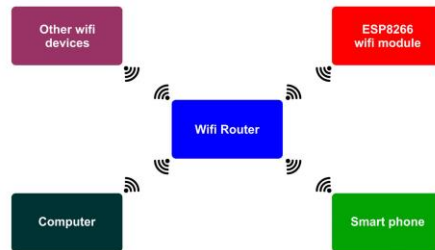


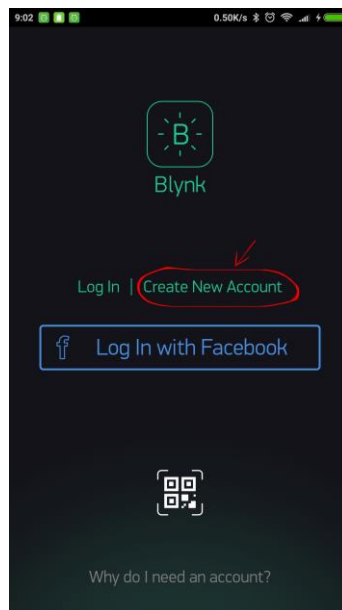
LAB7: BLYNK APP

In this lab you will learn how to use the Blynk application and its cloud service to create your own smart app that can control switch and LED.



STEP 1: CREATE A BLYNK ACCOUNT

After you download the Blynk App, you'll need to create a New Blynk account. This account is separate from the accounts used for the Blynk Forums, in case you already have one. We recommend using a **real** email address because it will simplify things later.



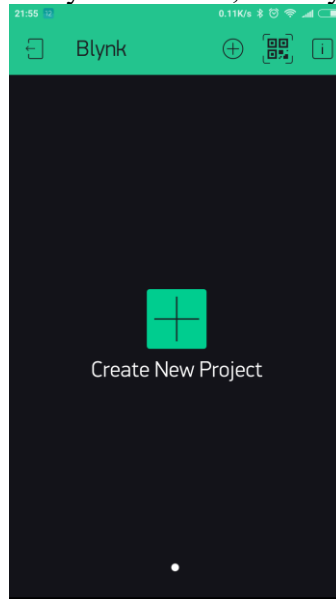
Why do I need to create an account?

An account is needed to save your projects and have access to them from multiple devices from anywhere. It's also a security measure.

You can always set up your own **Private Blynk Server** and have full control.

2. CREATE A NEW PROJECT

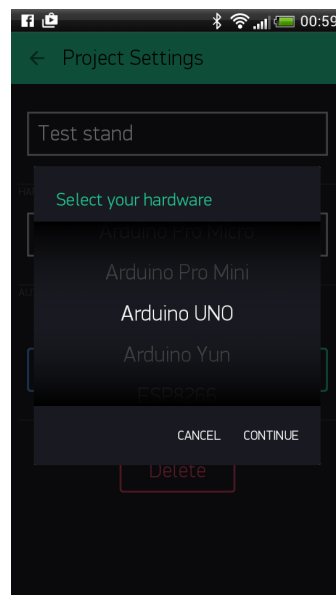
After you've successfully logged into your account, start by creating a new project.



3. CHOOSE YOUR HARDWARE

Select the hardware model you will use. Check out the list of supported hardware!

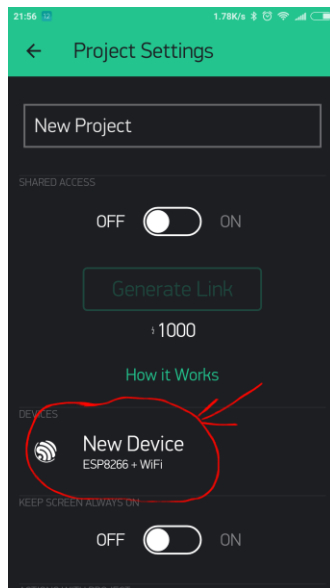
In your case it will be ESP8366



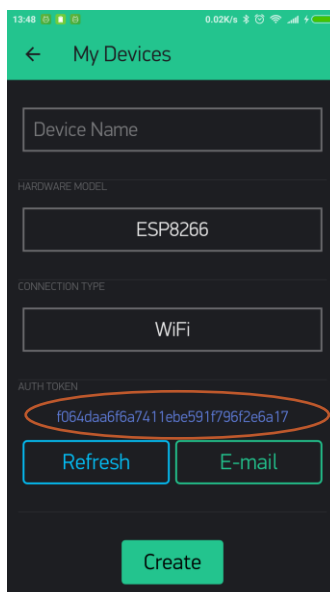
4. AUTH TOKEN

Auth Token is a unique identifier which is needed to connect your hardware to your smartphone. Every new project you create will have its own Auth Token.

