

The tutorial for installing Arduino IDE on Windows.

I .Arduino IDE

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

With Arduino IDE, you just write the program code in the IDE and then upload it to the Arduino board and the program will tell the Arduino board what it needs to do.

II .Download the Arduino IDE for Windows

1.Download Arduino IDE

①Download the Arduino IDE's website address:

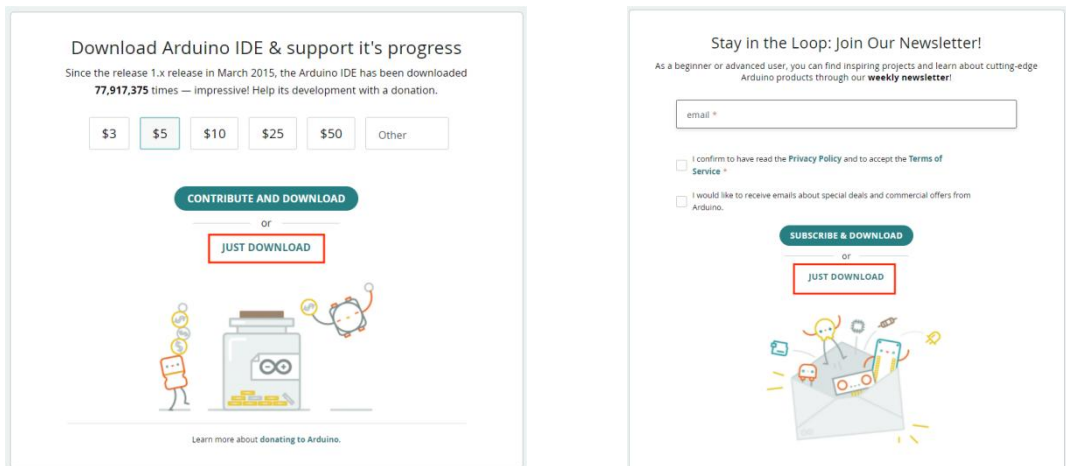
<https://www.arduino.cc/en/Main/Software>, open the url according to the following chart to select the corresponding version in the future.



The screenshot shows the Arduino IDE 2.2.1 download page. On the left, there's a section for Arduino IDE 2.2.1 with a description of its features and a link to the documentation. On the right, there's a 'DOWNLOAD OPTIONS' section with a table of download links for Windows, Linux, and macOS. The 'Windows Win 10 and newer, 64 bits' link is highlighted with a red box.

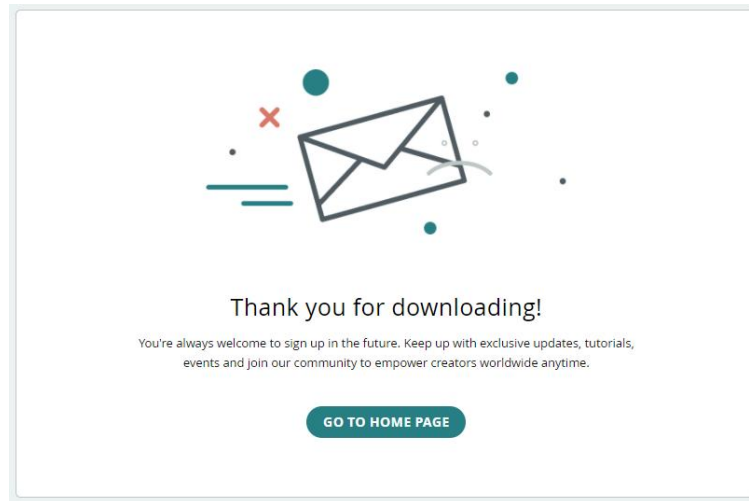
DOWNLOAD OPTIONS	
Windows	Win 10 and newer, 64 bits
Windows	MSI installer
Windows	ZIP file
Linux	AppImage 64 bits (X86-64)
Linux	ZIP file 64 bits (X86-64)
macOS	Intel, 10.14: "Mojave" or newer, 64 bits
macOS	Apple Silicon, 11: "Big Sur" or newer, 64 bits

②Select JUST DOWNLOAD.



The screenshot shows the Arduino IDE download page. It has two main sections. The left section is titled 'Download Arduino IDE & support it's progress' and features a donation form with buttons for \$3, \$5, \$10, \$25, \$50, and 'Other'. Below the donation form is a 'CONTRIBUTE AND DOWNLOAD' button, and below that is a 'JUST DOWNLOAD' button, which is highlighted with a red box. The right section is titled 'Stay in the Loop: Join Our Newsletter!' and features a form to enter an email address. Below the form are two checkboxes for confirming the privacy policy and accepting terms of service. Below the checkboxes is a 'SUBSCRIBE & DOWNLOAD' button, and below that is a 'JUST DOWNLOAD' button, which is also highlighted with a red box.

