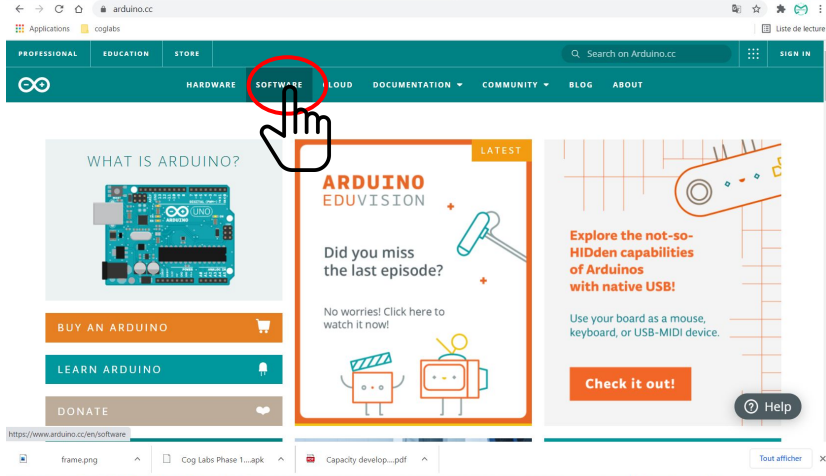




ARDUINO SETUP

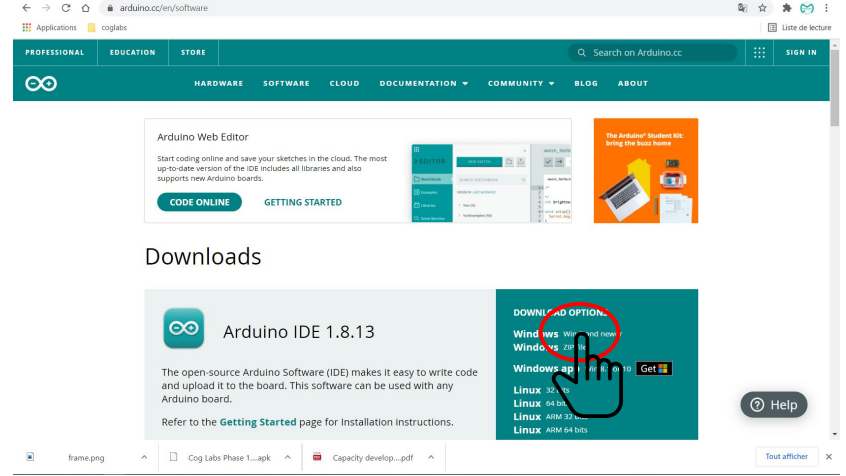
1

Install Arduino



Go to [Arduino.cc](https://www.arduino.cc) and click on "SOFTWARE"

