

Part 1

Lesson

3

Building a Developed

Environment

Arduino IDE

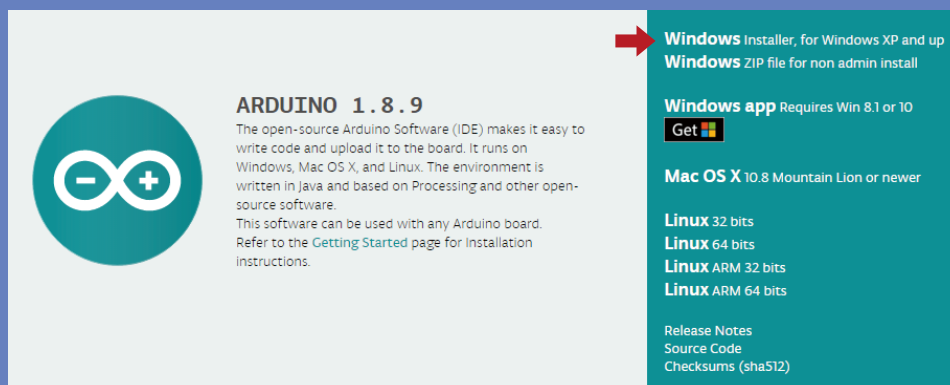
As an open source software, Arduino IDE, based on ongoing Processing IDE development is an integrated development environment officially launched by Arduino.

By using Arduino IDE, you just write the program code in the IDE and upload it to the Arduino circuit board. The program will tell the Arduino circuit board what to do.

So, Where can we download Arduino IDE?

STEP 1:

- Go to <https://www.arduino.cc/en/Main/Software> and you will see the following page. The version available at this website is usually the latest version, and the actual version may be newer than the version in the picture.



The screenshot shows the Arduino IDE 1.8.9 download page. On the left, there is a circular logo with a minus and plus sign. To its right, the text reads: "ARDUINO 1.8.9 The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software. This software can be used with any Arduino board. Refer to the Getting Started page for installation instructions." On the right side, there are several download options: "Windows Installer, for Windows XP and up" (with a red arrow pointing to it), "Windows ZIP file for non admin install", "Windows app Requires Win 8.1 or 10" (with a "Get" button), "Mac OS X 10.8 Mountain Lion or newer", "Linux 32 bits", "Linux 64 bits", "Linux ARM 32 bits", and "Linux ARM 64 bits". At the bottom, there are links for "Release Notes", "Source Code", and "Checksums (sha512)".

STEP 2:

- Download the development software that is suited for the operating system of your computer. Take Windows as an example here.

If you are MacOS, please open [04 For Mac Setting up development environment](#)

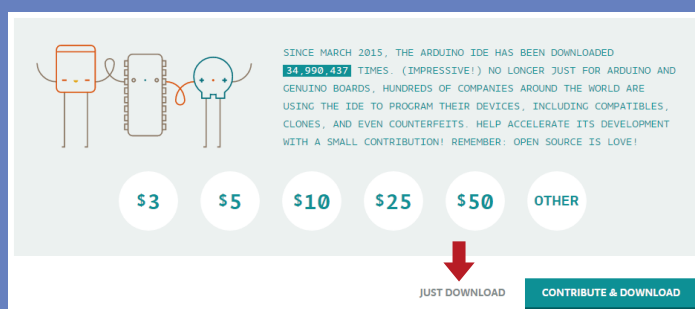
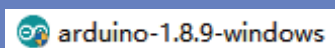
You can install it using the EXE installation package or the green package.

The following is the exe implementation of the installation procedures. Press the option "Windows Installer".

STEP 3:

- Press the button "JUST DOWNLOAD" to download the software.

The download file:



The screenshot shows the Arduino IDE donation page. At the top, there are three cartoon characters representing different Arduino boards. To their right, the text reads: "SINCE MARCH 2015, THE ARDUINO IDE HAS BEEN DOWNLOADED 34,990,437 TIMES. (IMPRESSIVE!) NO LONGER JUST FOR ARDUINO AND GENUINO BOARDS, HUNDREDS OF COMPANIES AROUND THE WORLD ARE USING THE IDE TO PROGRAM THEIR DEVICES, INCLUDING COMPATIBLES, CLONES, AND EVEN COUNTERFEITS. HELP ACCELERATE ITS DEVELOPMENT WITH A SMALL CONTRIBUTION! REMEMBER: OPEN SOURCE IS LOVE!" Below this text are several circular buttons for donation amounts: "\$3", "\$5", "\$10", "\$25", "\$50", and "OTHER". At the bottom, there are two buttons: "JUST DOWNLOAD" (with a red arrow pointing to it) and "CONTRIBUTE & DOWNLOAD".

