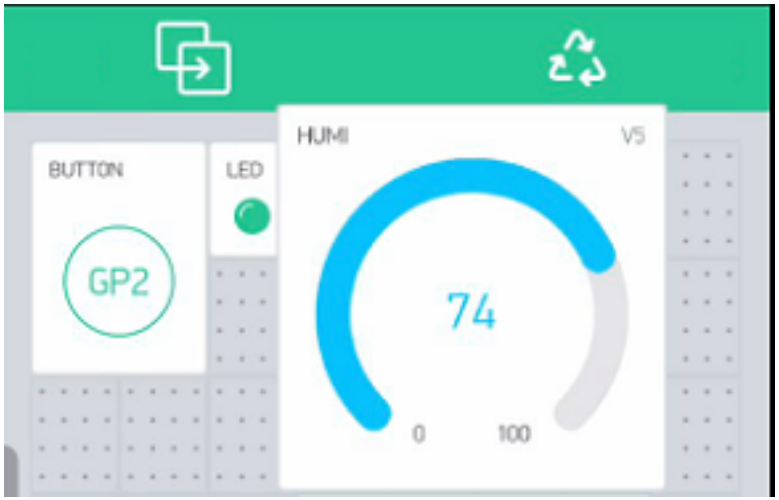
มือถือ 1

หกเหลี่ยม Project Settings เลื่อนลงกด Clone

มือถือ 2

Log In แล้วเข้าหน้า QR Code

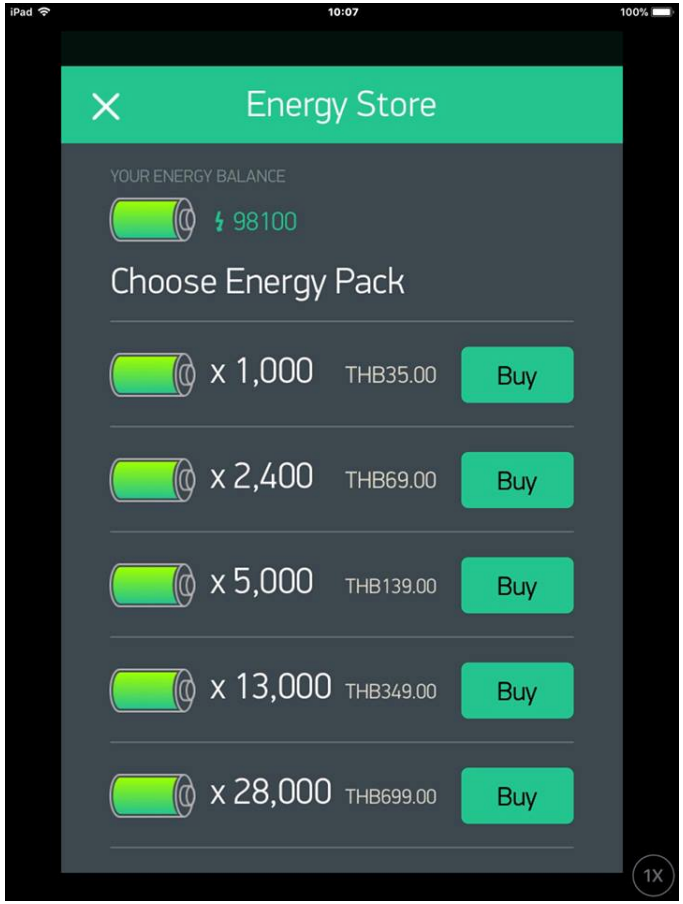
Copy Delete



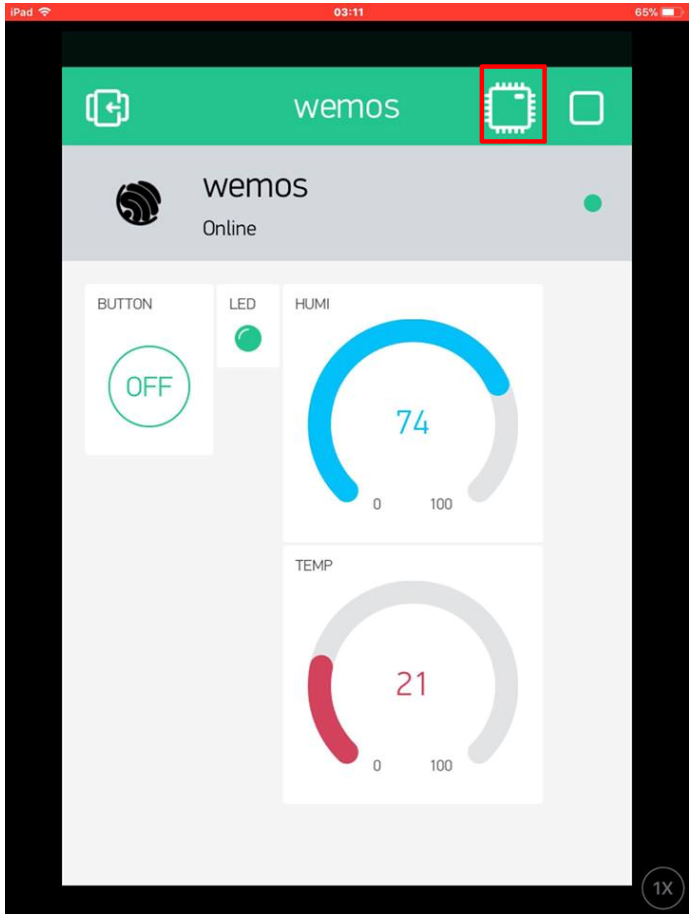
คลิก Widget ค้างไว้

นำ Widget ใน Copy ถ้าต้องคัดลอก หรือ Del ถ้าต้องการลบ

Energy Store