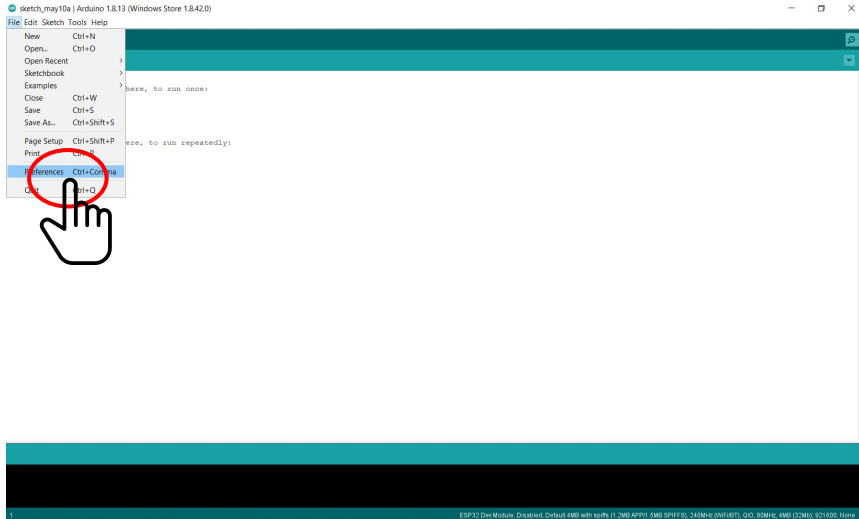
<https://www.arduino.cc/>



Select your Option and Download the latest version

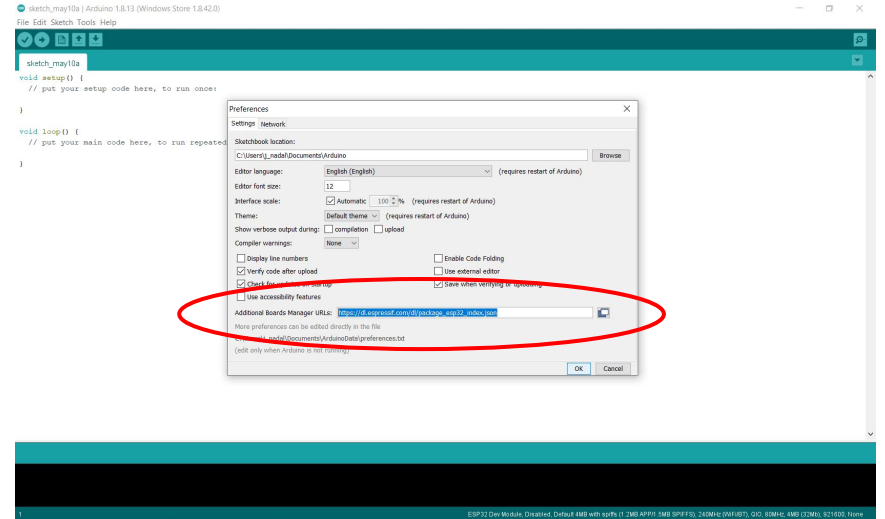
2

Set Up ESP32 Add on



1

Open Arduino and Click on “File” then “Preferences”



2

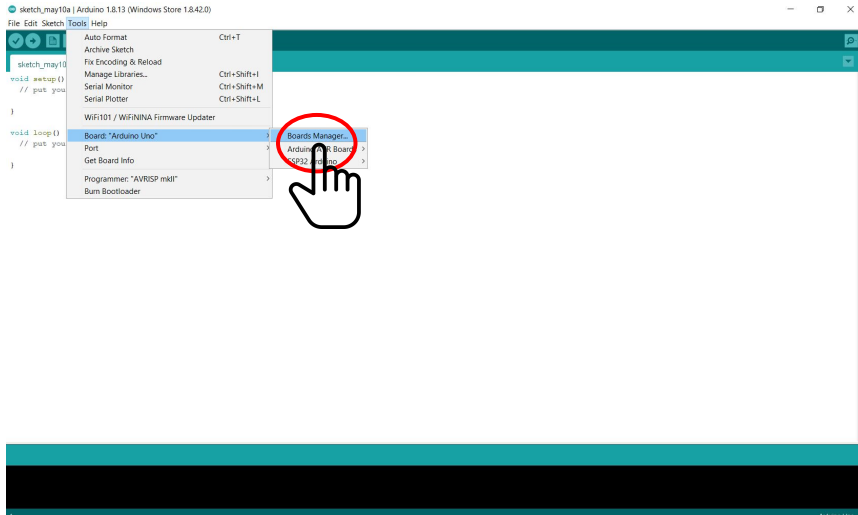
Copy and Paste this:

https://dl.espressif.com/dl/package_esp32_index.json

on “Additional Boards Manager URLs”

