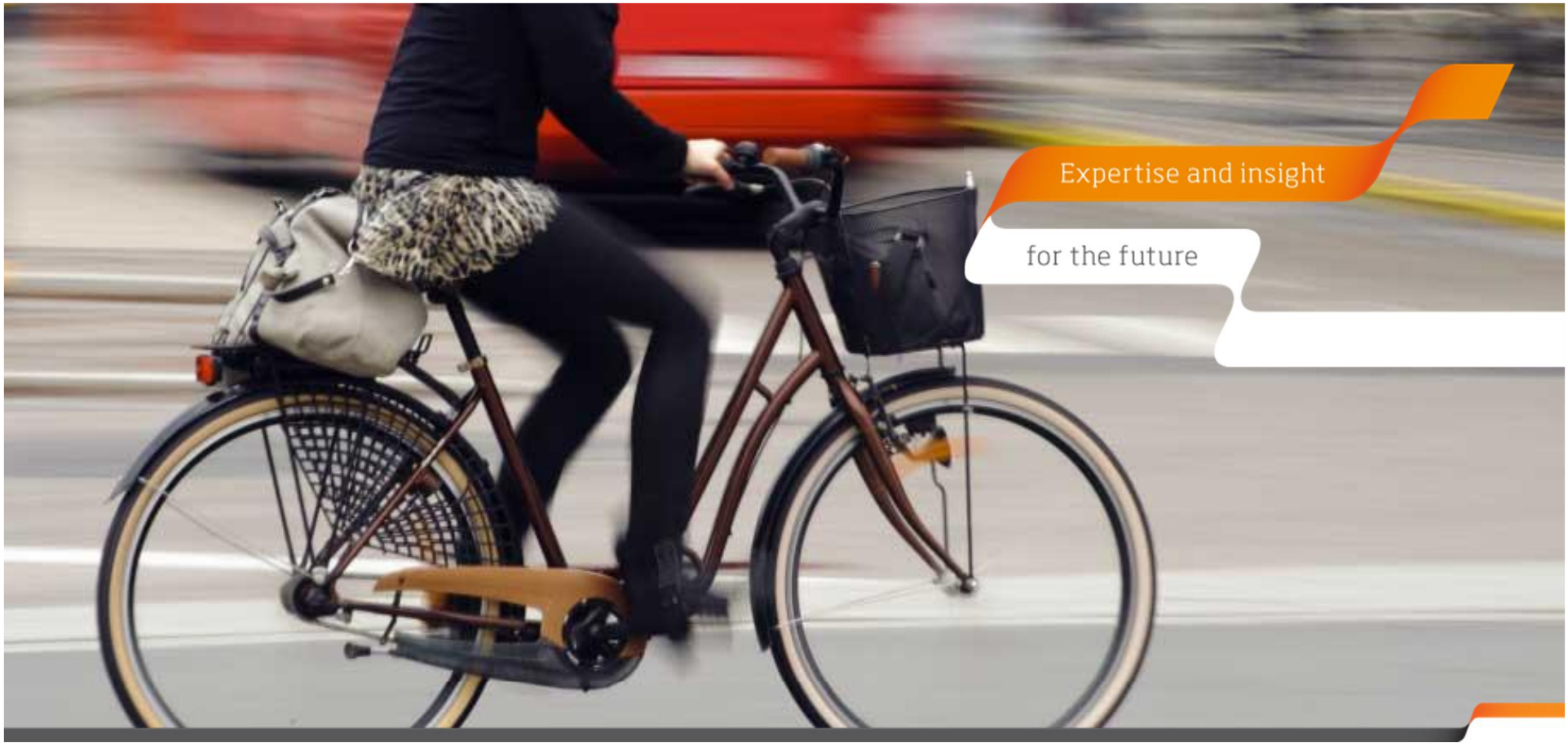

Orientation Project 2023
IoT Basics - Blynk application

Orig. slides: Aku Valmu

Helsinki Metropolia University of Applied Sciences

Part 1- Blynk App

1. Intro to IoT and Blynk
2. Creating login to blynk.io
3. Quick start template
4. Creating device in Blynk
5. Importing Blynk definitions to Arduino
6. Virtual Pins
7. Assignments

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2. Creating login to blynk.io

- Open blynk.io
- Create new login – do not use @metropolia.fi email address

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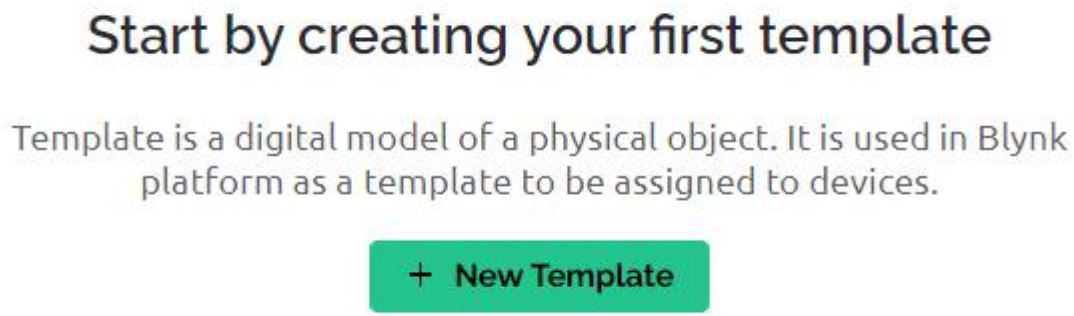
Quick start template