③When the following screen appears, the Arduino IDE is downloading.

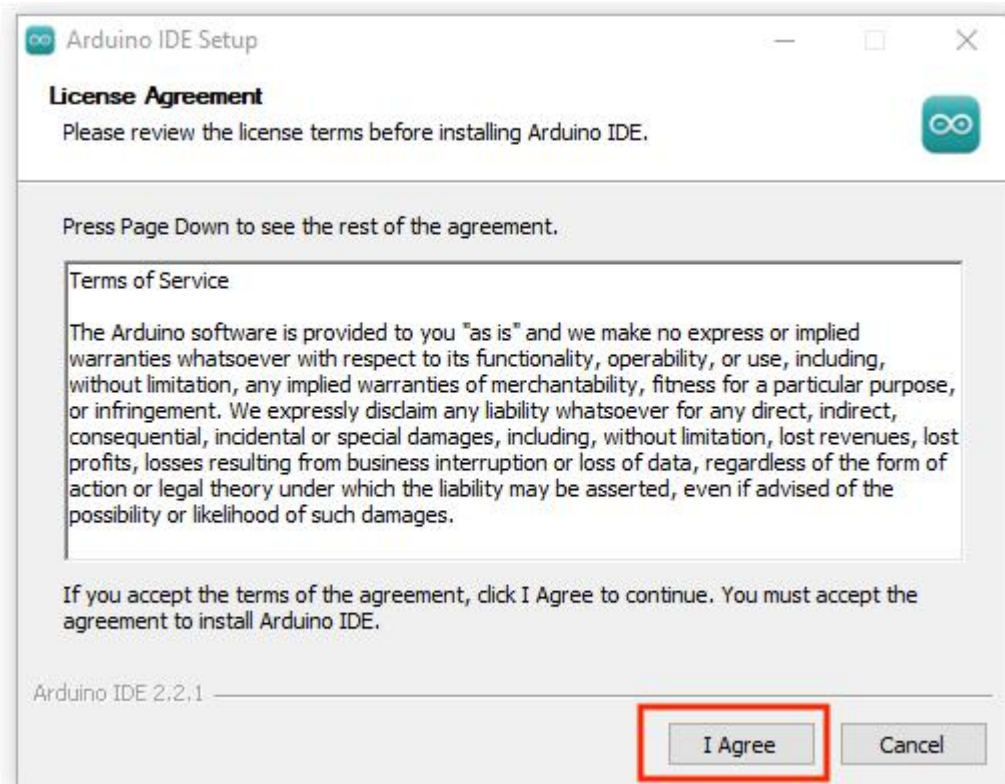


2.Install the Arduino IDE

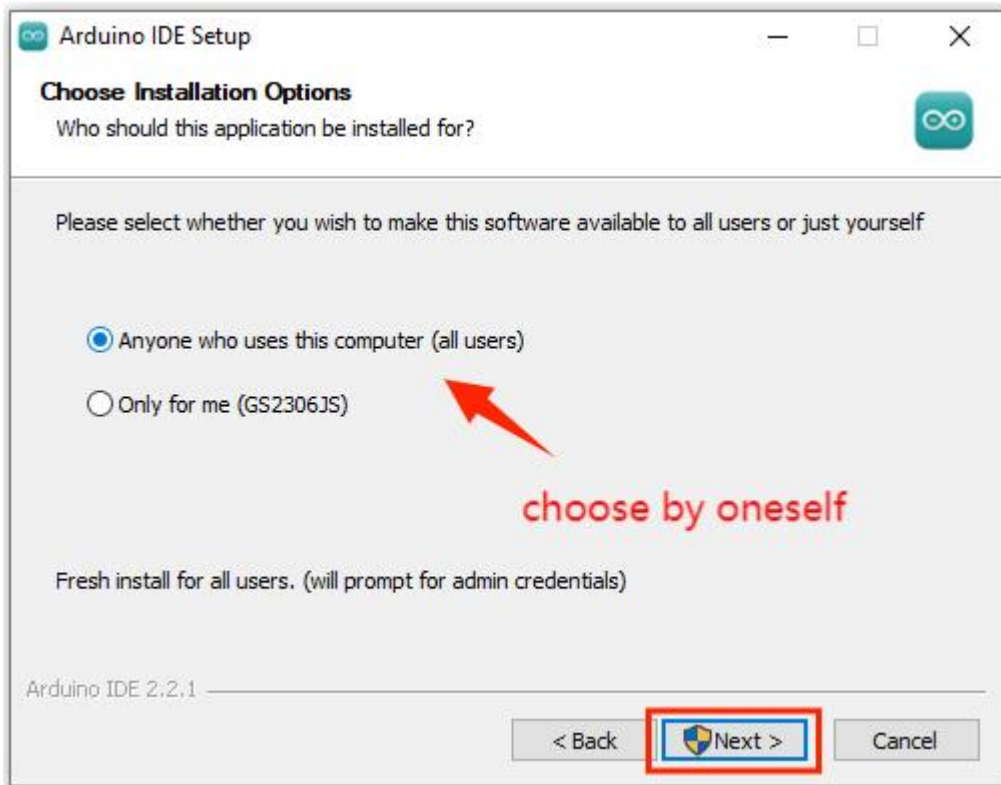
- ①When the download is complete, the icon file will appear. Click Install software.



