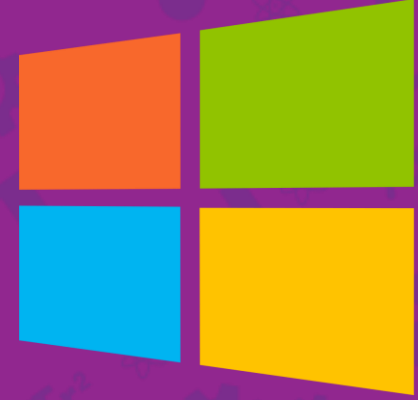




Crash Course: Measurements, Sensors and Data Logging

*Arduino IDE Install
&
Finding COM Ports*

PC, MAC & Chromebook



PC / Windows Instructions

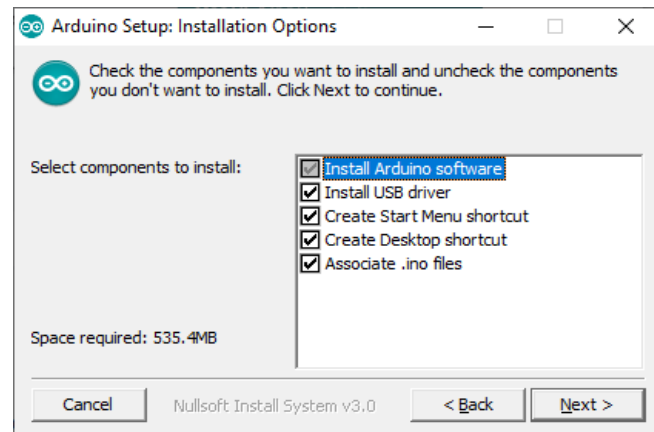
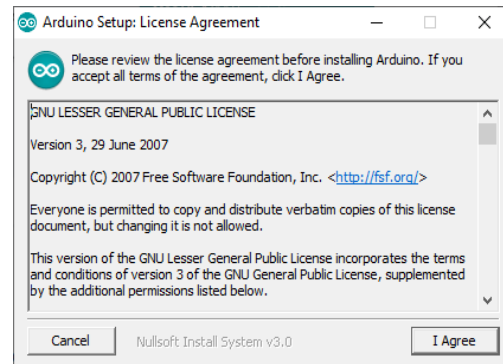
Download & Install IDE

- Download
<https://www.arduino.cc/en/Main/Software>
 - Windows Installer for windows 7 and up
- Install Arduino
 - Find download location or open installer from your browser



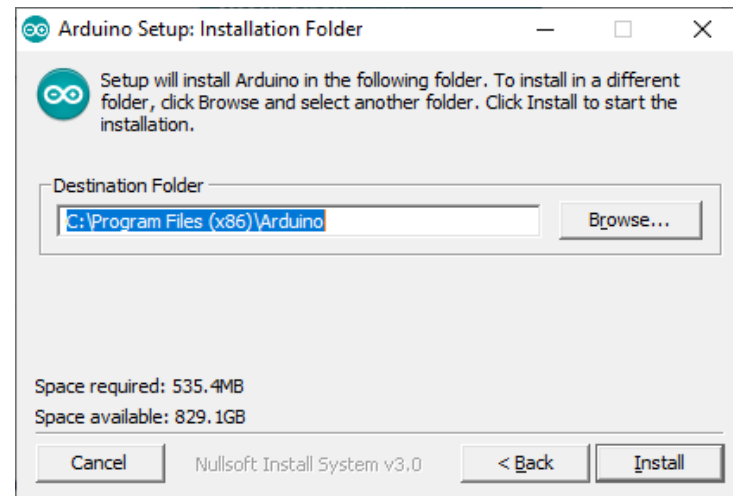
Download & Install IDE – Part 1

- Install Arduino
 - Find download location or open installer from your browser
 - Agree to the License Agreement
 - Default Options are fine, click *Next*



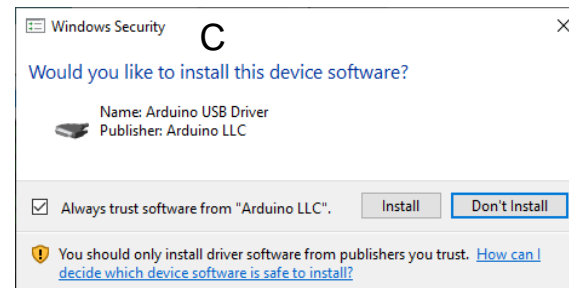
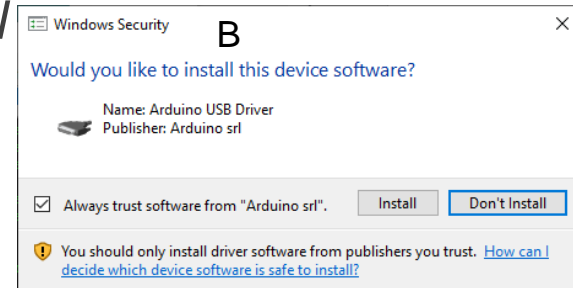
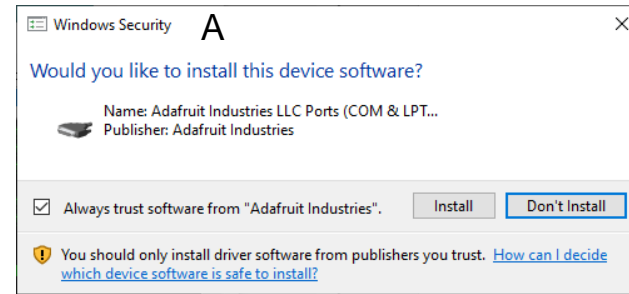
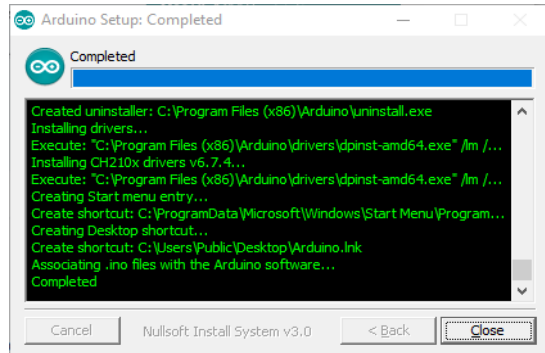
Download & Install IDE – Part 2