You'll get Auth Token automatically on your email after project creation. You can also copy it manually. Click on devices section and selected required device:



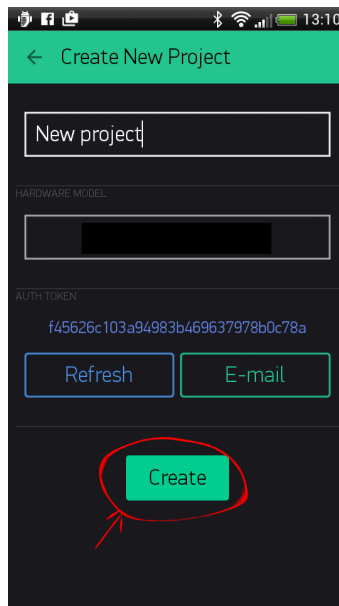
And you'll see token:



NOTE: Don't share your Auth Token with anyone, unless you want someone to have access to your hardware.

It's very convenient to send it over e-mail. Press the e-mail button and the token will be sent to the e-mail address you used for registration. You can also tap on the Token line and it will be copied to the clipboard.

Now press the **“Create”** button.

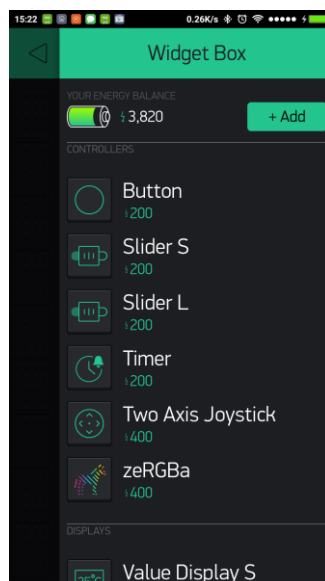


5. ADD A WIDGET

Your project canvas is empty, let's add a button to control our Rely.

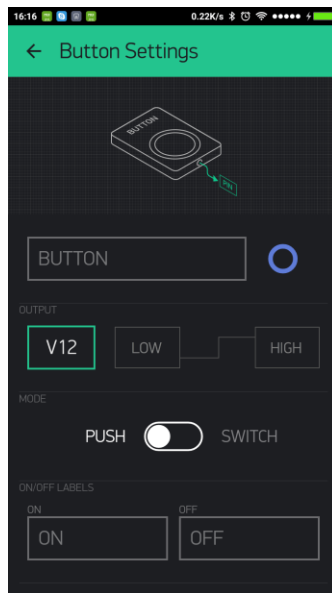
Tap anywhere on the canvas to open the widget box. All the available widgets are located here. Now pick a button.

Widget Box

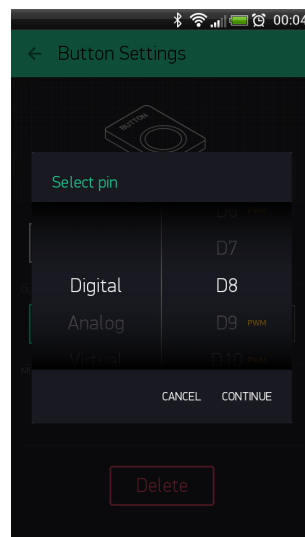


Drag-n-Drop - Tap and hold the Widget to drag it to the new position.

Widget Settings - Each Widget has its own settings. Tap on the widget to get to them.



The most important parameter to set is **PIN**. The list of pins reflects physical pins defined by your hardware. If your Relay is connected to Digital Pin 5 on the NODEMCU - then select **D1** (**D** - stands for **D**igital).



6. RUN THE PROJECT

When you are done with the Settings - press the **PLAY** button. This will switch you from EDIT mode to PLAY mode where you can interact with the hardware.

While in PLAY mode, you won't be able to drag or set up new widgets, press **STOP** and get back to EDIT mode.

Before you can actually be able to see any results, you will need to do the step 2 and step three first.