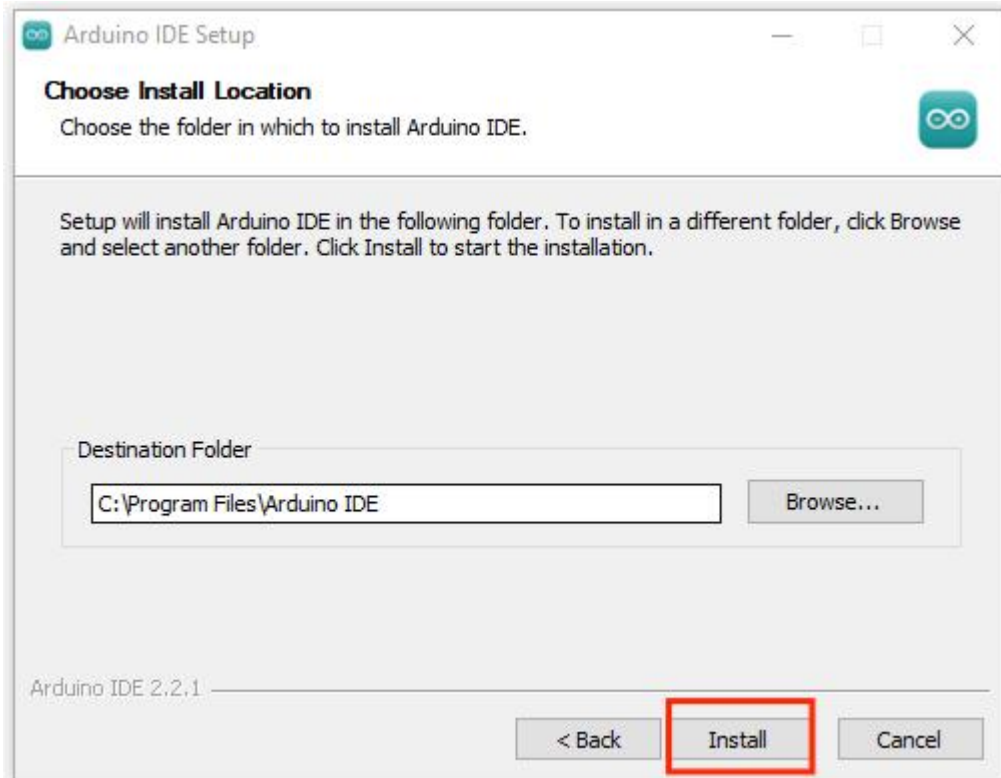
- ②After installation, the following screen appears and select "I Agree".



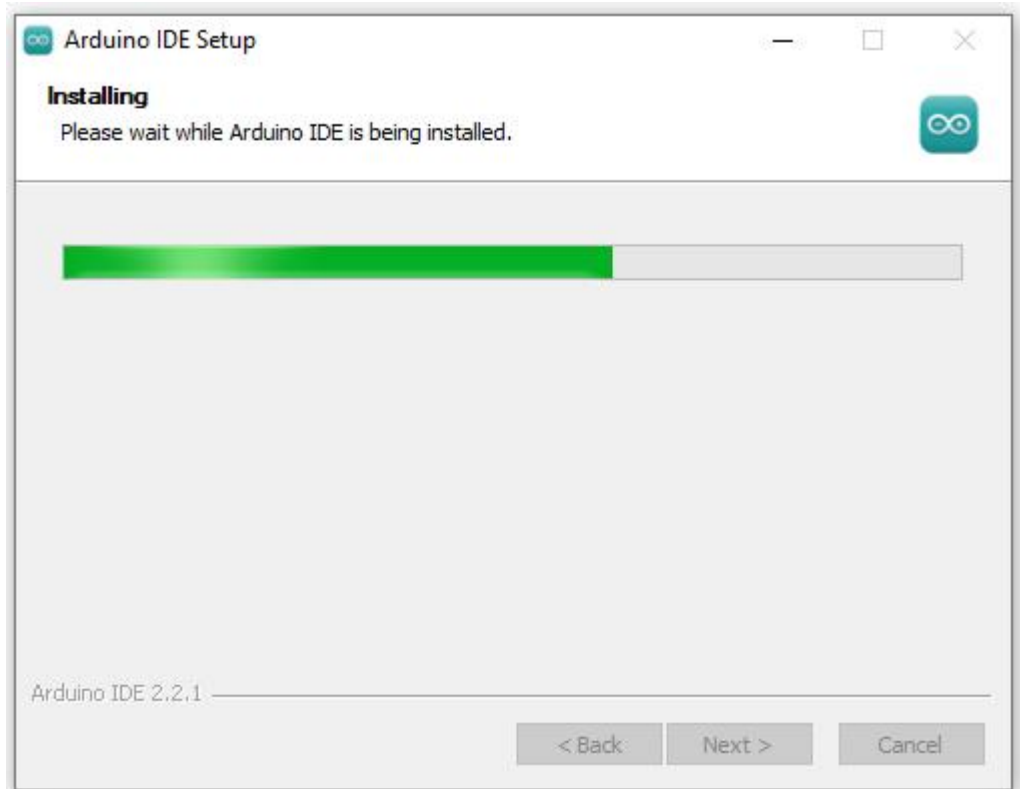
- ③After selecting "I Agree", the following screen will appear and select "Next".