- Install Arduino
 - Default Destination Folder is fine. Click *Install*



Install Drivers & Completion

- A) Install COM port driver. Click *Install*
- B) Install USB driver (Arduino srl). Click *Install*
- C) Install USB driver (Arduino LLC). Click *Install*
- Install Complete. Click *Close*



Download & Install CP2012 USB Driver – Part 1

- Download and install CP2012 USB Driver

<https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>

- Select the version of your Windows version
- This will likely be downloaded to your *Downloads* folder

Silicon Labs » Products » Development Tools » Software » USB to UART Bridge VCP Drivers

CP210x USB to UART Bridge VCP Drivers

The CP210x USB to UART Bridge Virtual COM Port (VCP) drivers are required for device operation as a Virtual COM Port to facilitate host communication with CP210x products. These devices can also interface to a host using the [direct access driver](#). These drivers are static examples detailed in application note 197, The Serial Communications Guide for the CP210x; download an example below:

[AN197: The Serial Communications Guide for the CP210x](#)


Download Software

The CP210x Manufacturing DLL and Runtime DLL have been updated and must be used with v6.0 and later of the CP210x Windows VCP Driver. Application Note Software downloads affected are AN144SW.zip, AN205SW.zip and AN223SW.zip. If you are using a 5.x driver and need support you can download archived [Application Note Software](#).



[Legacy OS software and driver package download links and support information >](#)

Download for Windows 10 Universal (v10.1.9)

Note: The latest version of the Universal Driver can be automatically installed from Windows Update.

Platform	Software	Release Notes
 Windows 10 Universal	Download VCP (2.3 MB)	Download VCP Revision History

Download for Windows 7/8/8.1 (v6.7.6)

Platform	Software	Release Notes
 Windows 7/8/8.1	Download VCP (5.3 MB) (Default)	Download VCP Revision History
 Windows 7/8/8.1	Download VCP with Serial Enumeration (5.3 MB) Learn More >	Download VCP Revision History

Download & Install CP2012 USB Driver – Part 2

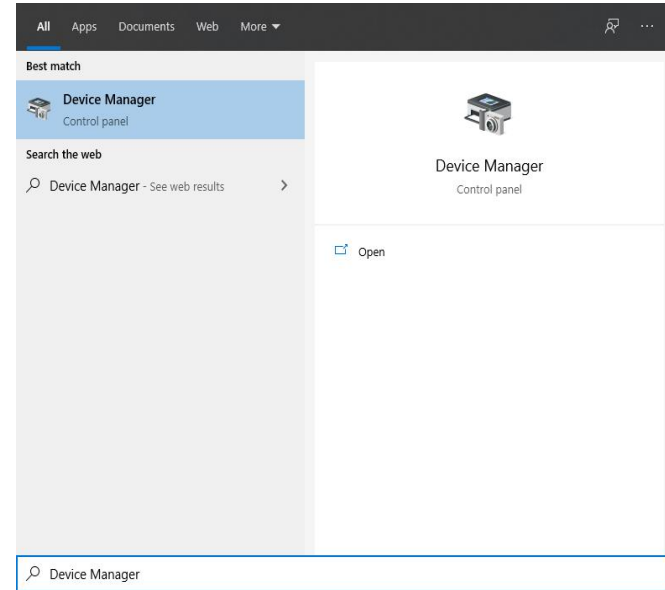
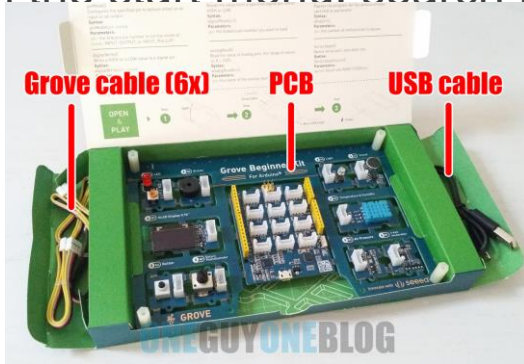
- Extract the downloaded folder
- Install the driver by double clicking on the driver
CP210xVCPInstaller_64.exe

PC > Windows7_OS (C:) > Users > MSDMikko > Downloads > CP210x_Universal_Windows_Driver >

Name	Date modified	Type	Size
arm	10/16/2020 2:19 PM	File folder	
arm64	10/16/2020 2:19 PM	File folder	
x64	10/16/2020 2:19 PM	File folder	
x86	10/16/2020 2:19 PM	File folder	
CP210x_Universal_Windows_Driver_Relea...	10/16/2020 2:19 PM	Text Document	25 KB
CP210xVCPInstaller_x64.exe	10/16/2020 2:19 PM	Application	1,026 KB
CP210xVCPInstaller_x86.exe	10/16/2020 2:19 PM	Application	903 KB
dpinst.xml	10/16/2020 2:19 PM	XML Document	12 KB
silabser.cat	10/16/2020 2:19 PM	Security Catalog	13 KB
silabser.inf	10/16/2020 2:19 PM	Setup Information	11 KB
SLAB_License_Agreement_VCP_Windows...	10/16/2020 2:19 PM	Text Document	9 KB