In your browser, open *blynk.cloud*



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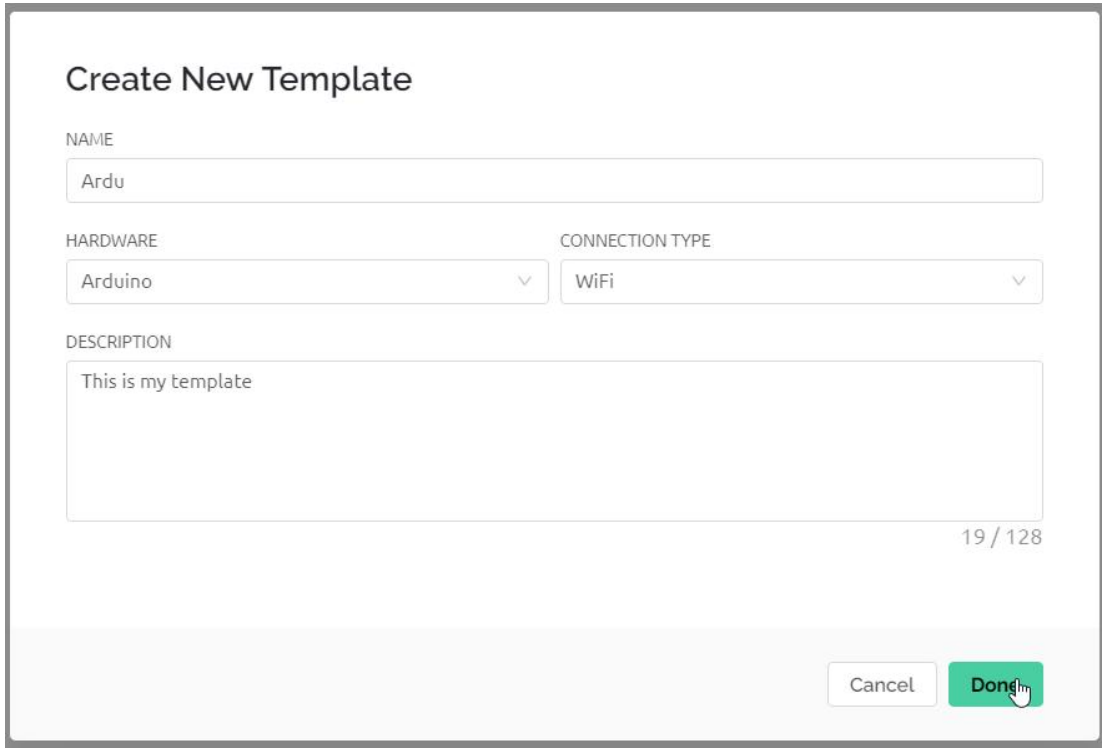
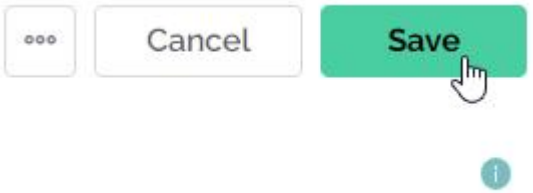
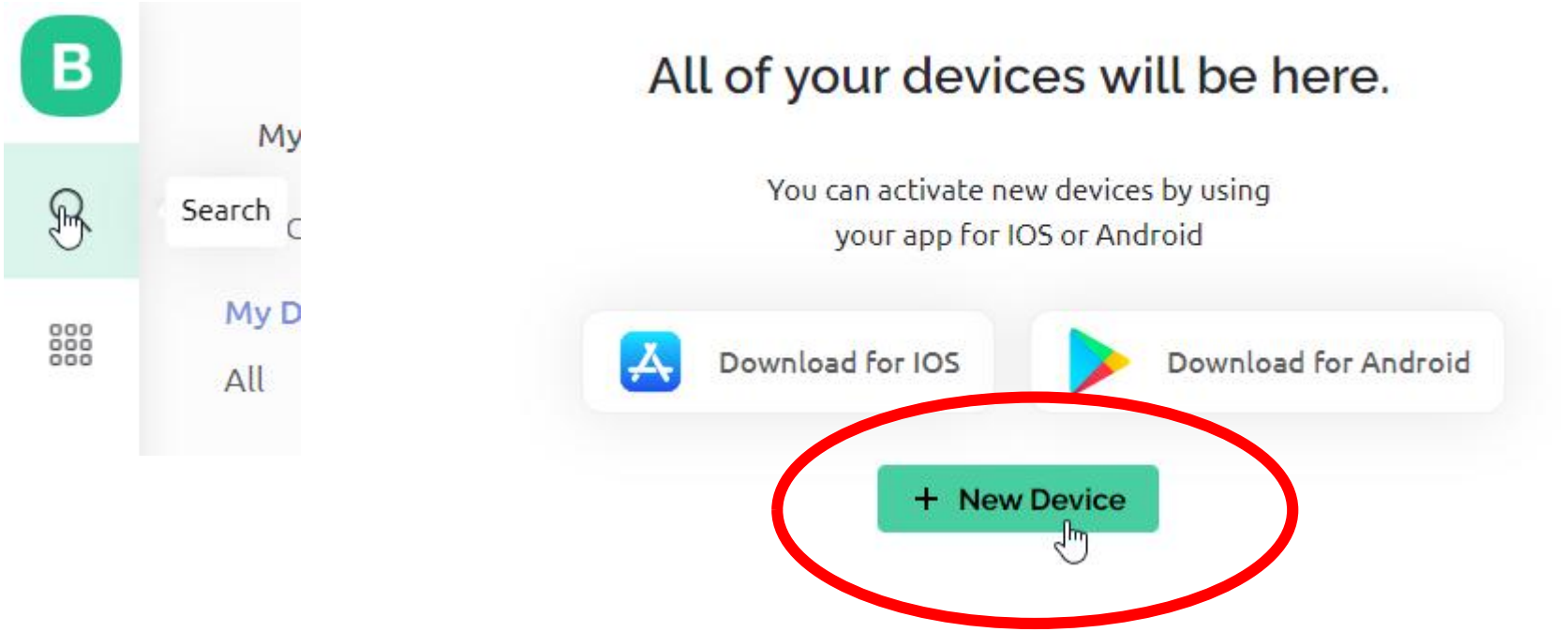
Quick start template