STEP 2: UPLOADING BLYNK EXAMPLE TO NODEMCU

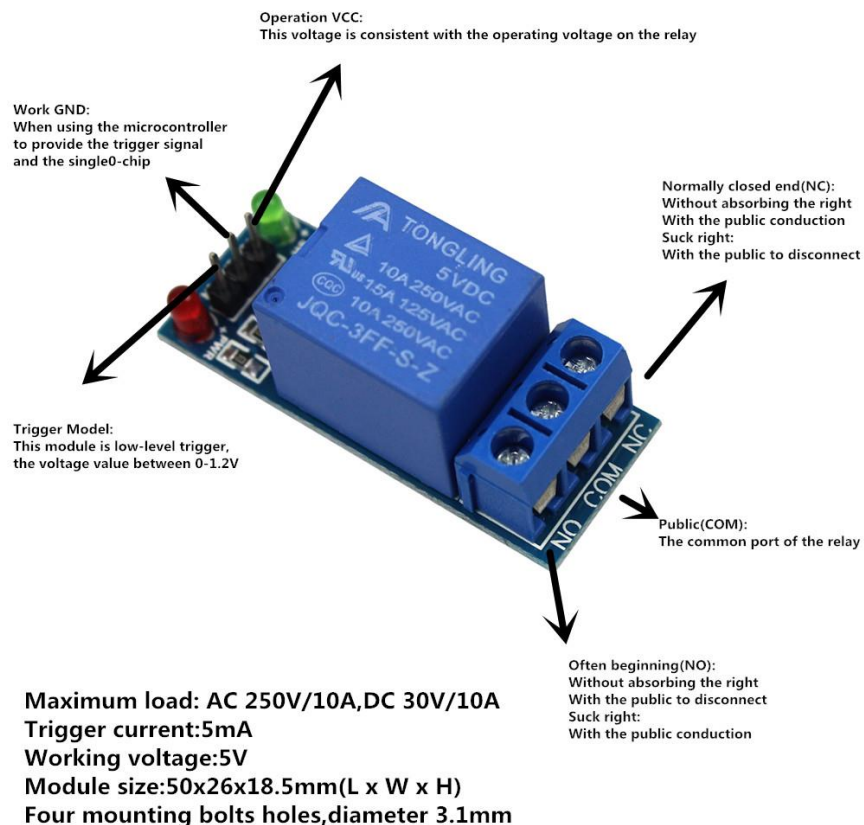
Download the code from Moodle **ESP8266_standard.ino**

Put your auth token from Blynk app and your WiFi credentials in sketch:

```
// You should get Auth Token in the Blynk App.  
// Go to the Project Settings (nut icon).  
char auth[] = "YourAuthToken";  
  
// Your WiFi credentials.  
// Set password to "" for open networks.  
char ssid[] = "YourNetworkName";  
char pass[] = "YourPassword";
```

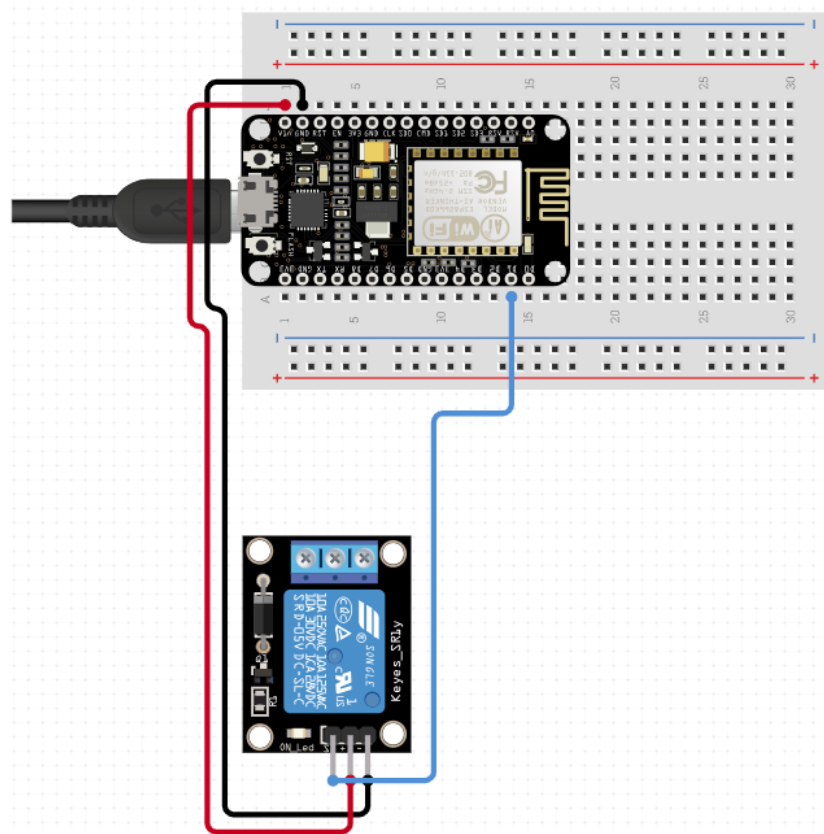
Click on **Verify** button and make sure that example compiled correctly:

STEP 3: BUILDING THE HARDWARE



Connection details:

- D1 pin of NodeMCU is connected to input/signal pin of Relay (IN).
- 3v3 pin of NodeMCU to 3v3 of relay (don't use (Vin) as in the picture..
- GND pin of NodeMCU to GND of relay.

**Add the library:**

- Download the Library Zip file form Moodle
- Unzip the file
- Copy the two sup folders (BlynkESP8266_Lib and Blynk) to Document --- Arduino

Now you can verify and upload your code.

THE CHALLENGE

Can you control LED? and if you want to have some ore fun try to read the HDT sensor reading on your phone.