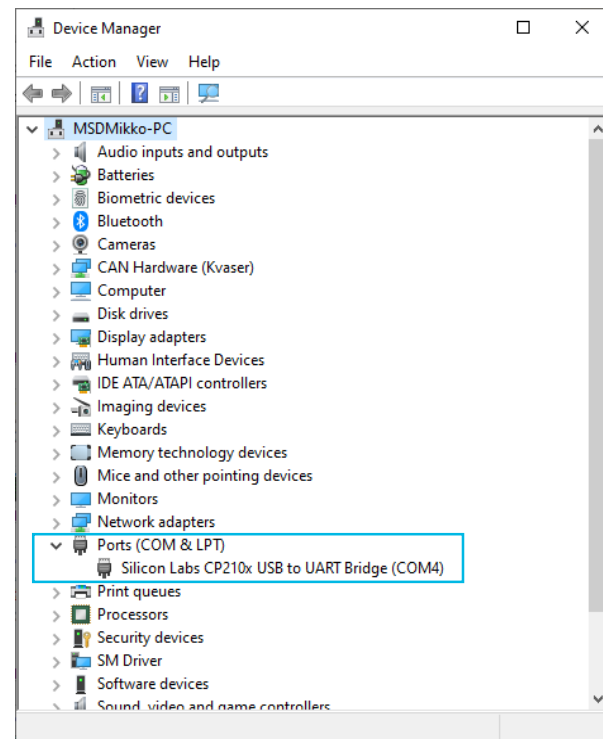
Determining & Selecting the COM Port

- Plug Arduino into a USB Port on your PC
 - There is a cable in the Arduino box. It is in the side of the box.
 - Check that the USB cable is fully seated on the PC and Arduino connections.
- Open *Device Manager*
 - From the start menu, search for *Device Manager*



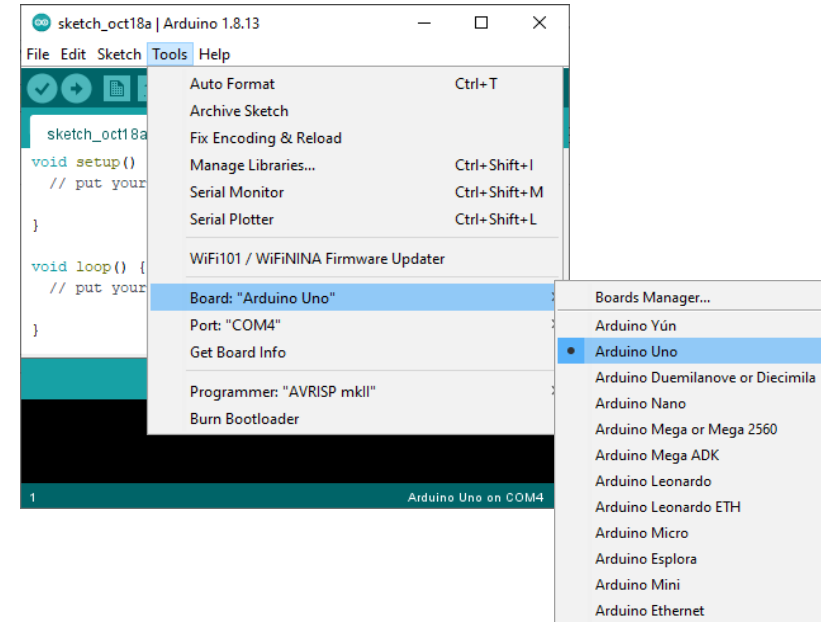
Determining & Selecting the COM Port

- Search for *Ports (COM & LPT)*
 - Look for:
Silicon Labs CP210x USB to UART Bridge
 - The COMX listed is the port.
 - In this instance COM4 is the port



Setting the Board & Port in Arduino IDE

- Open the Arduino IDE
- Set the Board
 - *Tools -> Board -> Arduino Uno*
- Set the Port
 - *Tools -> Port -> COMX*
 - The port is the one determined previously



Mac Instructions

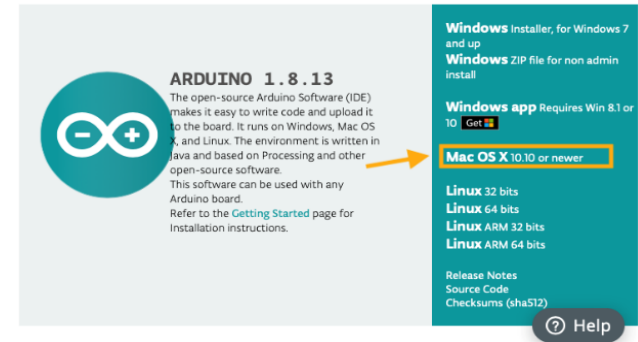


Download & Install IDE

- Download
<https://www.arduino.cc/en/Main/Software>
– Mac OS X 10.10 or newer

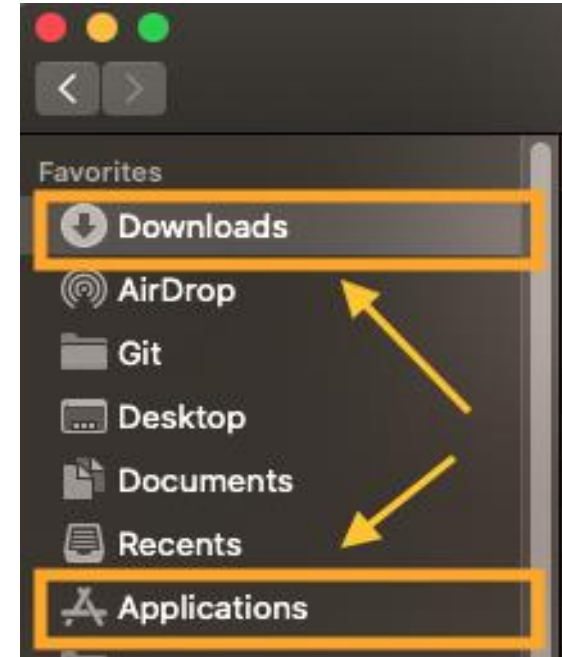


Download the Arduino IDE



Install Arduino IDE

- Find *Arduino.app* in your *Downloads* folder and click and drag it to your *Applications* folder.