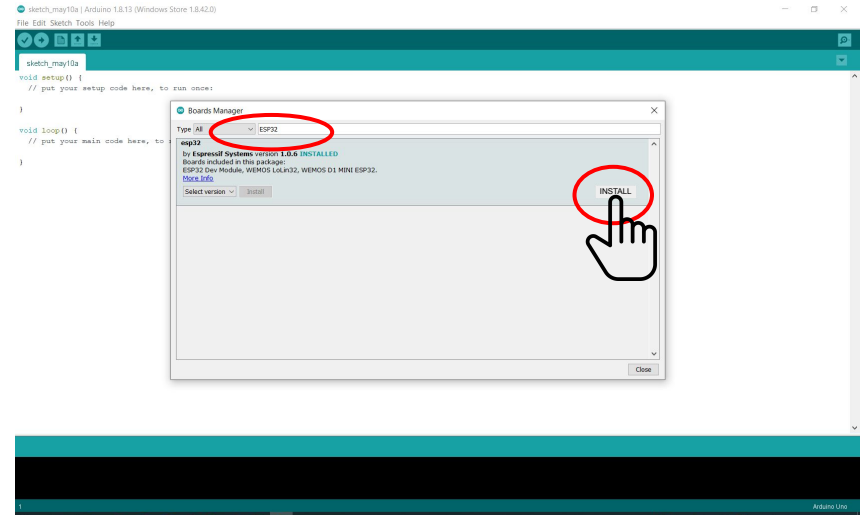
2

Set Up ESP32 Add on



3

Go to “Tools”, “Board” and click on “Boards Manager...”

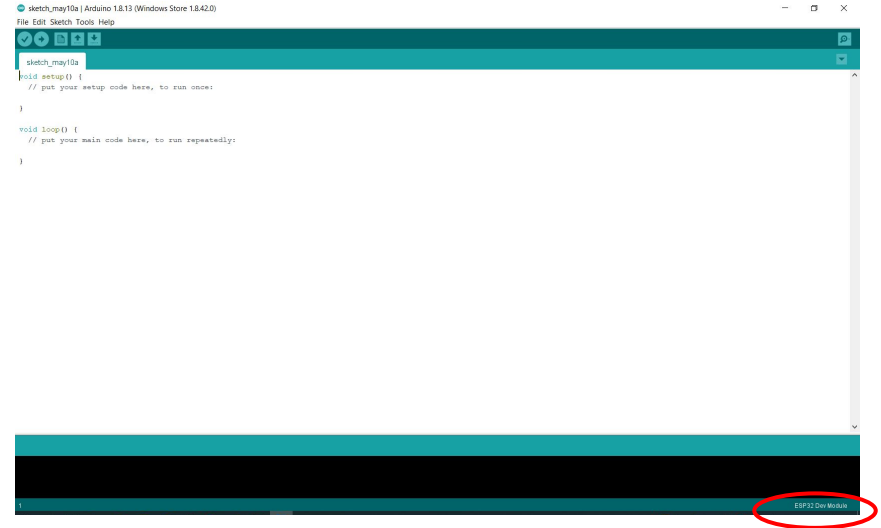
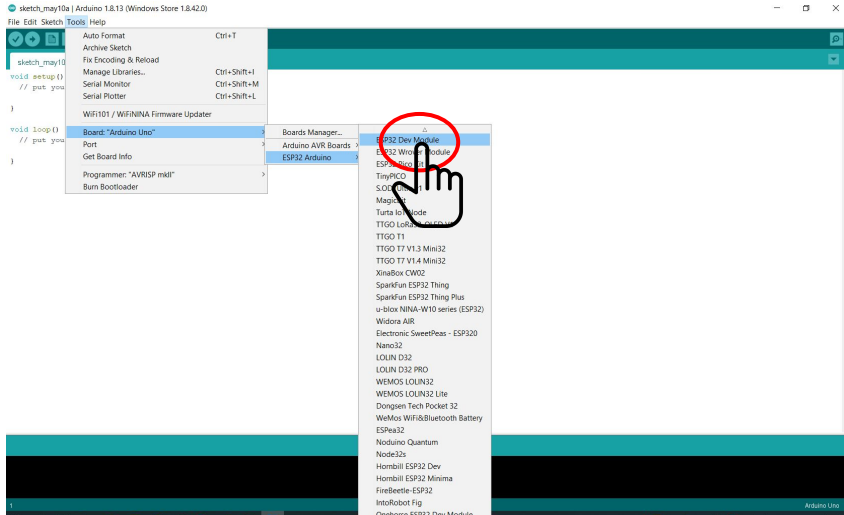