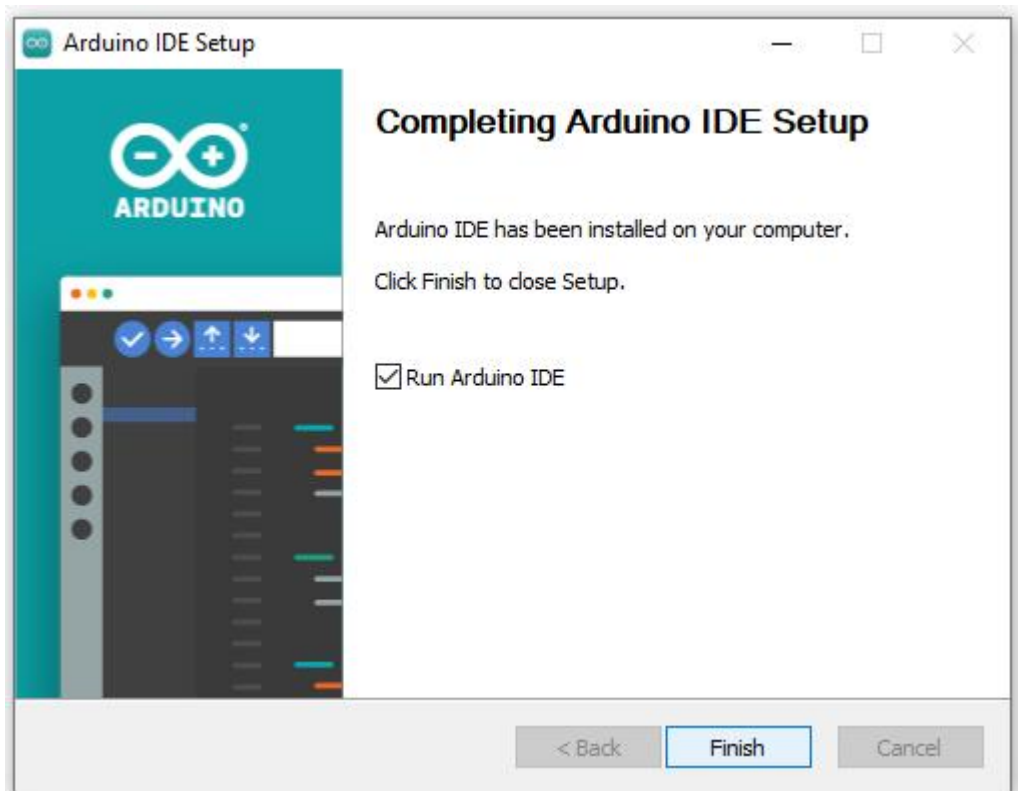
④ Select "Next" and the following screen will appear. Select "Install".



⑤ Arduino IDE software installed.



⑥ Installation is complete.

