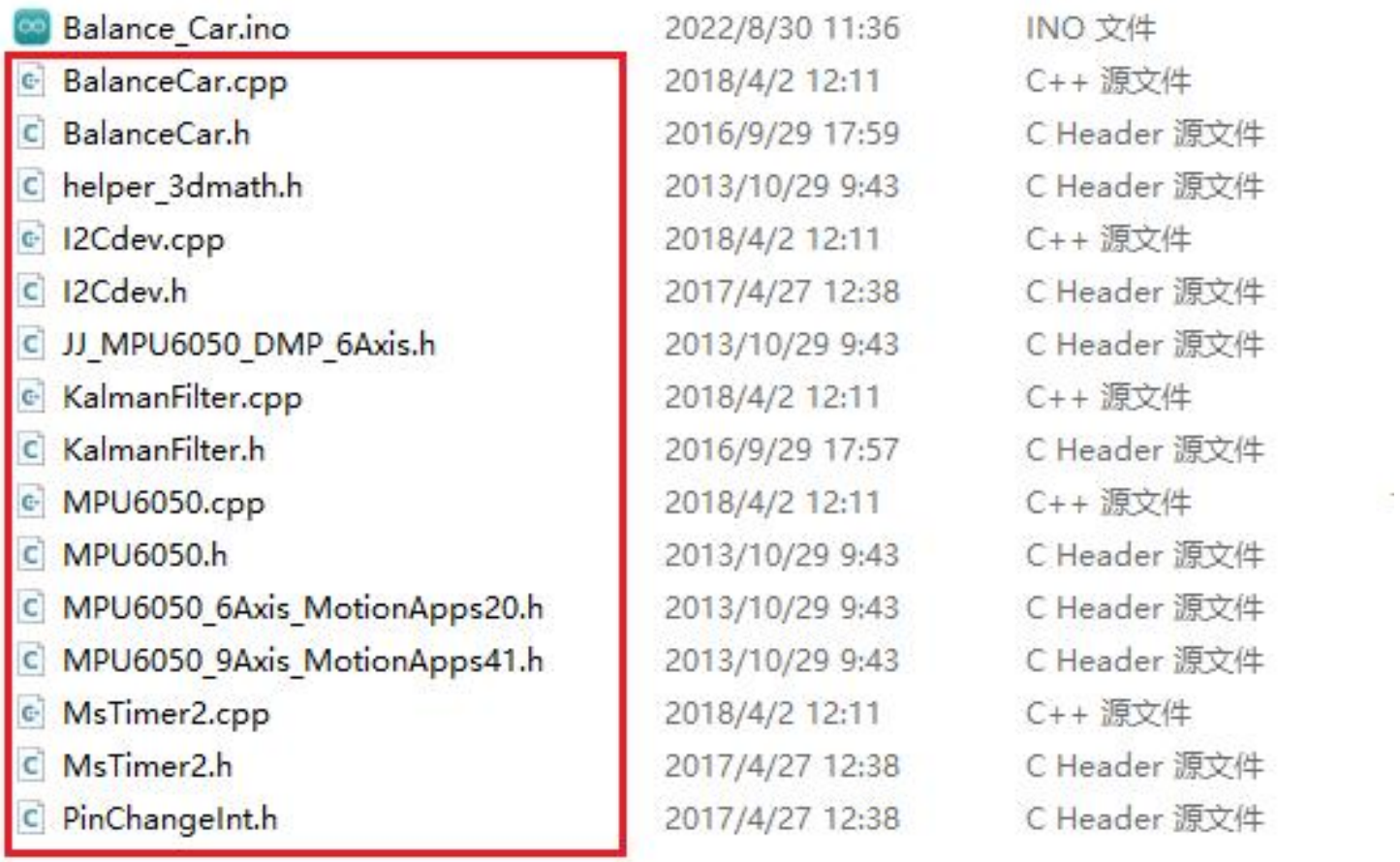
In this tutorial package, the main library files have been placed in the same level directory of the main program, and you can directly open the program and run it. It is worth noting that you should not modify or move the program files at will to prevent the library files from becoming invalid.



This tutorial will also use the servo library, which is already integrated in newer versions of the Arduino IDE. You can open the Arduino IDE and find it in Sketch>Include Library . If the library is not found , follow the steps below to install the library .

How to Add Libraries in Arduino IDE 1

Once you are familiar with the Arduino software and use the built-in functions, you may wish to extend the functionality of the Arduino with other libraries.