4

Type **ESP32** and download the latest Version

2

Set Up ESP32 Add on



5

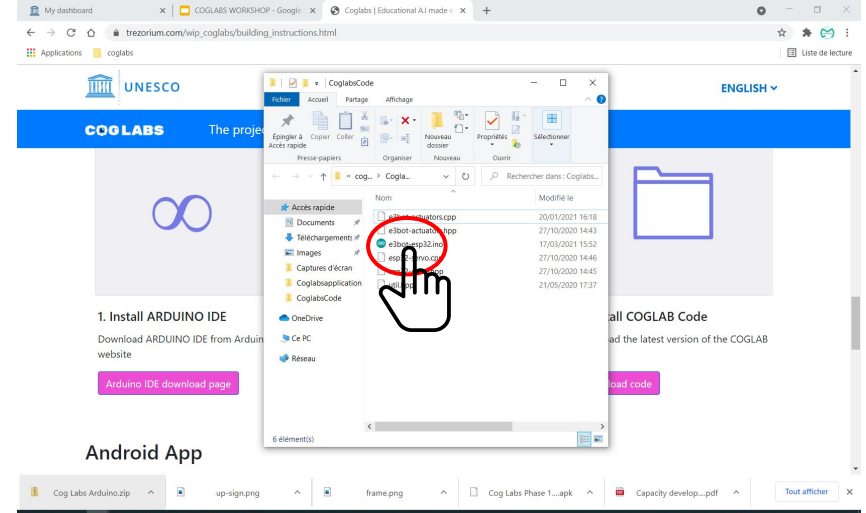
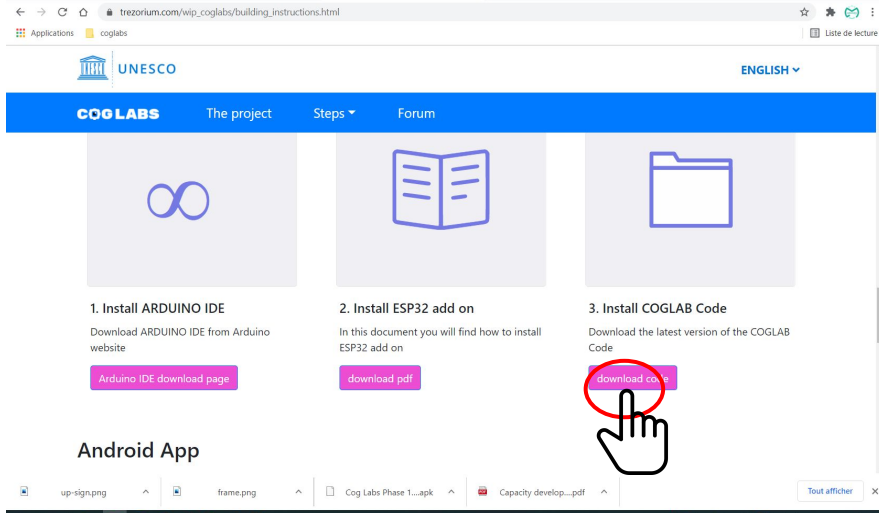
Go to “Tools”, “Board”, “ESP32 Arduino”
And click on “ESP32 Dev module”

6

You should see **ESP32 Dev Module** on the
bottom right of your screen

3

Upload the Coglab Code to the CoogBoard



1

Go to [Coglabs instruction Page](https://www.trezorium.com/wip_coglabs/building_instructions.html) and Download the Coglabs Code then Unzip.

https://www.trezorium.com/wip_coglabs/building_instructions.html

2

You should see a folder with 6 files, Click on “e3bot-esp32.ino”