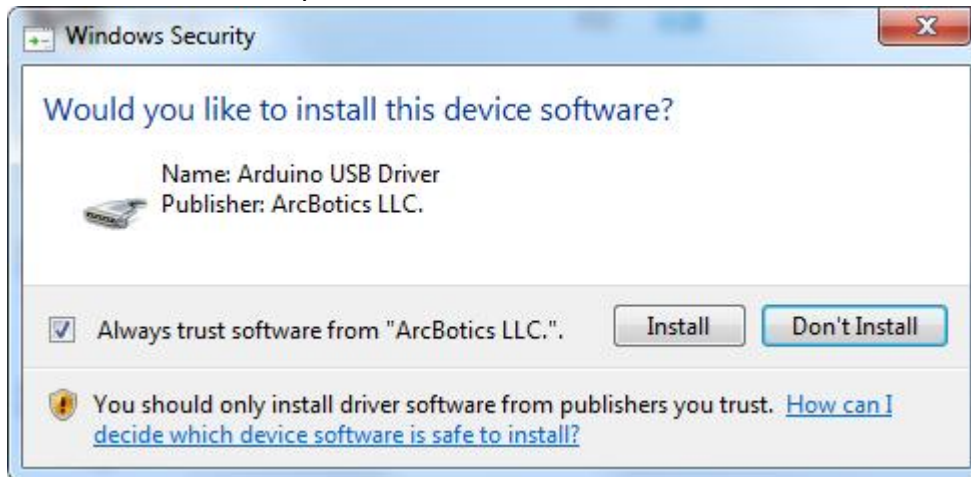


3.The Arduino IDE installation is complete

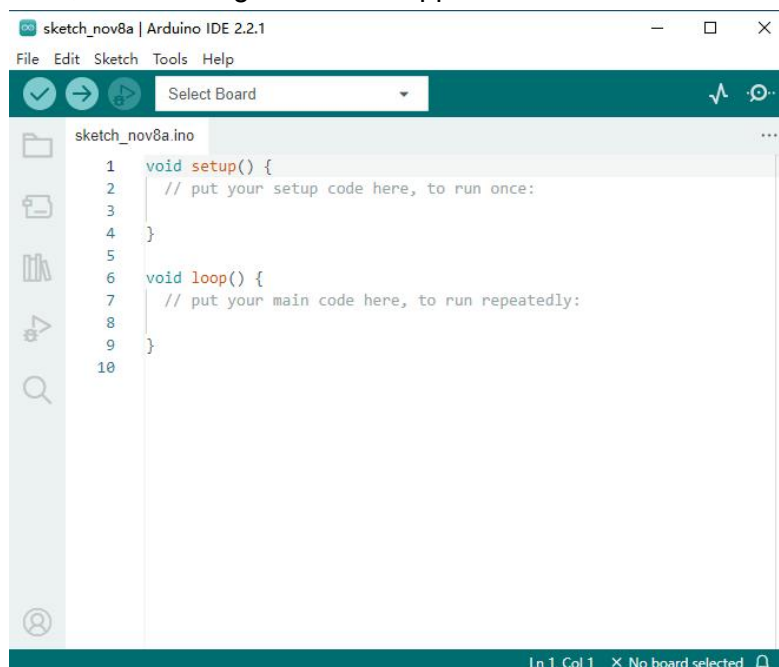
① After installation, a shortcut icon of Arduino IDE will appear on your desktop.



- ② If an instruction to install the Arduino driver appears, click Install and follow the recommended steps.



- ③ When opened, the following screen will appear.



III. How to install CH340 serial port driver

Connect the main control board to your computer with a USB cable, and the driver will be installed automatically on MacOS and Windows systems. If the driver installation fails, you need to install the driver manually.

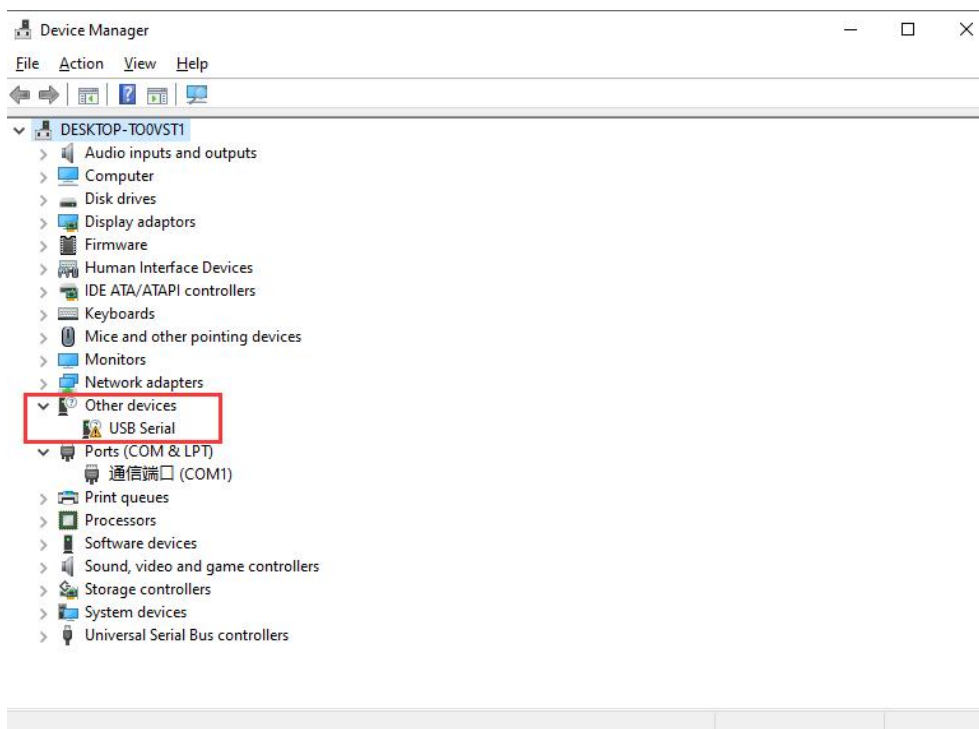
The USB to serial port chip of ESP32 control board is CH340C. Therefore, you need to install the driver for the chip.