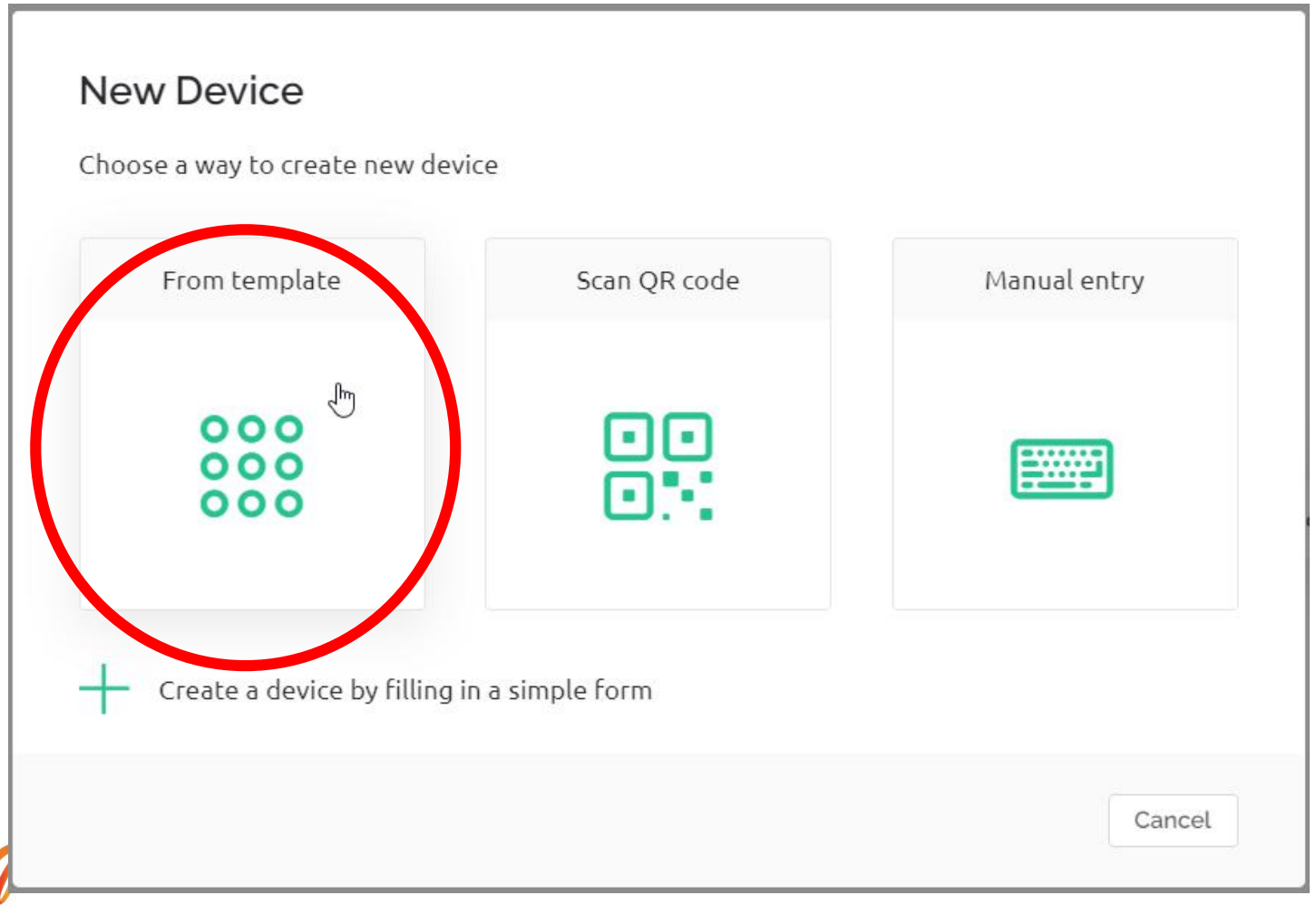
Create a new template with the contents shown on left and first click “Done”, then “Save”