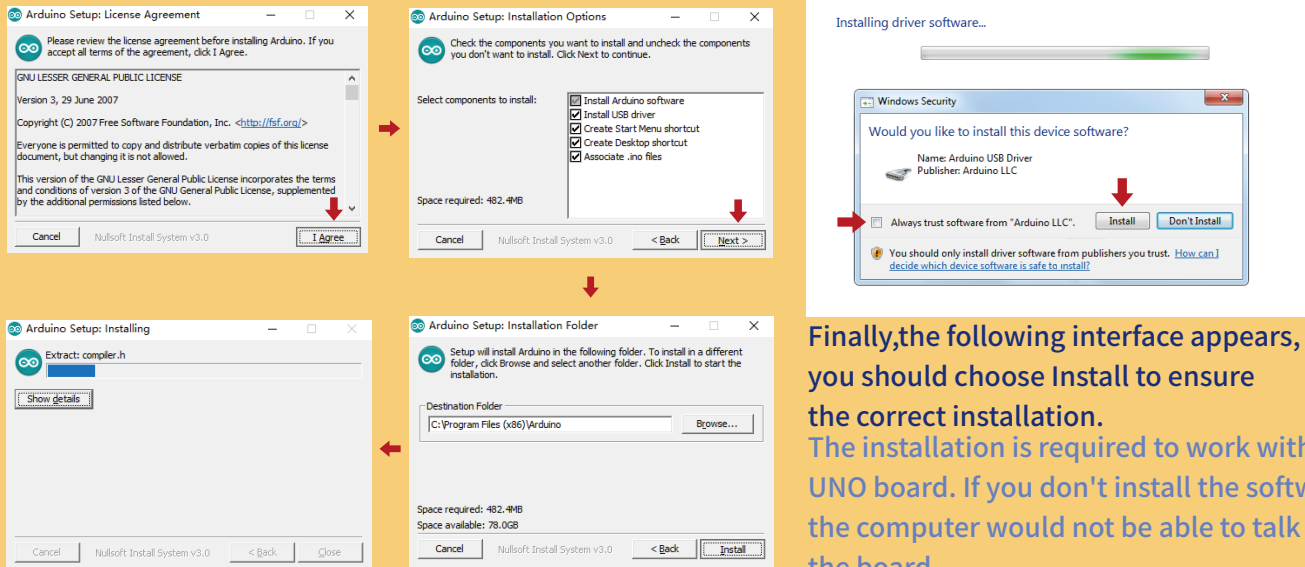
STEP 4:

- These are available in the materials we provide, and the versions of our materials are the latest versions when this course was made.

Choose "I Agree" to see the following interface.

Choose "Next" to see the following interface.

Press "Install" to initiate installation.



Finally, the following interface appears, you should choose Install to ensure the correct installation. The installation is required to work with the UNO board. If you don't install the software, the computer would not be able to talk to the board.

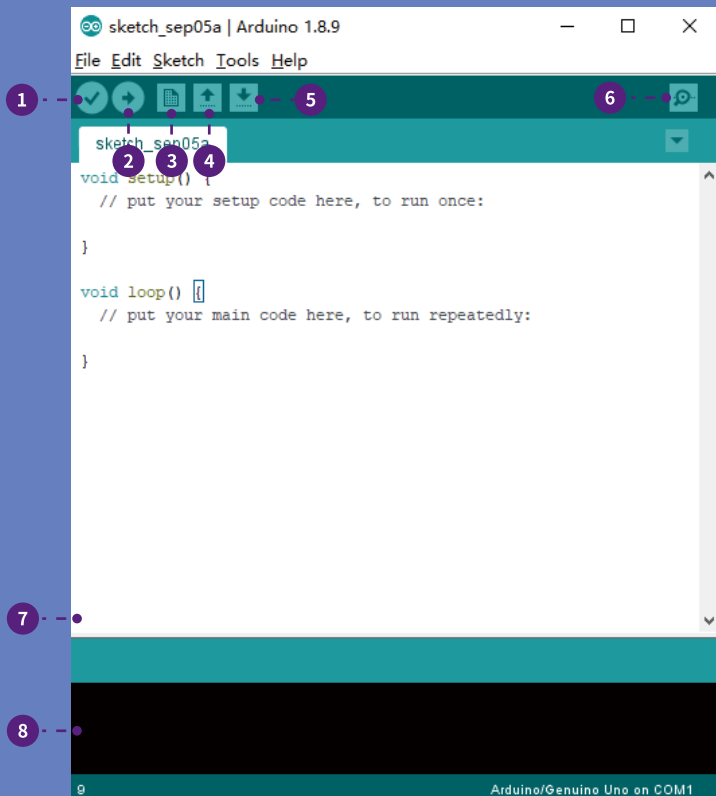
STEP 5:

- Next, the following icon appears on the desktop.



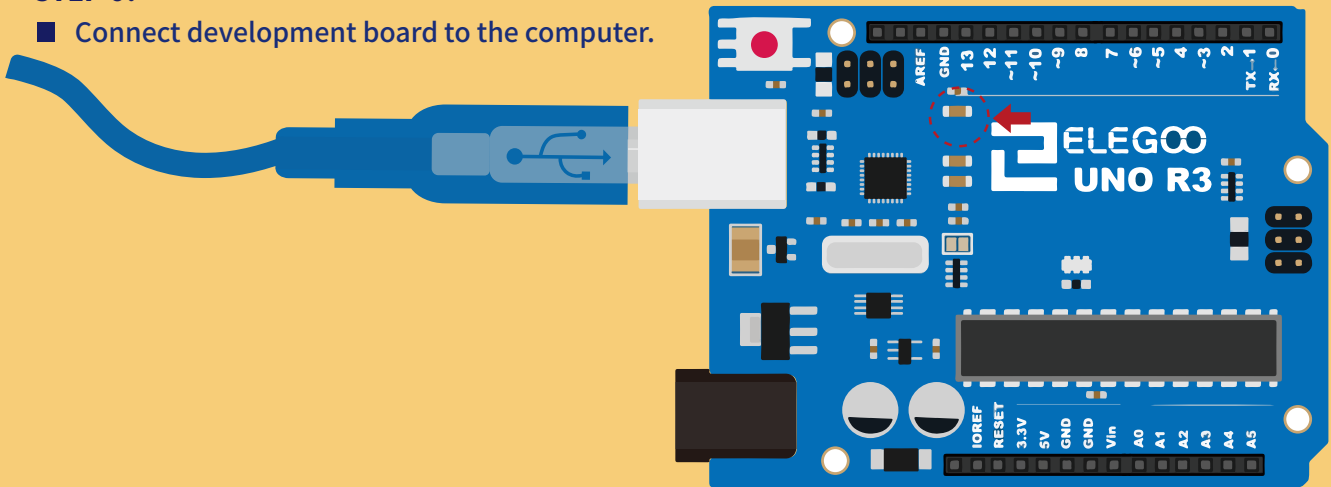
Double-click to enter the desired development environment.

- 1 verification
- 2 upload
- 3 new file
- 4 open
- 5 save
- 6 serial port
- 7 code writing area
- 8 information bar



STEP 6:

- Connect development board to the computer.



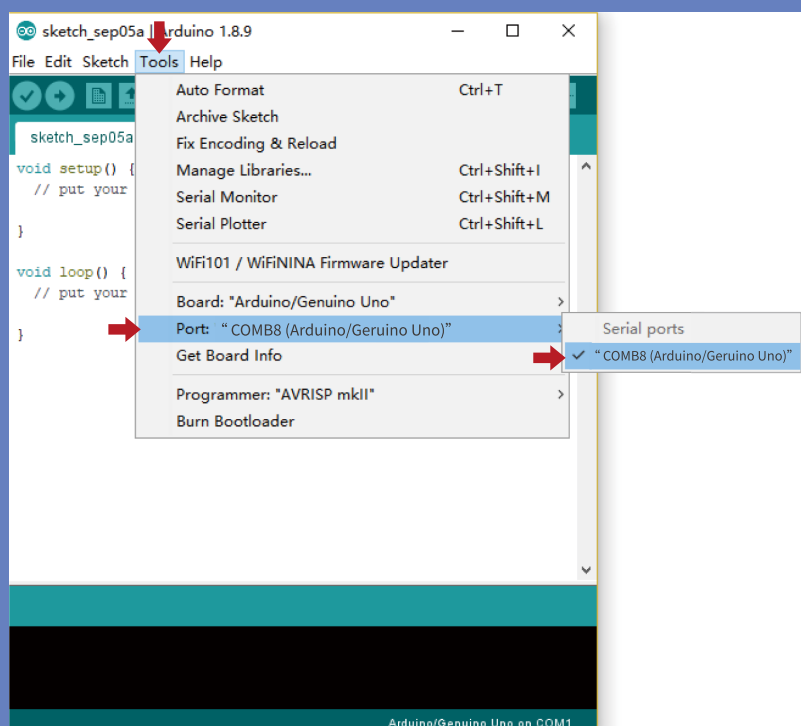
STEP 7:

- Open the Arduino IDE. Select “Tool” → “Board” → “Arduino/Genuino Uno” .
Select “Tool” → “Port” → “COM (Arduino/Genuino Uno)” .

Each Arduino Uno board has a different COM number on the same computer and usually the COM number is associated with a suffix name “(Arduino/Genuino Uno)” in Arduino 1.8.9. You should choose the COM number that is shown.

■ Tips:

If you see the port “COM (Arduino/Genuino Uno)”, it means that the board has been connected correctly to the computer. At this time, the Arduino development environment has been successfully built.

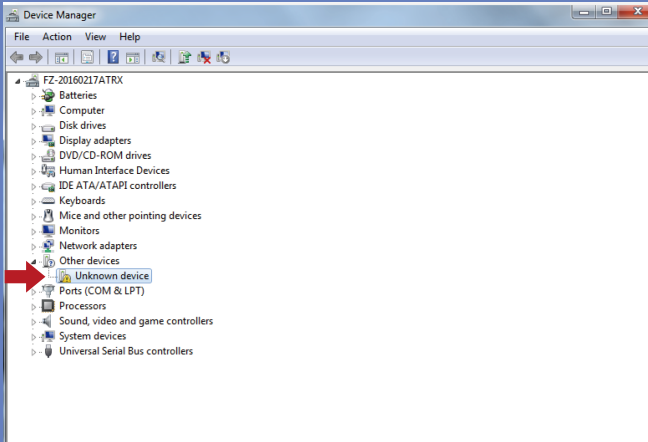


If you see the COM port associated with Arduino/Genuino UNO, your automatic installation is complete and working, go to Step 9.

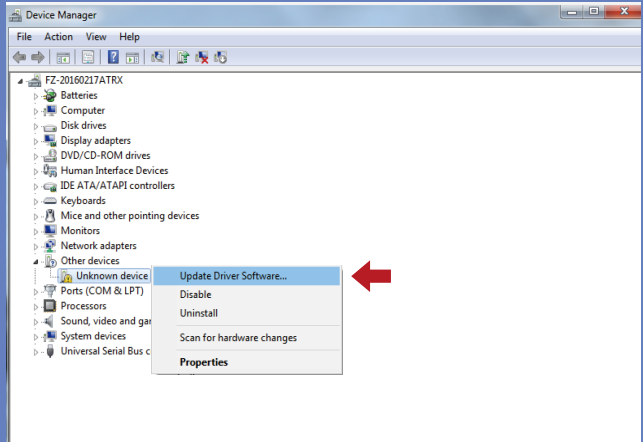
Otherwise, you need to install the driver in the following way manually.

STEP 8:

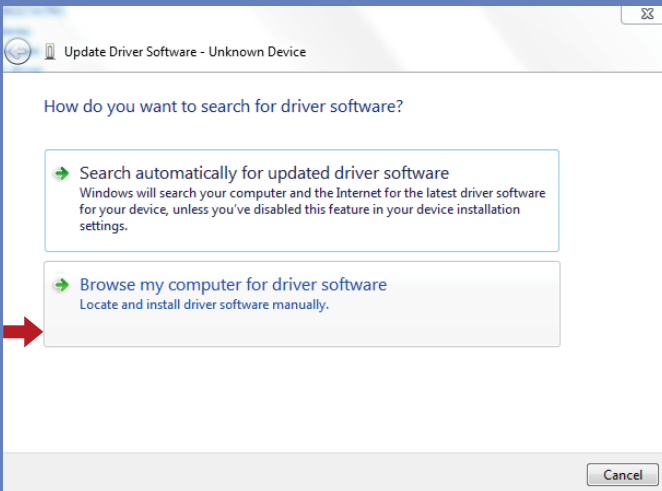
Open Device Manager by right clicking **My Computer**—**Management**—**Device Manager**.