The driver installation process is much the same on different systems. Here, we demonstrate the driver installation on a Win10 system. You can find the "USB_Drive_CH341_3_1" folder in the resources package we provided. This is the driver file we want to install.

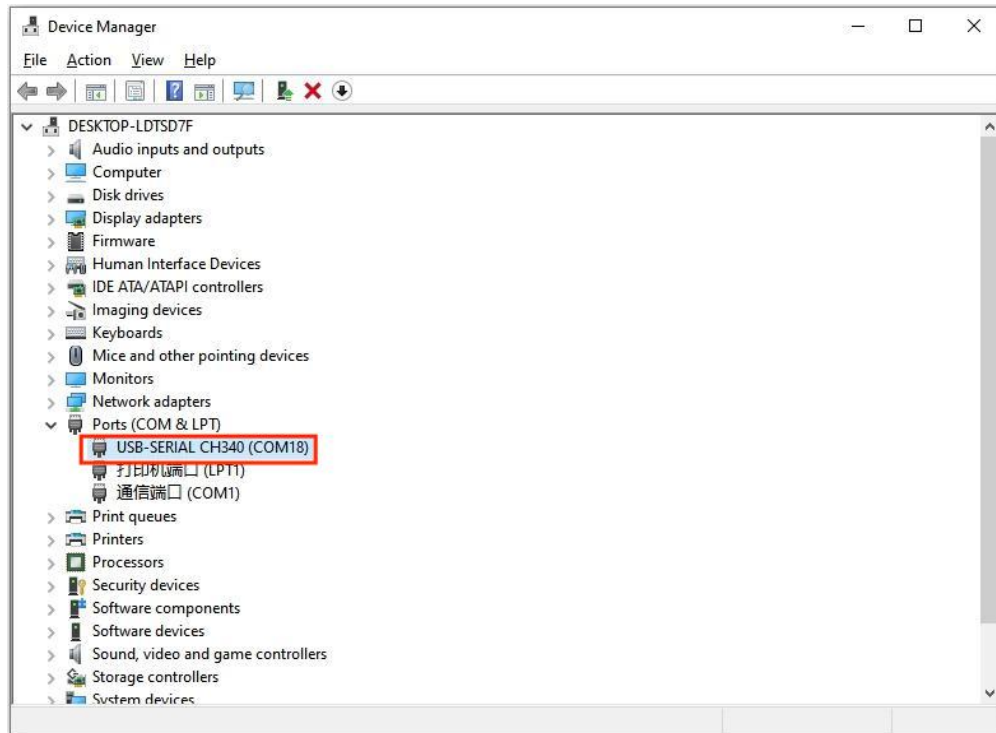
1. Check whether CH340 serial port driver is installed (if it is installed, skip it)

① Plug one end of the USB cable into the ESP32 control board and the other end into the USB port on the computer.

② The first time you connect the ESP32 console to your computer, right-click "My Computer" -> "Attribute" -> Click Device Manager, and under Other Devices, you will see either USB-Serial or Unknown Device.