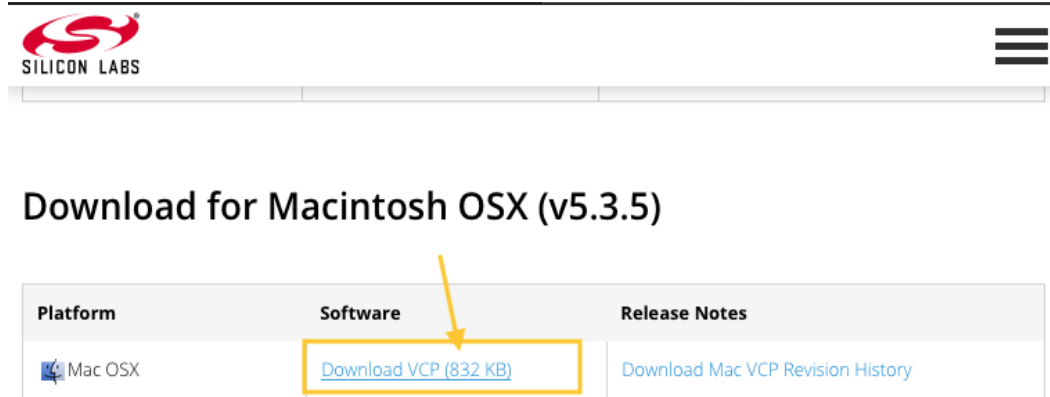


Download & Install CP2012 USB Driver – Part 1


- Download and install CP2012 USB Driver

<https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>

- Click on *Download CVP* under Download for Macintosh OSX (v5.3.5)

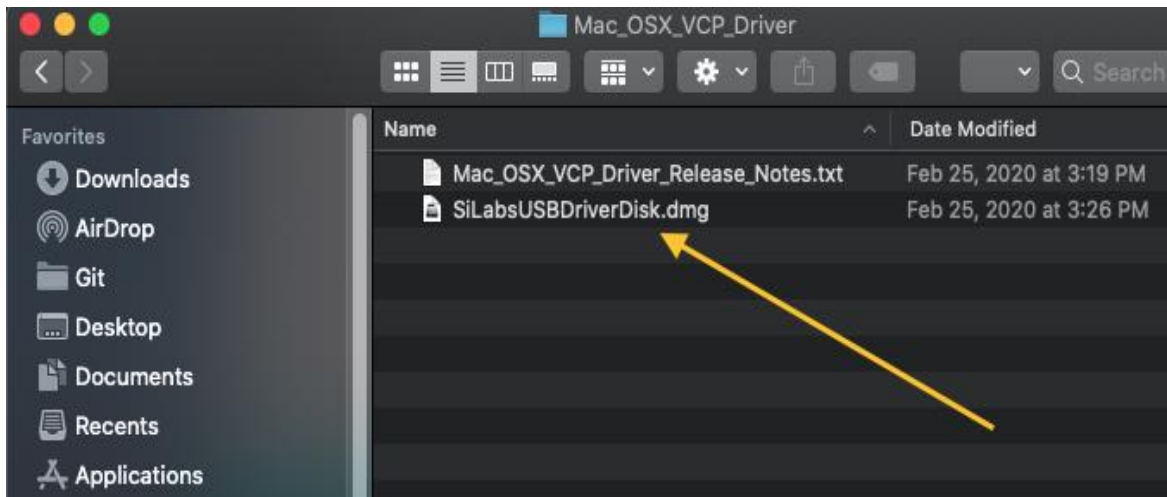


The screenshot shows the Silicon Labs website header with the logo and a hamburger menu. Below the header, the text "Download for Macintosh OSX (v5.3.5)" is displayed. A table with three columns: "Platform", "Software", and "Release Notes" is shown. The "Platform" column contains a Mac OS X icon and the text "Mac OS X". The "Software" column contains a link "Download VCP (832 KB)" which is highlighted with a yellow box and pointed to by a yellow arrow. The "Release Notes" column contains a link "Download Mac VCP Revision History".

Platform	Software	Release Notes
 Mac OS X	Download VCP (832 KB)	Download Mac VCP Revision History

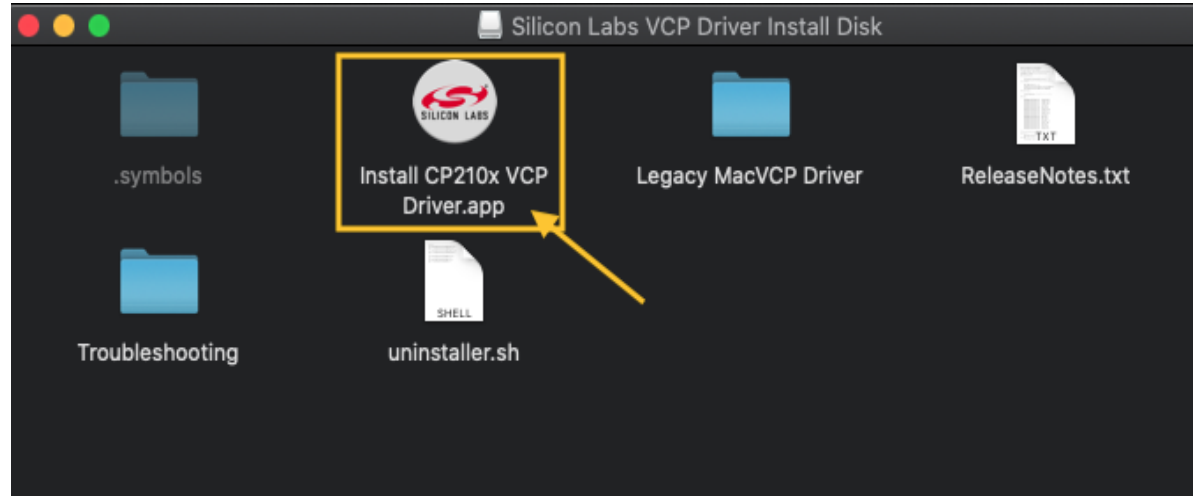
Download & Install CP2012 USB Driver – Part 2

- Find and open the folder *Mac_OSX_VCP_Driver* in the *Downloads* folder.
- Double click on *SiLabsUSBDriverDisk.dmg*