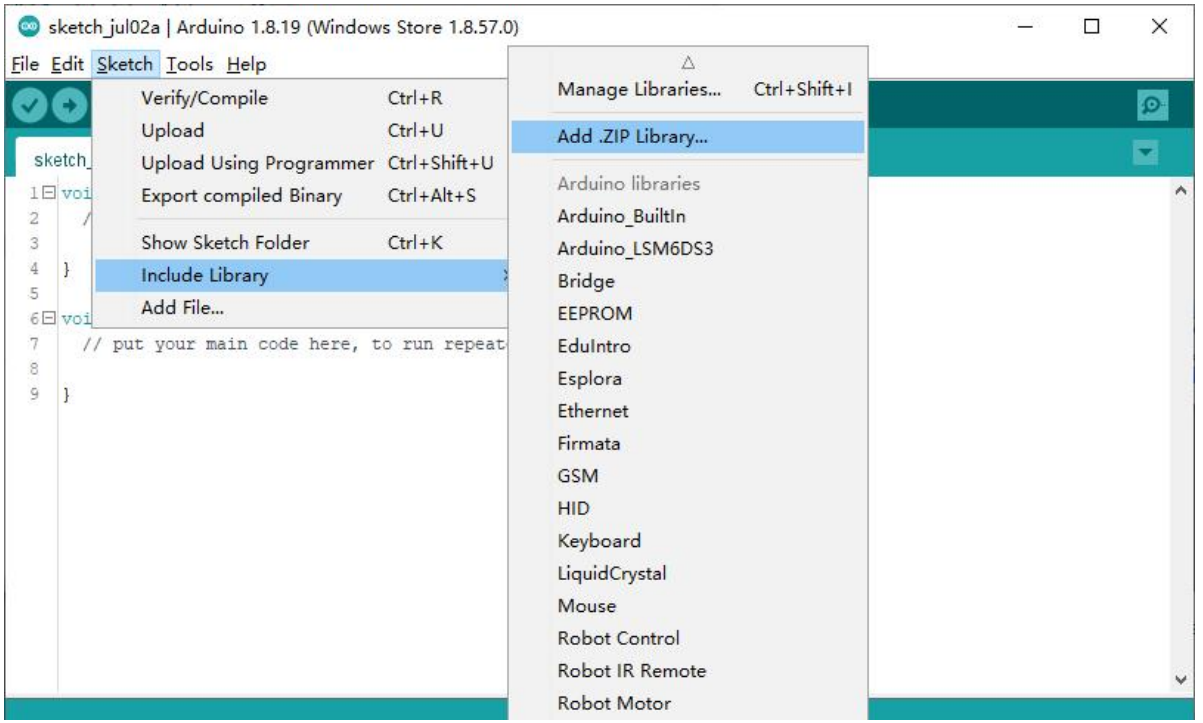
What are Libraries?

A library is a set of code that allows you to easily connect to sensors, displays, modules, and more. For example, the LiquidCrystal library allows you to easily talk to character LCD displays.

There are thousands of libraries available for download directly through the Arduino IDE, all of which you can find in the Arduino Library Reference .

Method 1: Import the .zip library

Libraries are usually distributed as ZIP files or folders. The name of the folder is the name of the library. This folder will contain a .cpp file, a .h file, and usually a keywords.txt file, examples folders, and other files needed by the library. In the Arduino IDE, navigate to Sketch > Include Library > Add .ZIP Library , and at the top of the drop-down list, select the "Add .ZIP Library" option.



The system will prompt you to select the library you want to add , navigate to the saved library on your computer as shown below The path location of the servo .zip file (*2_Libraries/servo.zip*) and open it .