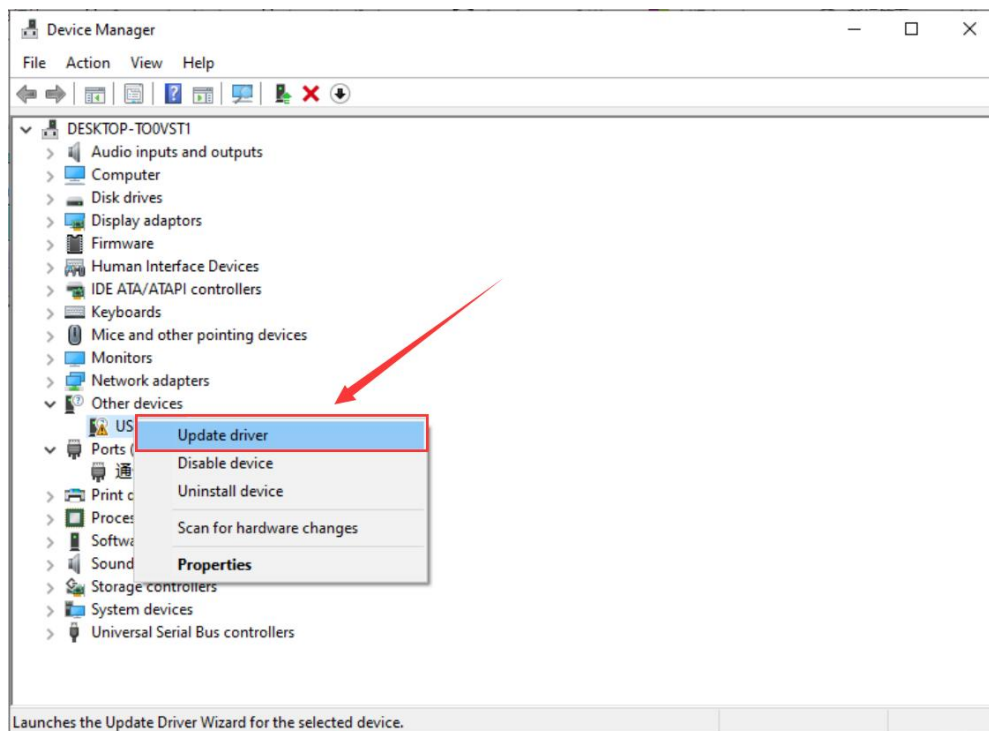


③ The CH340 driver may also be installed automatically when you connect the ESP32 control board to your computer. Also in the "Device Manager", under "Ports", you will see "USB-Serial CH340". At this point, it means that the CH340 serial driver has been successfully installed and you can skip this installation step.