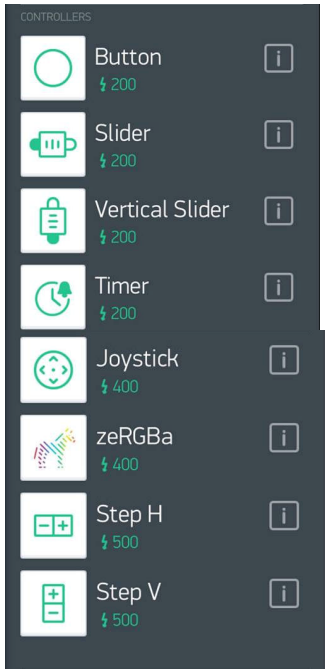


Check online

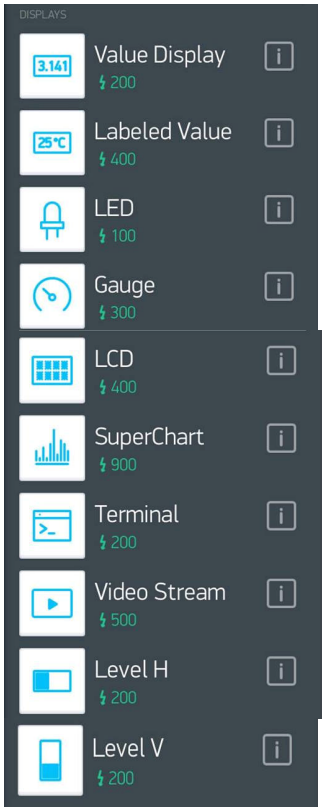


Widget

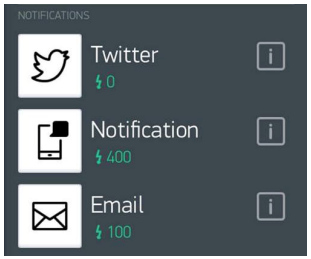
CONTROLLERS



DISPLAYS

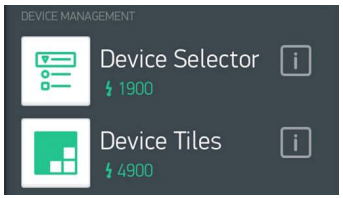


NOTIFICATIONS

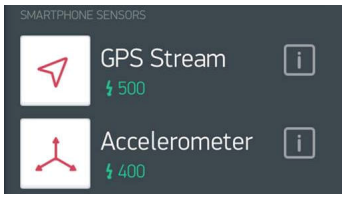


Widget

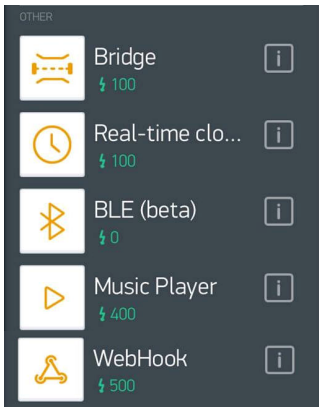