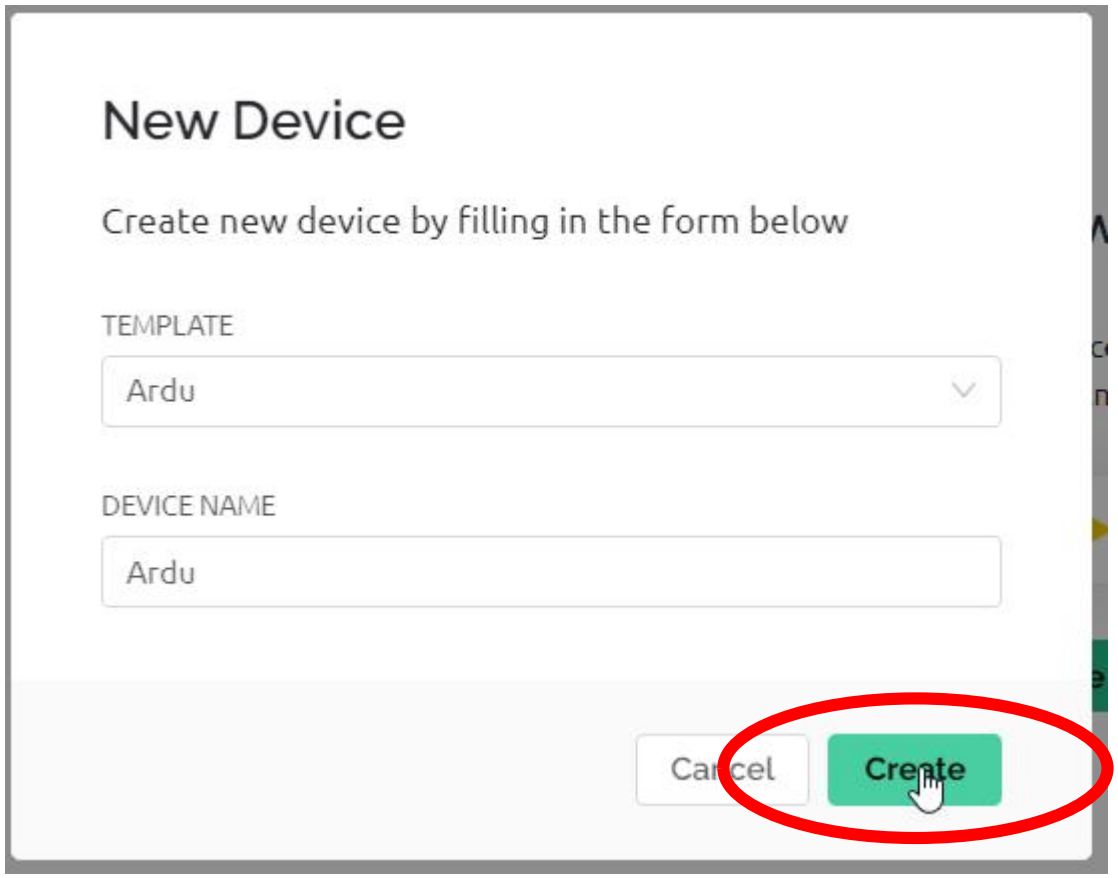
Creating device in Blynk



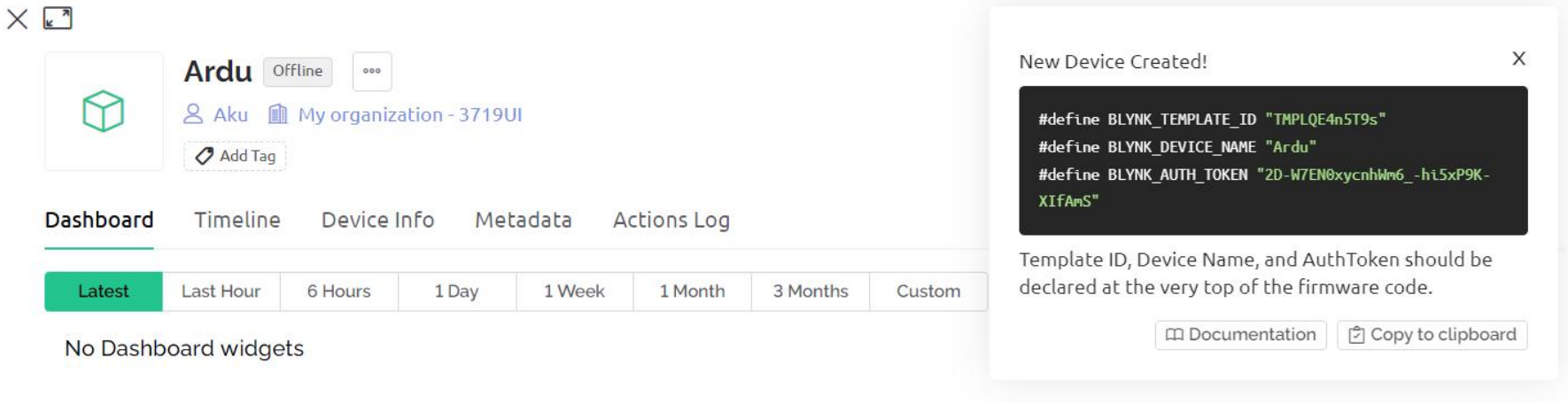
Devicen luominen

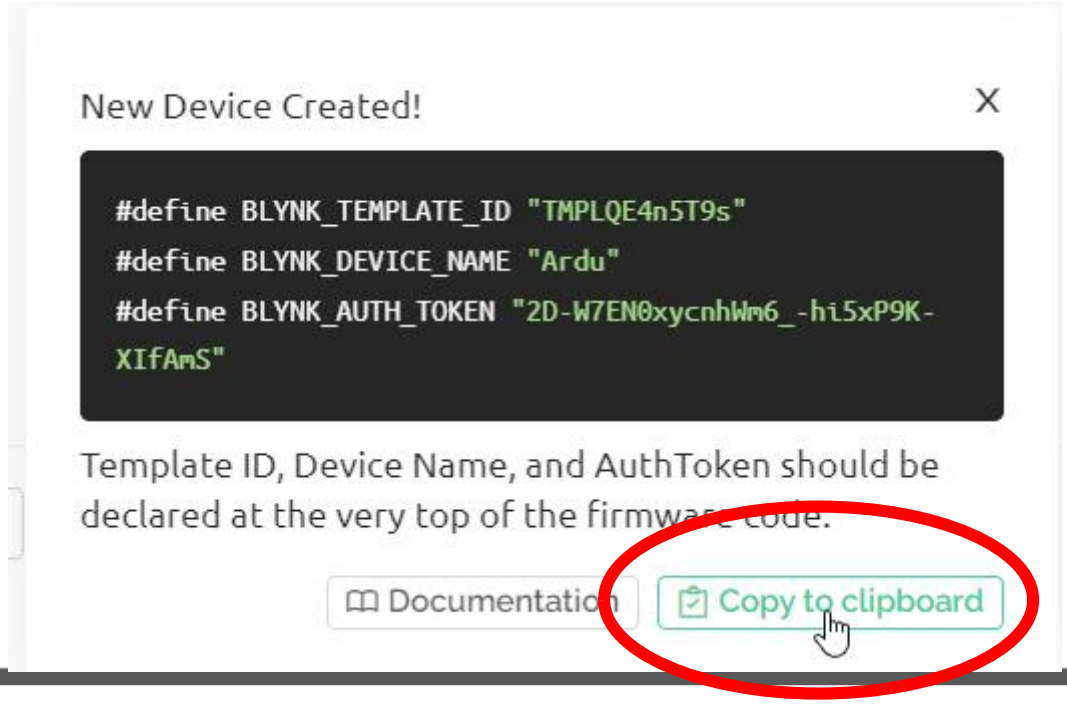


Devicen luominen