3

Upload the Coglab Code to the CoagBoard

```
#include <BLEDevice.h>
#include <BLEUtils.h>
#include <BLEServer.h>
#include <BLE2902.h>
#include "e3bot-actuators.hpp"
#include "util.hpp"

// See the following for generating UUIDs:
// https://www.uuidgenerator.net/

#define SERVICE_UUID          "ecf085e8-a276-43f5-8247-2d8d818d9d31"
#define CHARACTERISTIC_UUID   "50fallb2-4bdb-49a5-85a4-9835f06d47f8"
#define DEVICE_NAME           "COG21"
#define VERSION                "1.0.0"

const uint8_t PIN_SERVO_WHEEL_L = 12; // Dev: 14
const uint8_t PIN_SERVO_WHEEL_R = 26; // Dev: 27
const uint8_t PIN_SERVO_HEAD_L = 14; // Dev: 26
const uint8_t PIN_SERVO_HEAD_R = 02; // Dev: 25
```

You should see 6 tabs here:

3

You can change the name of your CogBot here:

```
#include <BLEDevice.h>
#include <BLEUtils.h>
#include <BLEServer.h>
#include <BLE2902.h>
#include "e3bot-actuators.hpp"
#include "util.hpp"

// See the following for generating UUIDs:
// https://www.uuidgenerator.net/

#define SERVICE_UUID          "ecf085e8-a276-43f5-8247-2d8d818d9d31"
#define CHARACTERISTIC_UUID   "50fallb2-4bdb-49a5-85a4-9835f06d47f8"
#define DEVICE_NAME           "COG21"
#define VERSION                "1.0.0"

const uint8_t PIN_SERVO_WHEEL_L = 12; // Dev: 14
const uint8_t PIN_SERVO_WHEEL_R = 26; // Dev: 27
const uint8_t PIN_SERVO_HEAD_L = 14; // Dev: 26
const uint8_t PIN_SERVO_HEAD_R = 02; // Dev: 25

const unsigned int TIMEOUT_MS = 5000;

Done compiling.

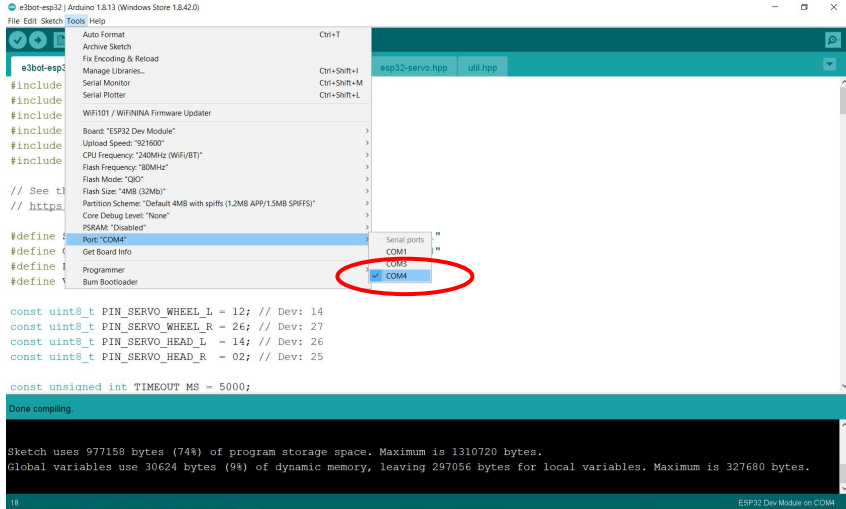
Sketch uses 977158 bytes (74%) of program storage space. Maximum is 1310720 bytes.
Global variables use 30624 bytes (9%) of dynamic memory, leaving 297056 bytes for local variables. Maximum is 327680 bytes.
```

4

Click on “Verify” and wait until “Done Compiling” and this message appears.