DEVICE MANAGEMENT



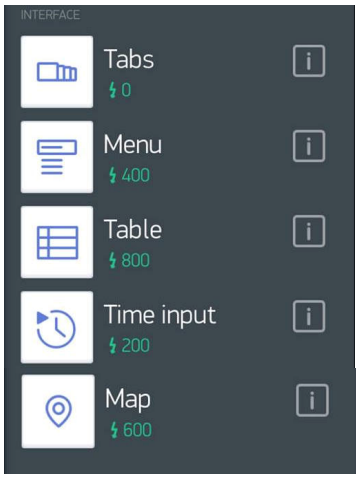
SMARTPHONE SENSORS



OTHER

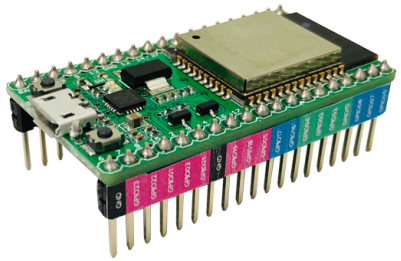


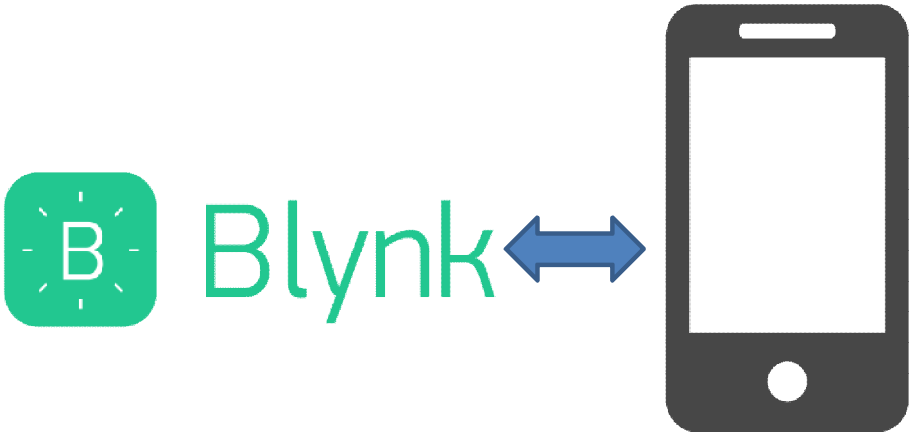
INTERFACE

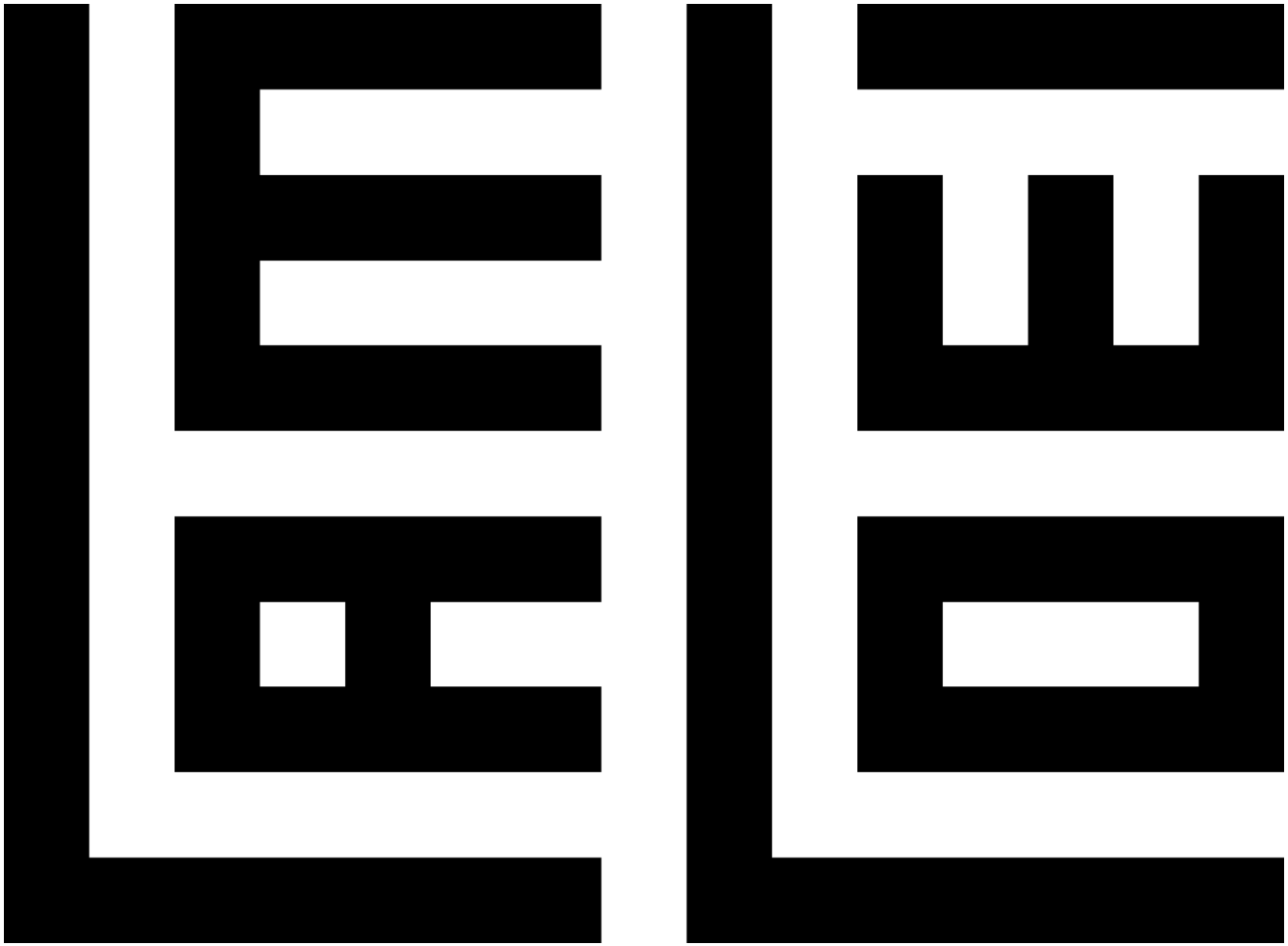


Project

- Project Blynk Node32Lite







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