Importing Blynk definitions to Arduino





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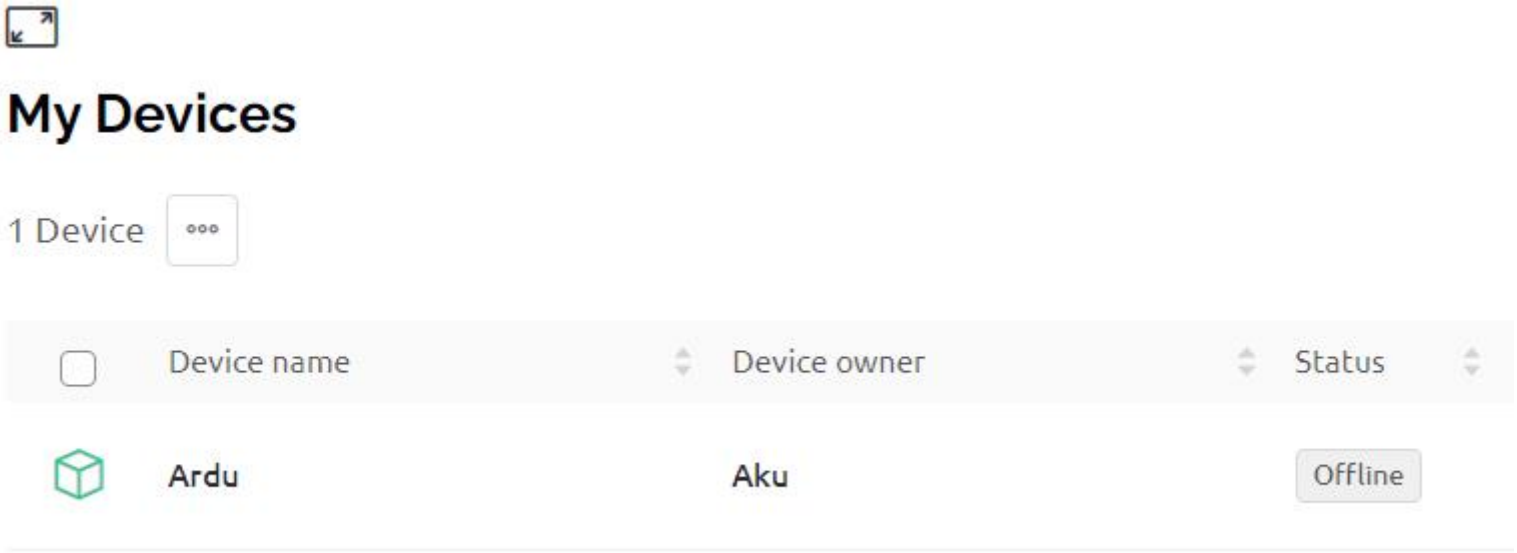
Importing Blynk definitions to Arduino