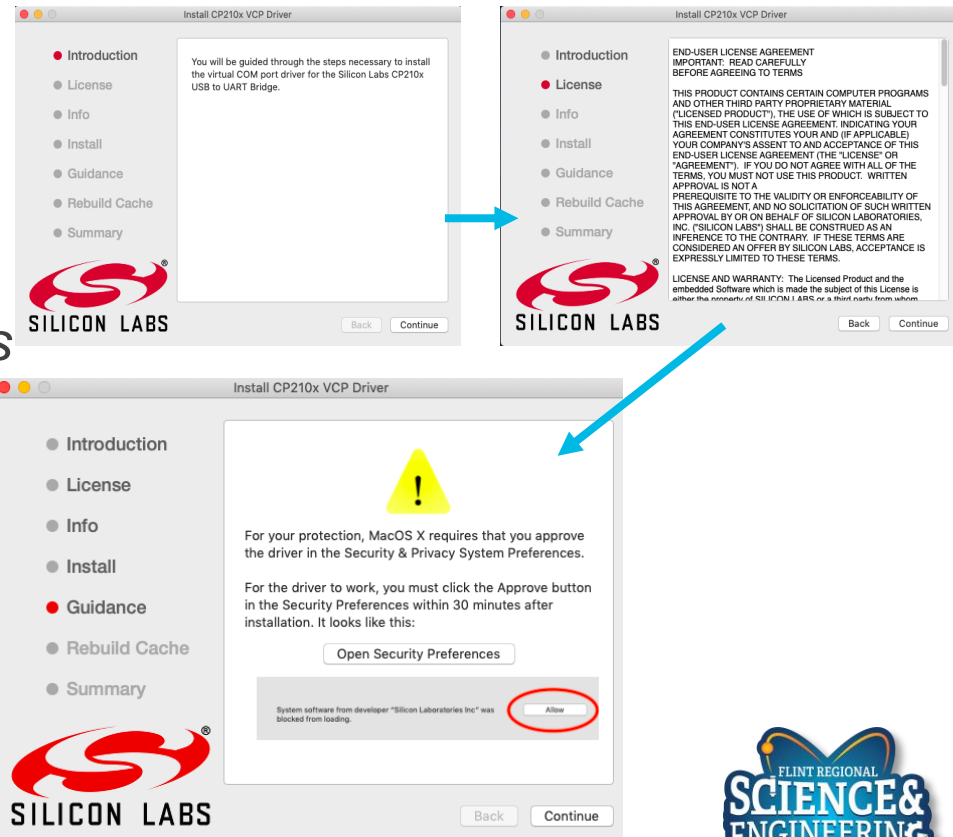
Download & Install CP2012 USB Driver – Part 3

- Double click on *Install CP210x VCP Driver.app*



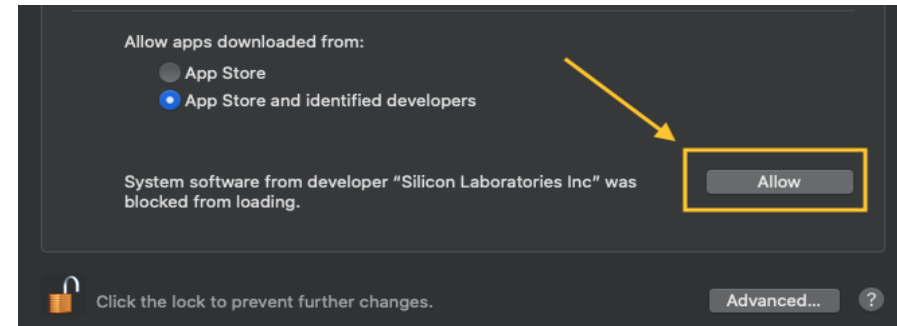
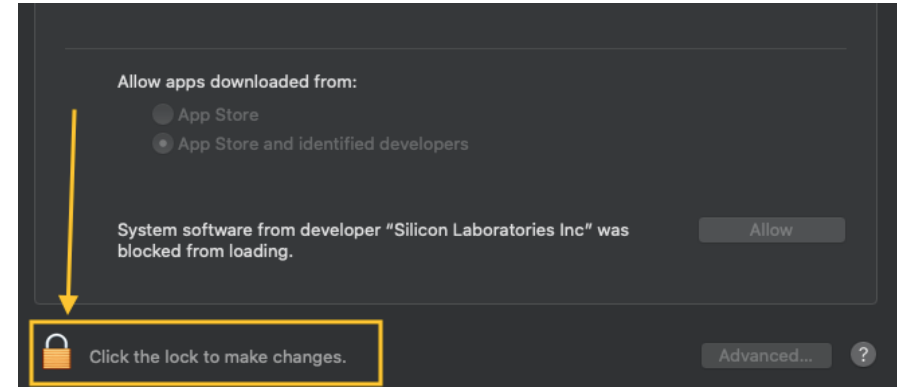
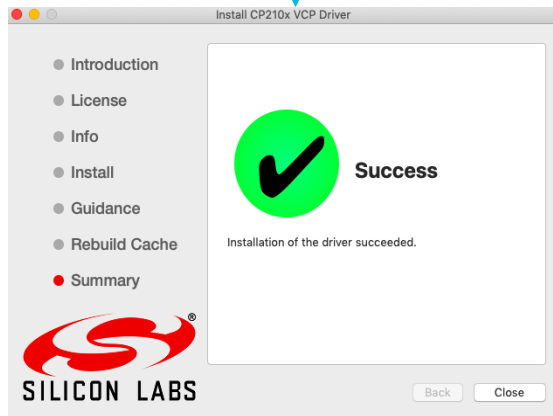
Download & Install CP2012 USB Driver – Part 4

- Follow the installation instructions.
- Click on *Open Security Preferences*



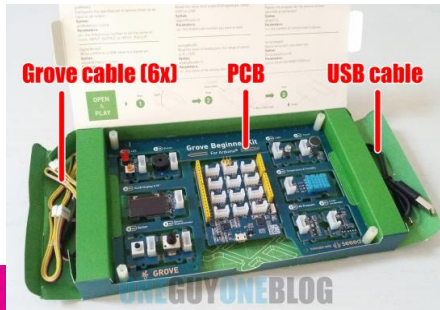
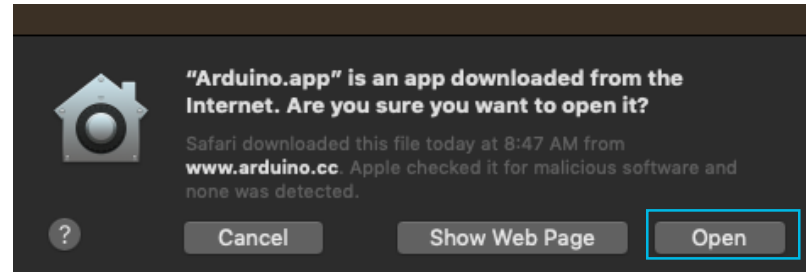
Download & Install CP2012 USB Driver – Part 5

- Select the Lock Icon in the corner and then select *Allow*
- It may take some time to rebuild the cache. When complete you'll get a success message.