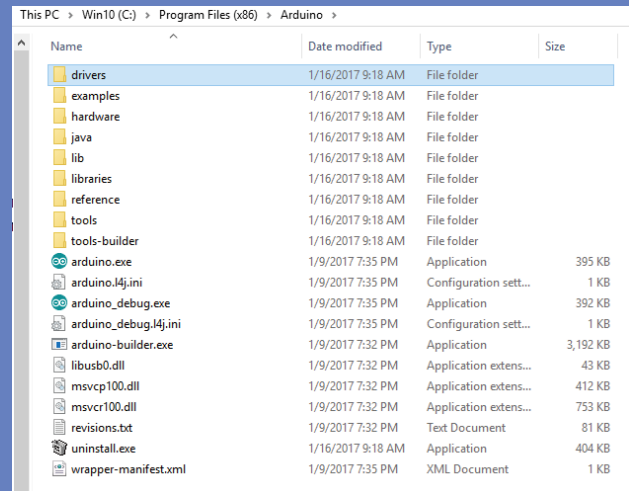
Right click unknown device -- **Update Driver Software**.



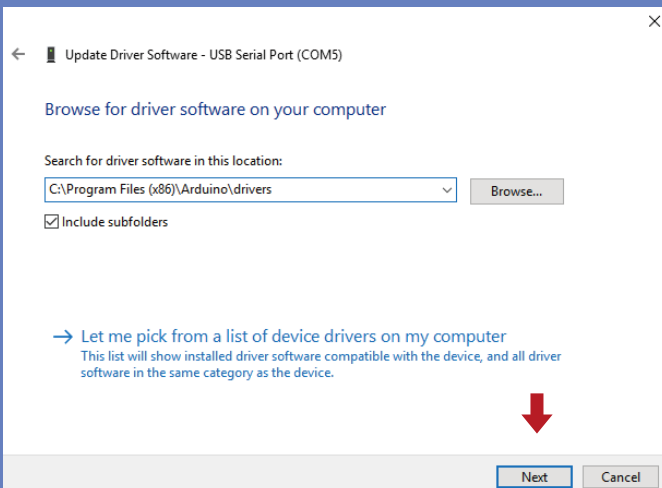
It shows that the driver has not been installed, and you need to click **Browse my computer** for driver software to find the drivers. The driver is in the Arduino folder. Normally you will install the folder in **C:\Program Files (x86)\Arduino**.



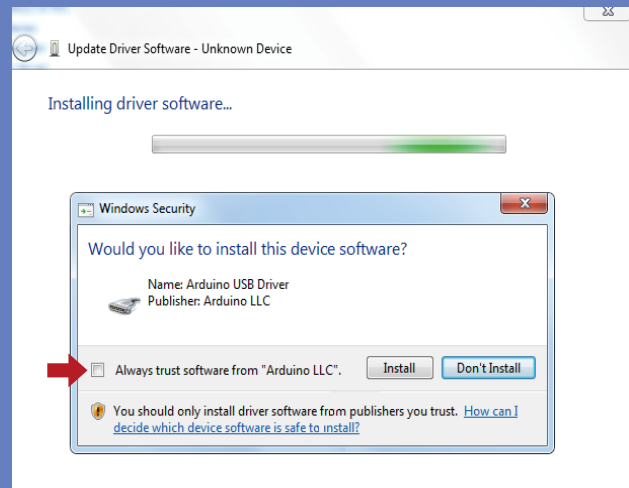
Arduino install folder.



Select the Arduino driver folder.



Install Arduino USB device.



STEP9:

- After the driver is installed, please open the IDE and then click “Tools” → “Board” → “Arduino/Genuino Uno”.

And then Select “Tool” → “Select” → “Tool” → “Port:” → “COM (Arduino/Genuino Uno)”.

Each Arduino Uno board has a different COM number on the same computer and usually the COM number with a suffix name “(Arduino/Genuino Uno)” in Arduino 1.8.9. You should choose the COM number that is shown.

At this time, the Arduino development environment has been successfully built !