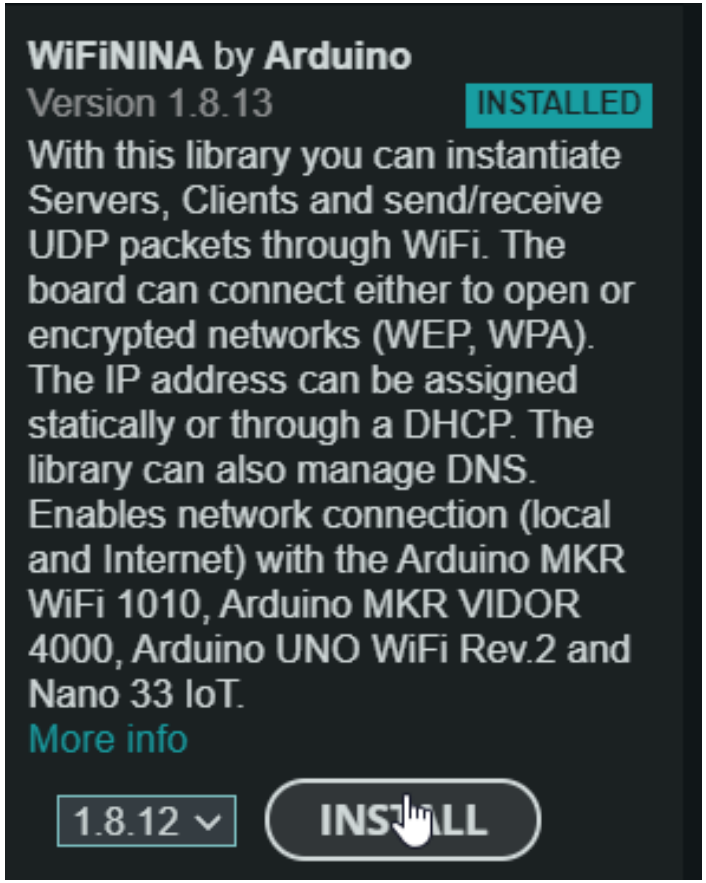
Paste the copied lines (from previous slide) as the very first lines of code in your Arduico scketch.

Creating a device in Blynk



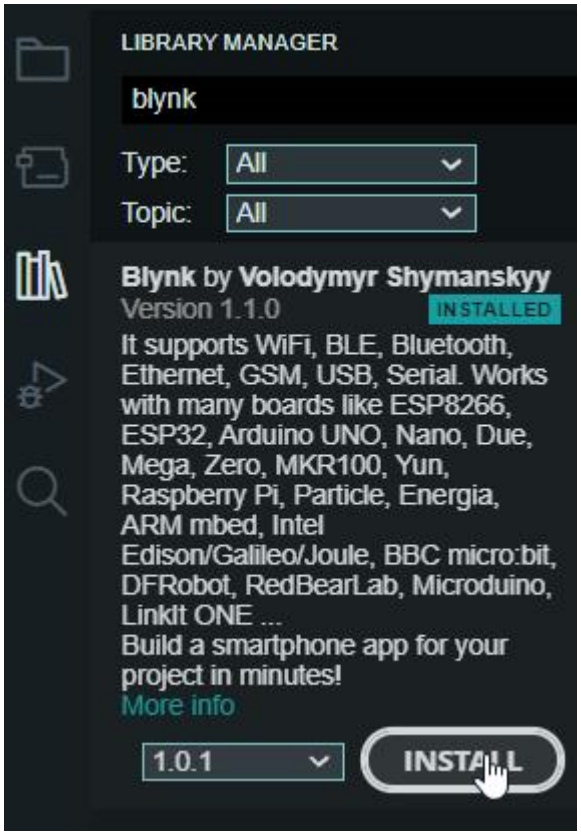
Importing required WiFiNINA library

Install the *WiFiNINA* library in Arduino IDE from the Library Manager on left side control bar



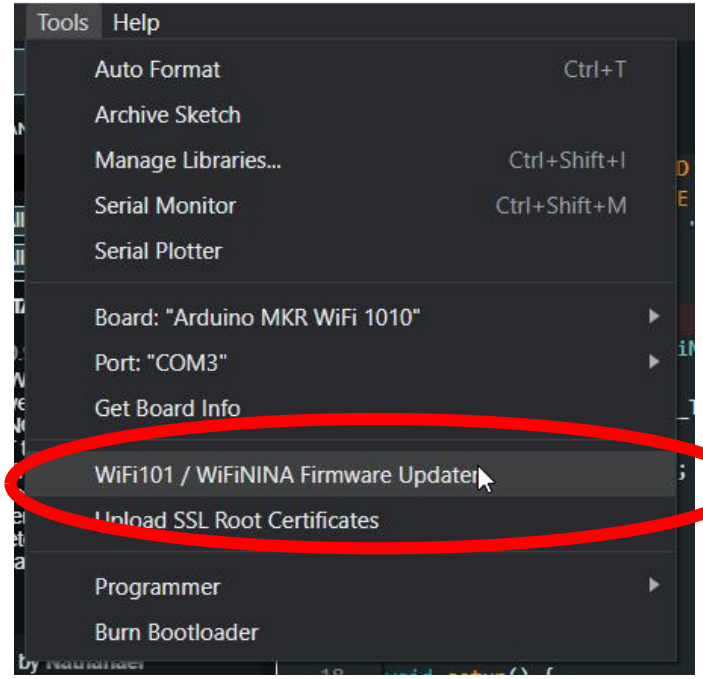
Importing required WiFiNINA library

Install the Blynk library from Library Manager



Importing required WiFiNINA library

One more thing – update Arduino firmware



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Virtual pins..

```
BLYNK_WRITE(V0) {
   value = param.asInt(
}
```

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Creating encrypted channel between Arduino board and Blynk