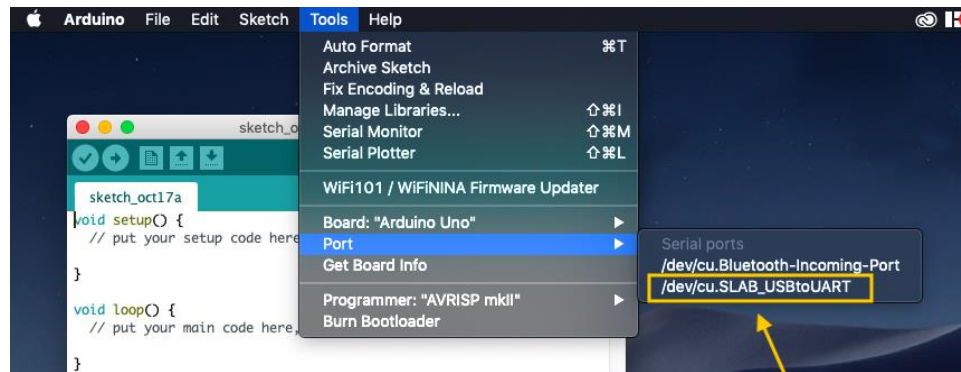
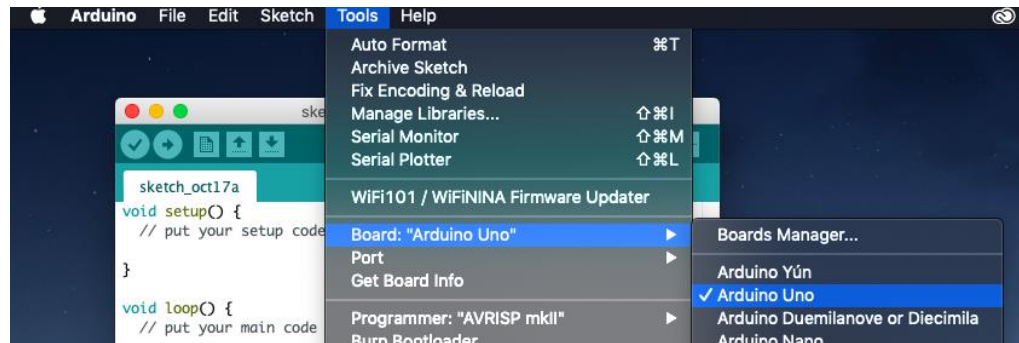
Start the Arduino IDE and Power on the Arduino

- Open *Arduino.app* from you applications folder by double clicking on it.
 - Click **Open** If you see the message: *Arduino.app” is an app downloaded from the Internet. Are you sure you want to open it.*
- Plug Arduino into a USB Port
 - There is a cable in the Arduino box.
 - Check that the USB cable is fully seated.
 - An adapter or hub may be needed if the computer only have USB type-C ports.



Setting the Board and Port in Arduino IDE

- Select the Board
 - *Tools -> Board -> Arduino Uno*
- Select the Port
 - *Tools -> Port -> dev/cu.SLAB_USBtoUART (or similar)*

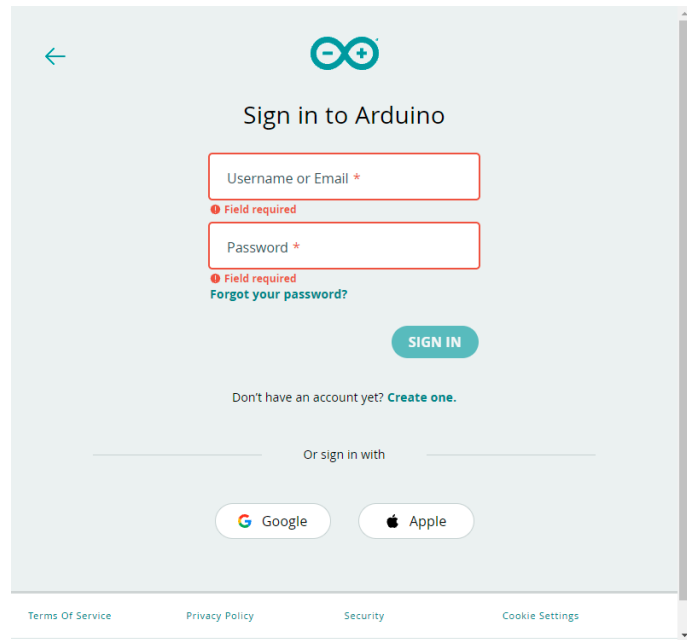




Chromebook Instructions

Arduino Create

- The Arduino Create will be used to edit and compile sketches and upload to our Arduino.
- Go to <https://create.arduino.cc/editor>
 - I'd save it as a favorite
- Create an account (it's free as of 2021)
 - Confirm your account via email



The screenshot shows the 'Sign in to Arduino' page. At the top is the Arduino logo and a back arrow. Below the title are two input fields: 'Username or Email *' and 'Password *'. Both fields have a red border and a red error message 'Field required' below them. A link 'Forgot your password?' is located below the password field. A teal 'SIGN IN' button is positioned to the right of the password field. Below the button, there is a link 'Don't have an account yet? Create one.' and a separator line with the text 'Or sign in with'. At the bottom of the sign-in section are two buttons: 'Google' and 'Apple'. The footer contains links for 'Terms Of Service', 'Privacy Policy', 'Security', and 'Cookie Settings'.

Arduino Create – Agent Install

- Chromebook: You'll need to install the Agent (is an extension for Google Chrome)
- Non-Chromebook: You'll need to install the Agent on your PC as a program.
- When you are on the Arduino Create webpage, it will ask you to install the agent. Follow the instructions to install.