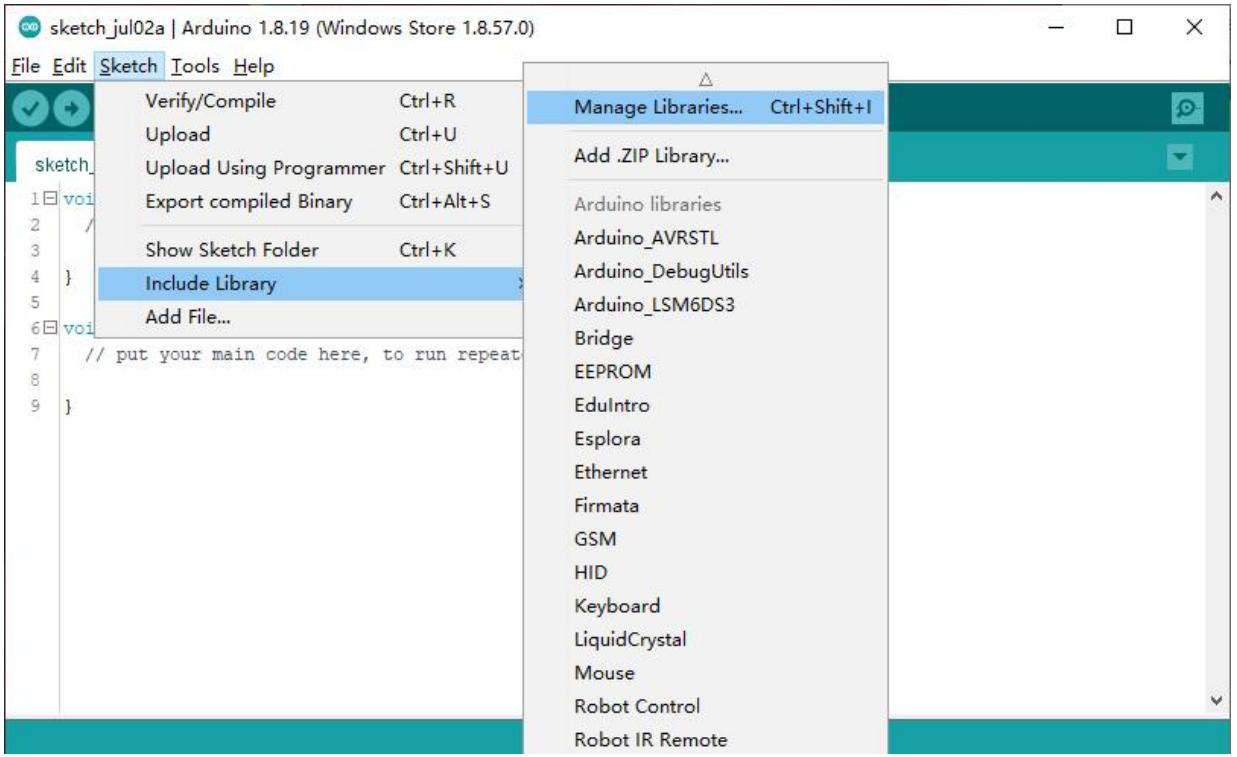
Return to the Sketch > Include Library menu. You should now see the library at the bottom of the drop-down menu , ready to use in your sketches .

Note: This library will be available for sketches, but with older IDE versions, the library's examples will not be exposed in File > Examples until the IDE is restarted.

Method 2: (This method requires networking) In addition to adding the library that has been prepared, you can also use the library manager to search and download the desired library

To install new libraries into your Arduino IDE, you can use the library manager (available from IDE 1.6.2 and above).

Open the IDE and click the Sketch menu, then click Include Library > Manage Libraries.



The library manager will open and you will see a list of libraries that are installed or ready to be installed. Here, we take the installation of the servo library as an example, and the same is true for installing other libraries. Scroll the list to find it, then select the version of the library to install, sometimes only one version of the library is available , click Install to install it .

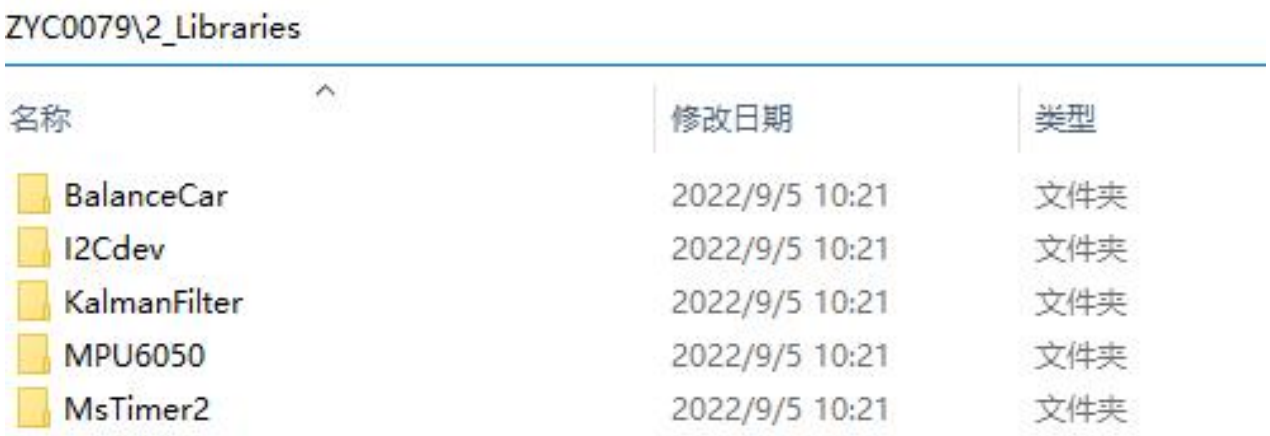
The download may take some time, depending on your connection speed , and you can close the library manager when finished.