1031-test.ino

```
#define BLYNK_TEMPLATE_ID "TMPLmwqzgUdX"
#define BLYNK_DEVICE_NAME "Ardu"
#define BLYNK_AUTH_TOKEN "L3faqWOqUtqS20WCPGLXDqt6TvkGpm1f"

#include <SPI.h>
#include <WiFiNINA.h>
#include <BlynkSimpleWiFiNINA.h>

char auth[] = BLYNK_AUTH_TOKEN;
char ssid[] = "verkko";
char pass[] = "salasana";
BlynkTimer timer;

// Kirjoittaa jatkuvasti käynnistyksestä
// kulunutta aikaa sekunteina virtuaalipinniin V2
void myTimerEvent() {
  Blynk.virtualWrite(V2, millis() / 1000);
}

void setup() {
  Blynk.begin(auth,ssid,pass);
  timer.setInterval(1000L, myTimerEvent);
}

void loop() {
  Blynk.run();
  timer.run();
}
```

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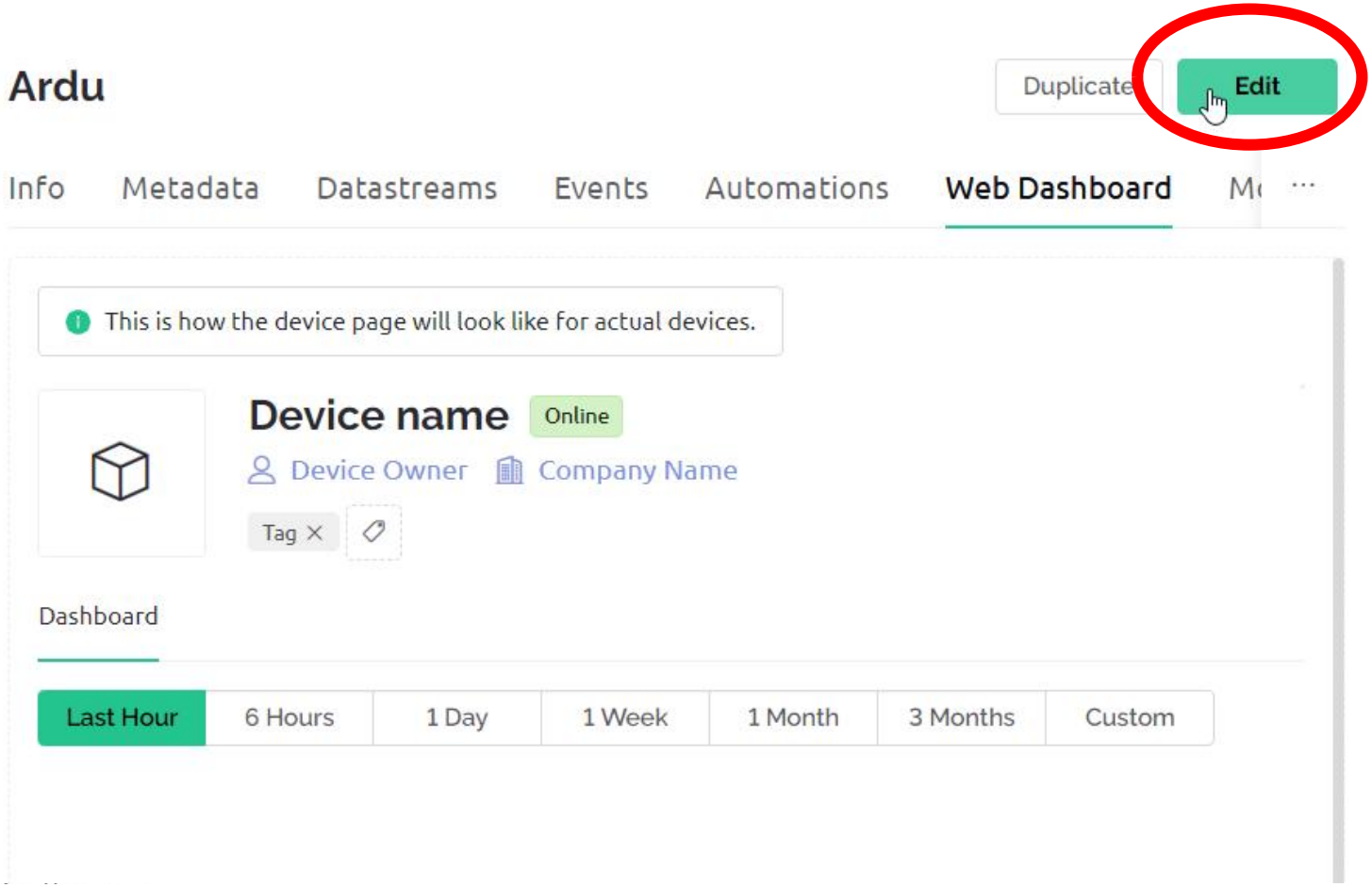
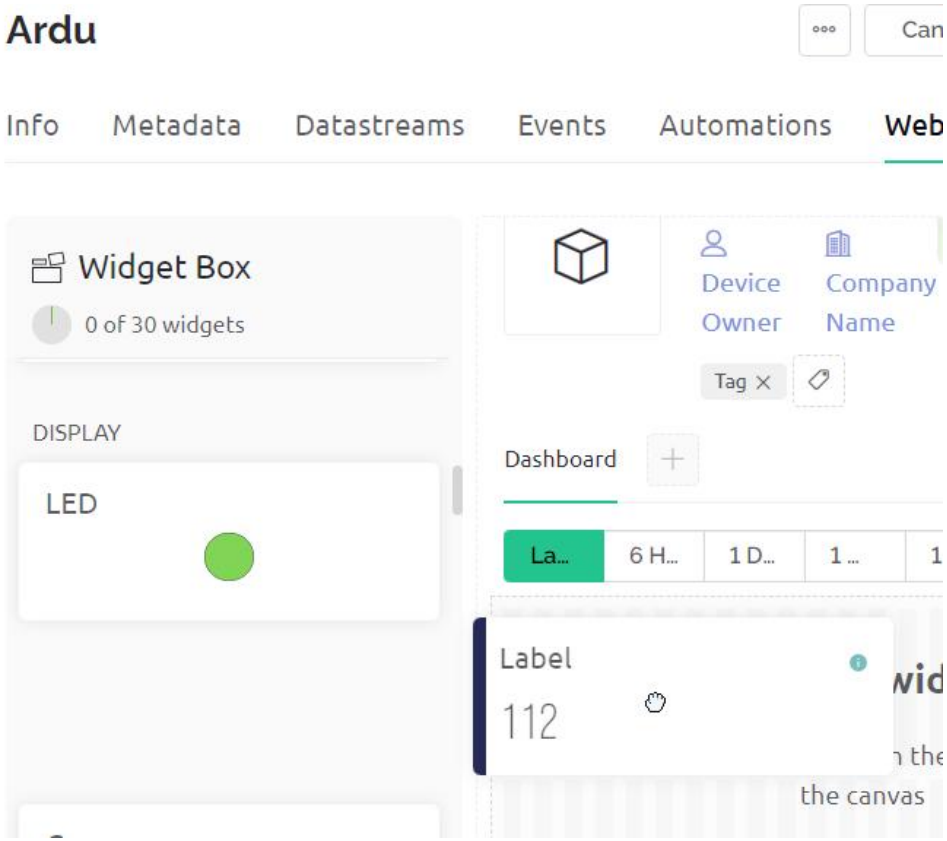
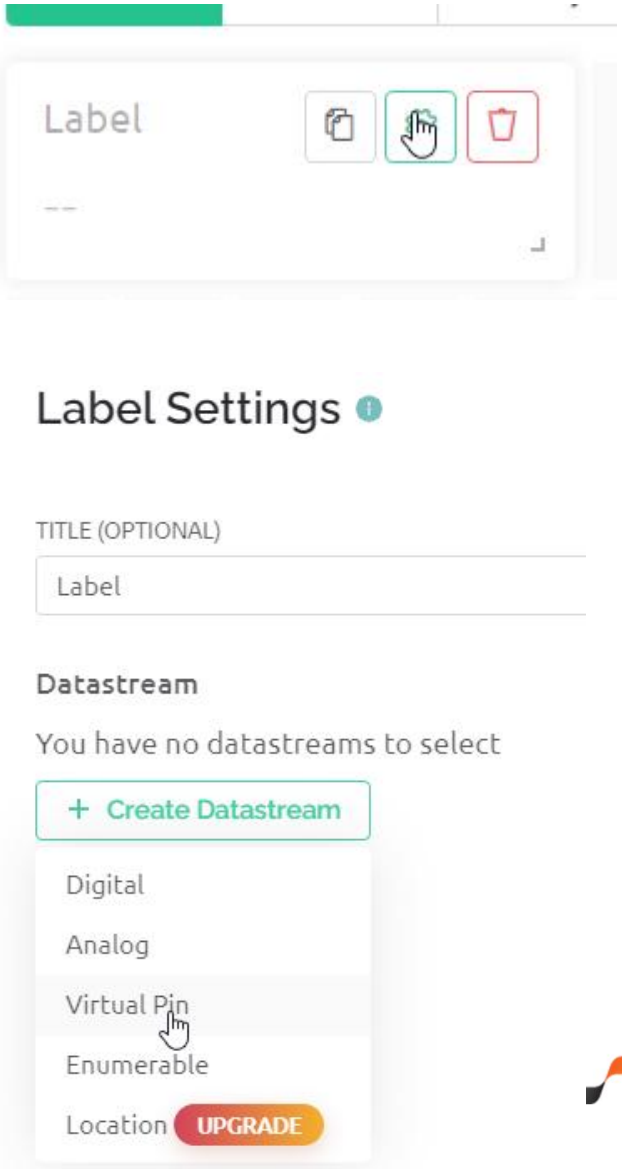
Creating encrypted channel between Arduino board and Blynk