Do you see the Agent Icon  on your system tray?

NO: Launch the Agent as you would do for any program on your OS, searching for 'Arduino Create Agent'.

YES: Make sure the icon is Black/Green and not Grey. If Grey, click on it and select 'Resume Agent'.

Your **Firewall** or **Anti-virus** may be preventing the Agent to work. Please check their configuration and whitelist the Agent.

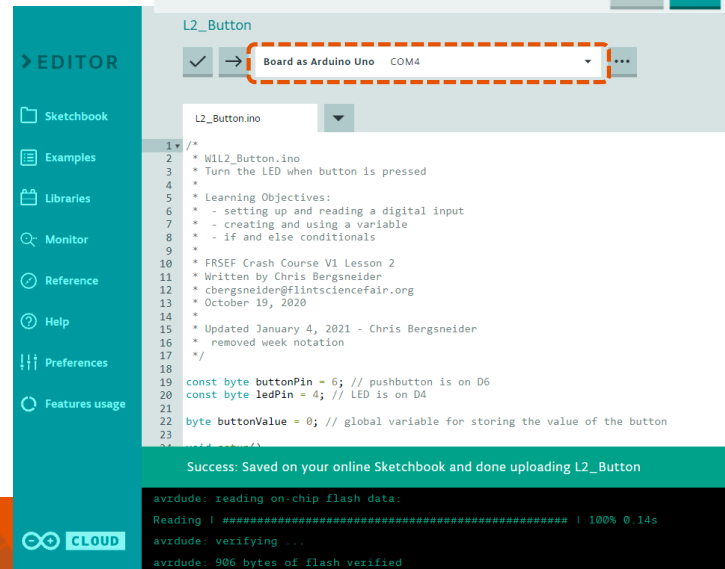
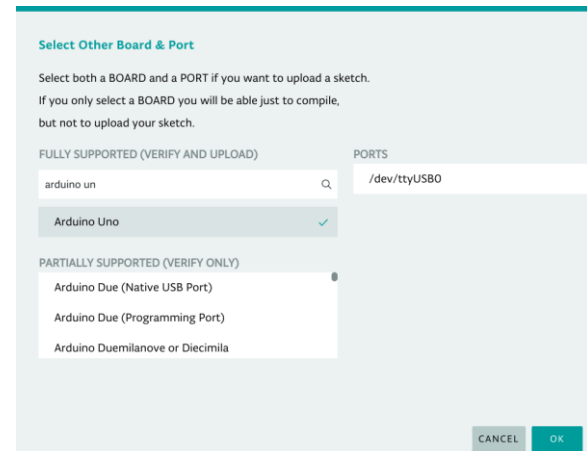
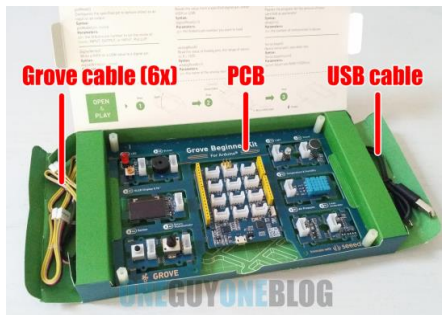
You can also **INSTALL THE AGENT** again, and replace the old one.

Still not able to use the Agent?
Report a bug or ask a question on [our forum](#).

OK

Setting the Board and Port

- Plug in the Arduino via USB cable.
- Select the Board (orange box)
 - *Arduino Uno*
- Select the Port
 - *dev/ttyUSB0*
 - or something similar



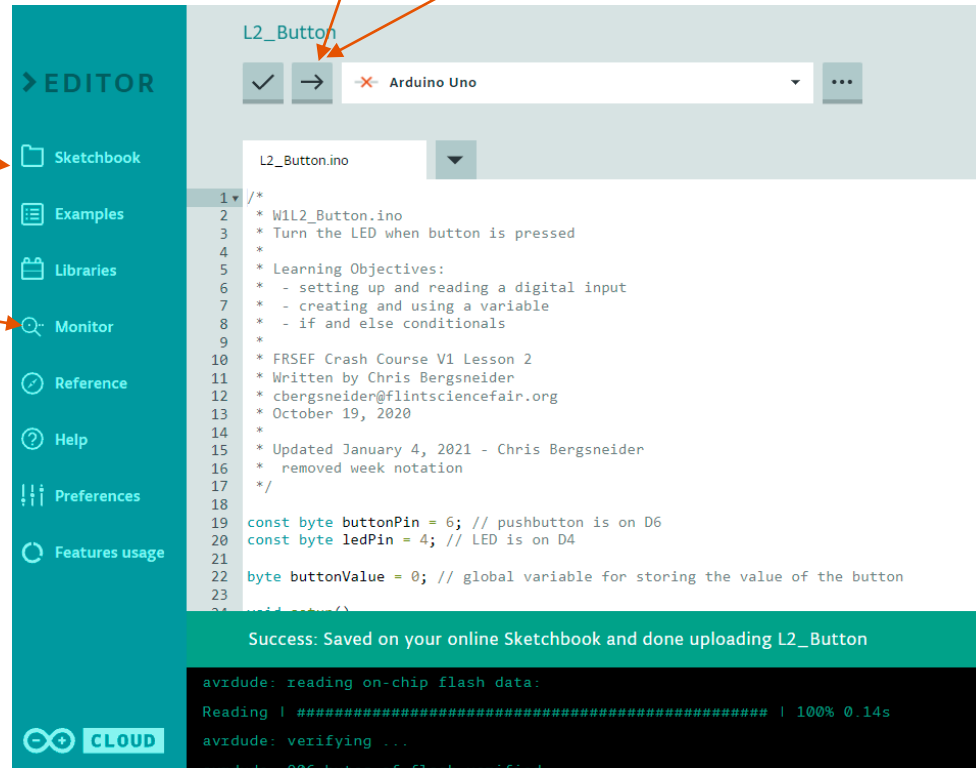
Arduino Create - Controls

Check & Compile

Compile & Upload

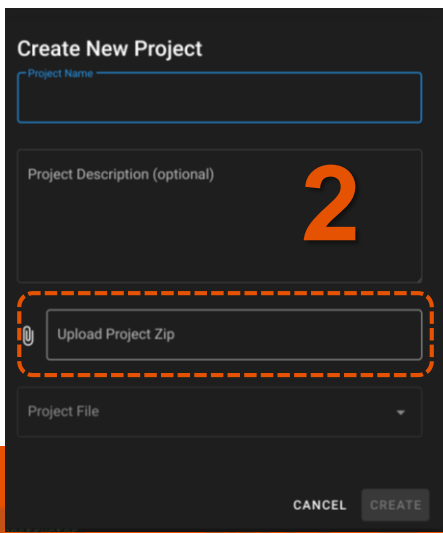
Sketchbook
(where your programs are)