3

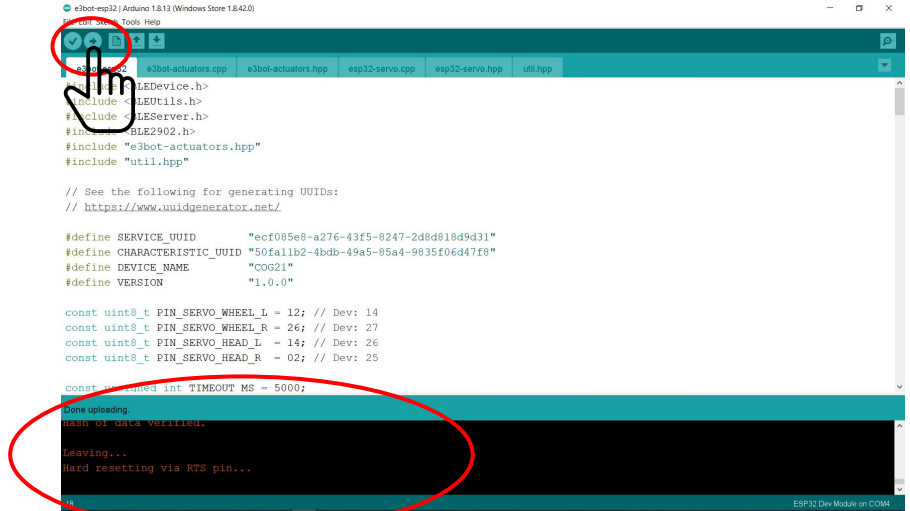
Upload the Coglab Code to the CoogBoard



```
File Edit Sketch Tools Help
Tools
Auto Format
Archive Sketch
Fix Encoding & Reload
Manage Libraries...
Serial Monitor
Serial Plotter
WiFi101 / WIFININA Firmware Updater
#include
#include
#include
Board: "ESP32 Dev Module"
Upload Speed: "312000"
CPU Frequency: "240MHz (WiFi/BT)"
Flash Frequency: "80MHz"
Flash Mode: "QIO"
Flash Size: "8MB (2MB)"
Partition Scheme: "Default 4MB with spiffs (12MB APP/1.5MB SPIFFS)"
Core Debug Level: "None"
PSRAM: "Disabled"
#define
#define
#define
#define
#define
#define
#define
#define
Serial ports:
COM1
COM3
COM4
Programmer:
Burn Bootloader
const uint8_t PIN_SERVO_WHEEL_L = 12; // Dev: 14
const uint8_t PIN_SERVO_WHEEL_R = 26; // Dev: 27
const uint8_t PIN_SERVO_HEAD_L = 14; // Dev: 26
const uint8_t PIN_SERVO_HEAD_R = 02; // Dev: 25
const unsigned int TIMEOUT_MS = 5000;
Done compiling
Sketch uses 977158 bytes (74%) of program storage space. Maximum is 1310720 bytes.
Global variables use 30624 bytes (9%) of dynamic memory, leaving 297056 bytes for local variables. Maximum is 327680 bytes.
```

5

Now plug the CogBoard to your Computer with a **USB DATA** cable. Go to “Tools”, “Port” and select the active Port. Try turning ON and OFF your board to make sure you select the good one.



```
File Edit Sketch Tools Help
Tools
e3bot-actuators.cpp e3bot-actuators.hpp esp32-servo.cpp esp32-servo.hpp util.hpp
#include <Arduino.h>
#include <LEDevice.h>
#include <LEUtils.h>
#include <LEServer.h>
#include <BLE2902.h>
#include "e3bot-actuators.hpp"
#include "util.hpp"
// See the following for generating UUIDs:
// https://www.uuidgenerator.net/
#define SERVICE_UUID           "ecf085e8-a276-43f5-8247-2d8d018d9d31"
#define CHARACTERISTIC_UUID   "50fa11b2-4bdb-49a5-85a4-9835f06d47f8"
#define DEVICE_NAME            "cog21"
#define VERSION                 "1.0.0"
const uint8_t PIN_SERVO_WHEEL_L = 12; // Dev: 14
const uint8_t PIN_SERVO_WHEEL_R = 26; // Dev: 27
const uint8_t PIN_SERVO_HEAD_L = 14; // Dev: 26
const uint8_t PIN_SERVO_HEAD_R = 02; // Dev: 25
const unsigned int TIMEOUT_MS = 5000;
Done uploading
Hard reset via RTS pin...
```

6

Click on “Upload” and wait until “Done Uploading” and this message appears. Now your Board is Ready and you can unplug it from the computer.