Add a display on Dashboard that shows time after reset.



Arduino and Blynk





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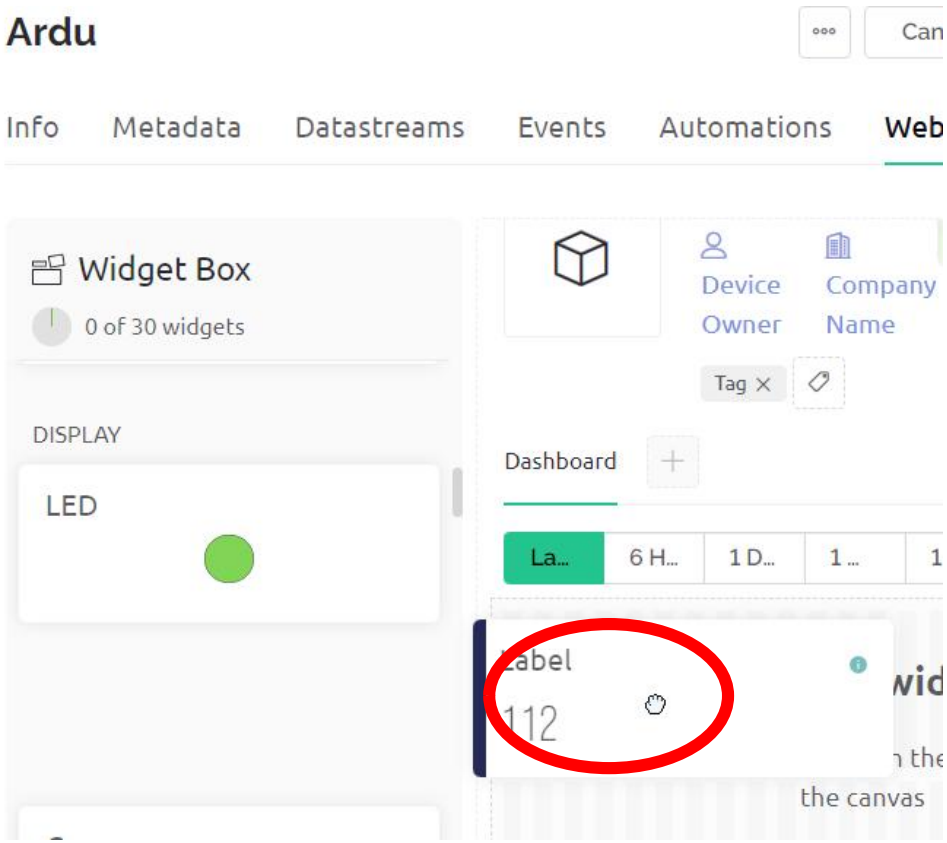
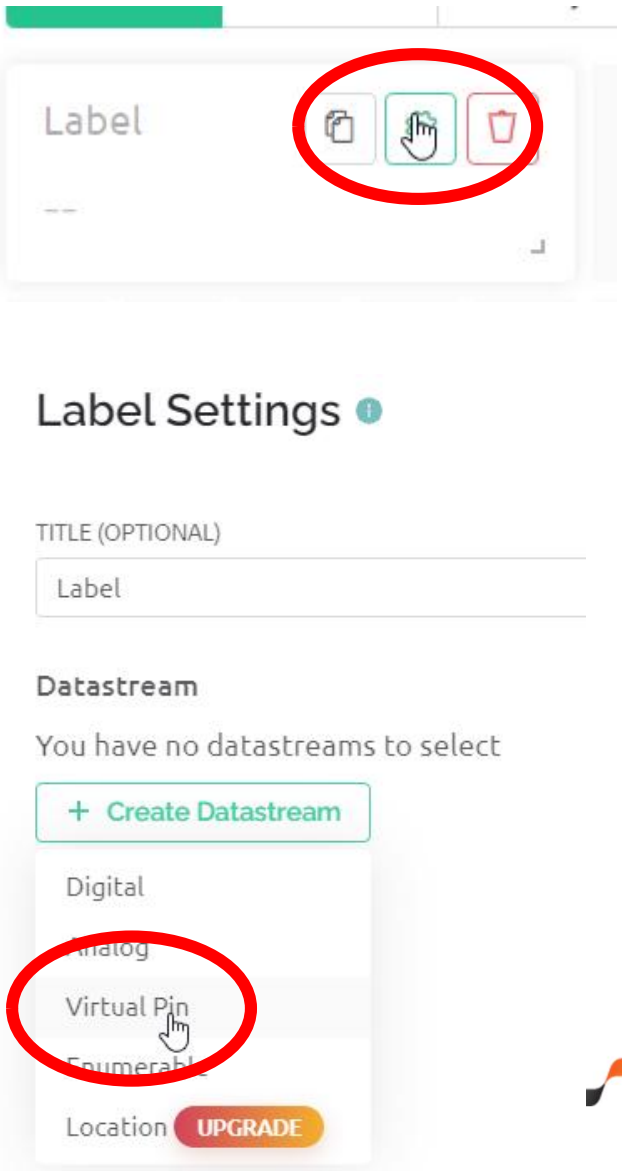
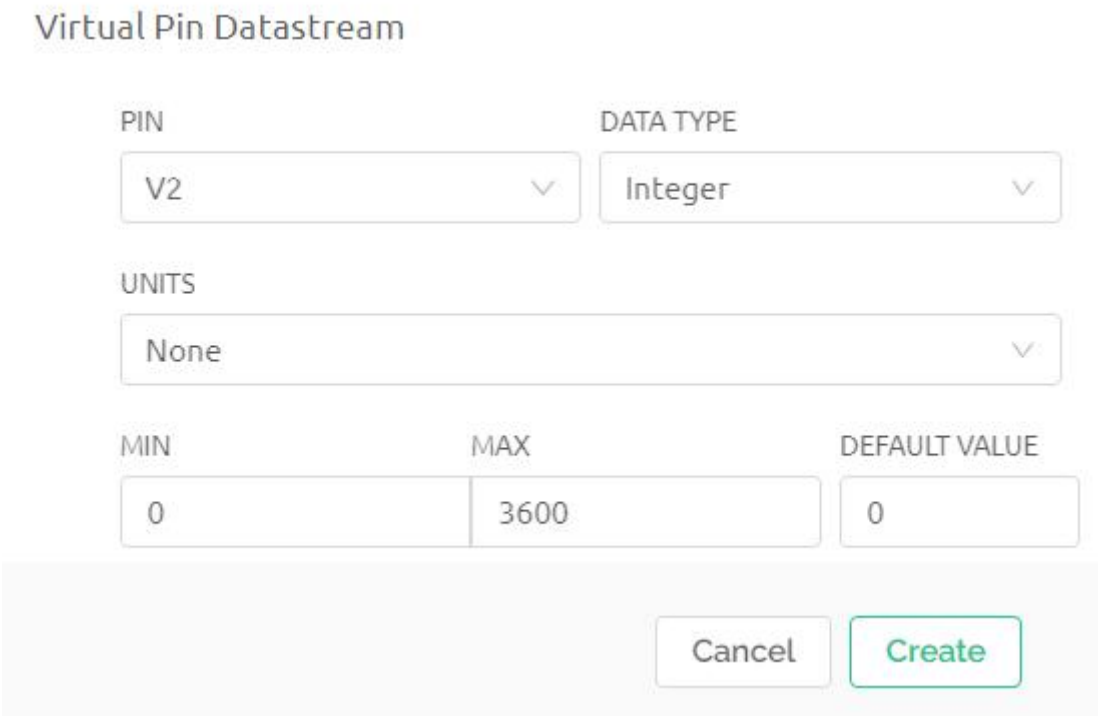
Arduino and Blynk

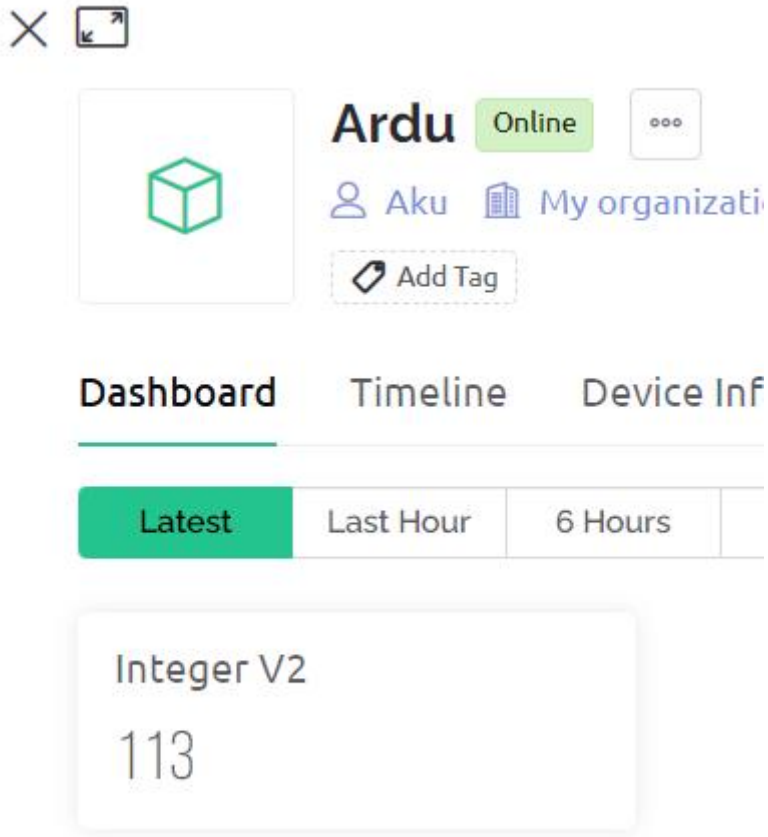




Arduino and Blynk



Arduino and Blynk



Assignment

1. Add a button on your dashboard, which controls the on board LED.
2. Modify your code to control also the external LED.

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