Serial Monitor



Duino App – Importing a File

- Import Project (bottom left corner)
- Select *Upload Project Zip* and select the zip file of the sketches
- Select the desired sketch and enter a name under *Project Name*



Create New Project

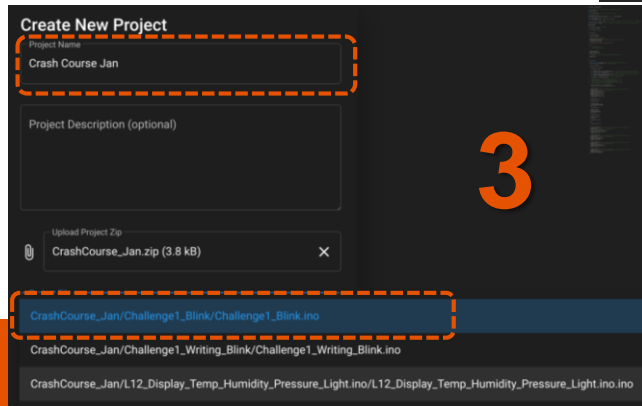
Project Name

Project Description (optional)

Upload Project Zip

Project File

CANCEL CREATE



Create New Project

Project Name

Crash Course Jan

Project Description (optional)

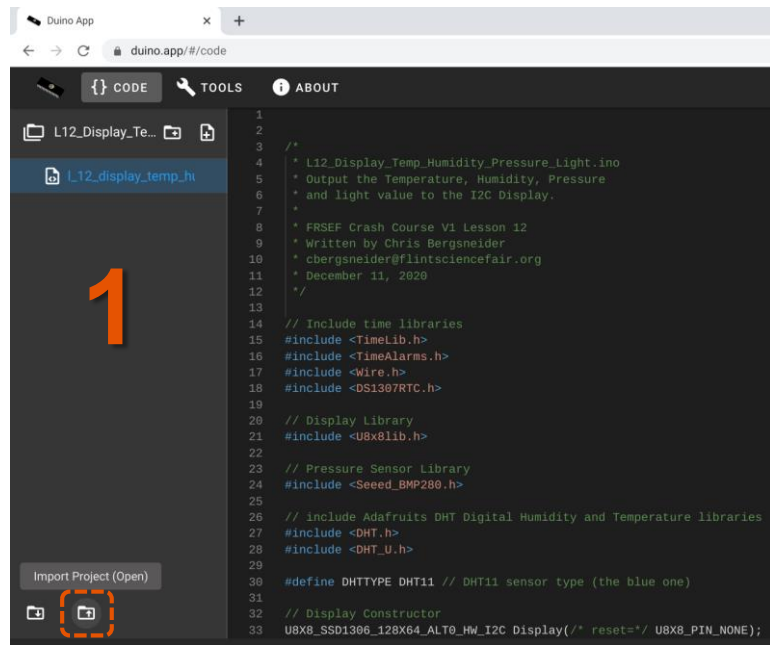
Upload Project Zip

CrashCourse_Jan.zip (3.8 kB)

CrashCourse_Jan/Challenge1_Blink/Challenge1_Blink.ino

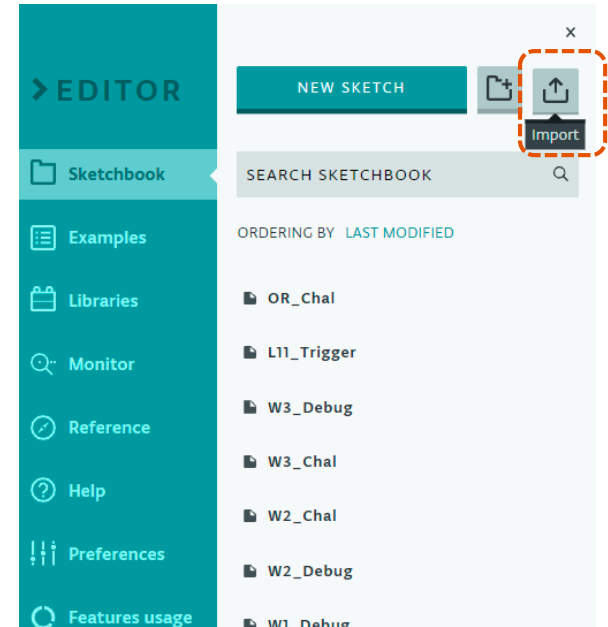
CrashCourse_Jan/Challenge1_Writing_Blink/Challenge1_Writing_Blink.ino

CrashCourse_Jan/L12_Display_Temp_Humidity_Pressure_Light.ino/L12_Display_Temp_Humidity_Pressure_Light.ino.ino



Importing Sketches

- Sketchbook (top left)
- Select *Import* and select the zip file of the sketches
 - All of the sketches will be available



Chromebook

- Official Guide for more information
 - https://create.arduino.cc/projecthub/Arduino_Genuino/getting-started-with-arduino-web-editor-on-various-platforms-4b3e4a

Notes

- Version 1.3
 - Chromebook using Arduino Create instead of Duino
- Version 1.2
 - Plug in Arduino to find the port
 - Published 2021/01/09, J. Krell
- Version 1.1
 - Updated Chromebook instructions to the Duino App
 - Published 2021/01/04, J. Krell
- Version 1.0
 - Published 2020/10/18, J. Krell