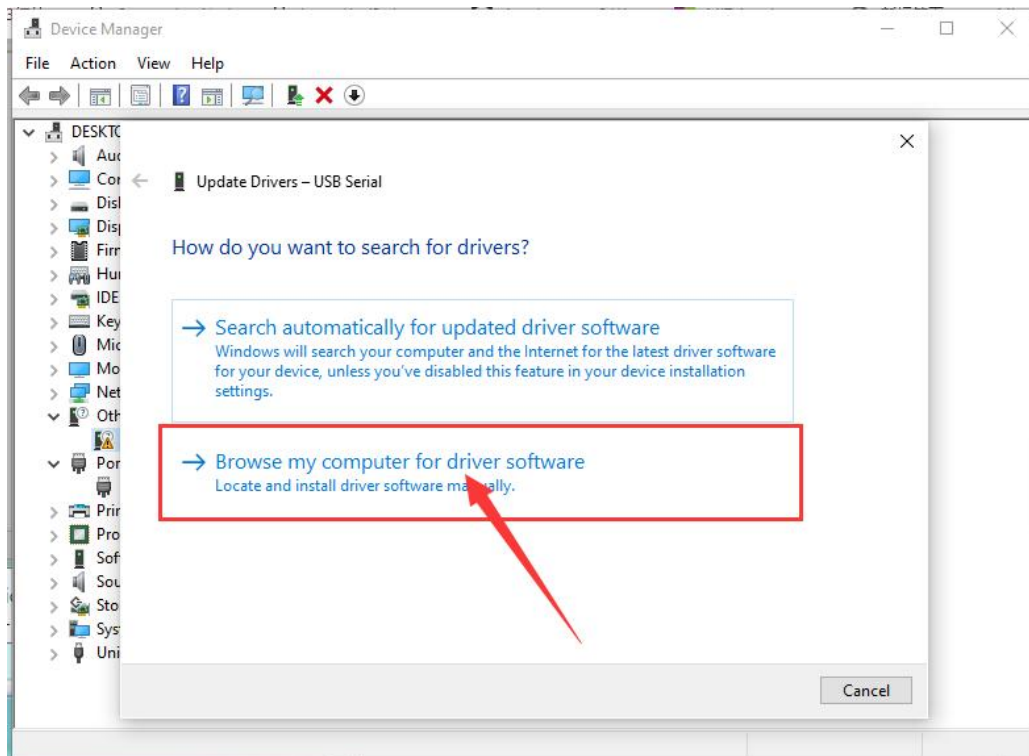


2. Install CH340 serial port driver

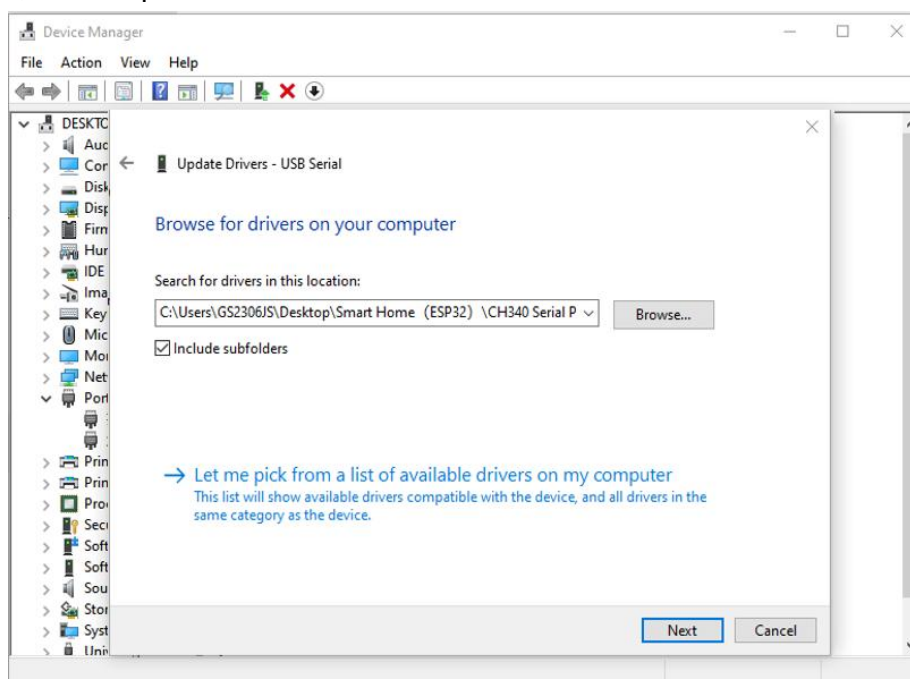
① First right click on the device and select the top menu option (Update Driver Software) as shown below.



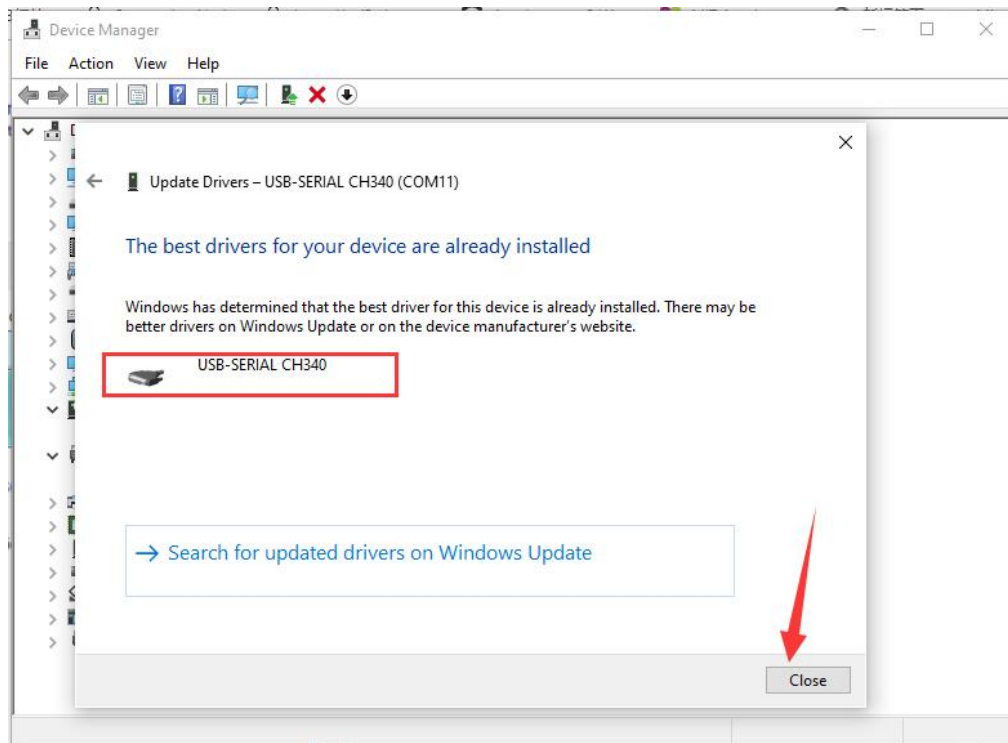
② Then you will be prompted to "Automatically search for updated driver software" or "Browse my computer to find driver software" as shown below. On this page, select "Browse My Computer to find driver software".



③ Then, add the path to the driver file.



④ You will receive a confirmation message after the software installation is complete. Once the installation is complete, click "Close".



3. Confirm that the CH340 serial port driver has been installed successfully

Plug one end of the USB cable into the ESP32 control board and the other end into the USB port on the computer. Right click "My Computer" -> "Attribute" -> Click "Device Manager" and connect to the control panel. The following picture shows that the installation is successful.