Likewise, you can now find new libraries available in the Sketch > Include Library menu.

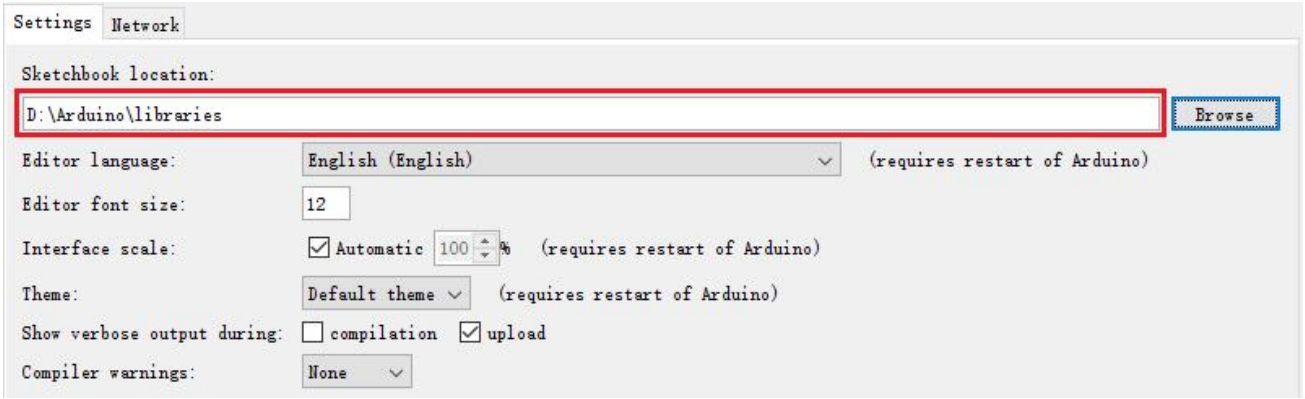
The third way to add libraries is manual installation

As mentioned in the previous chapter, but in some cases you may want to manually go through the installation process and place the library in your sketchbook's library folder yourself .

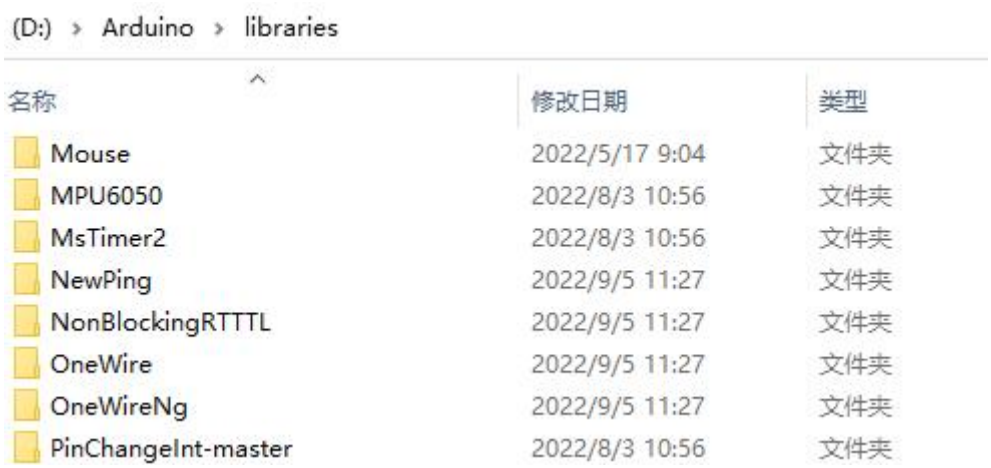
Copy the library files to be used (the library used in the following figure is an example), and unzip it into a folder file first.



Then in the Arduino IDE click File > preference > Sketchbook location to find or change the location of the sketchbook folder.

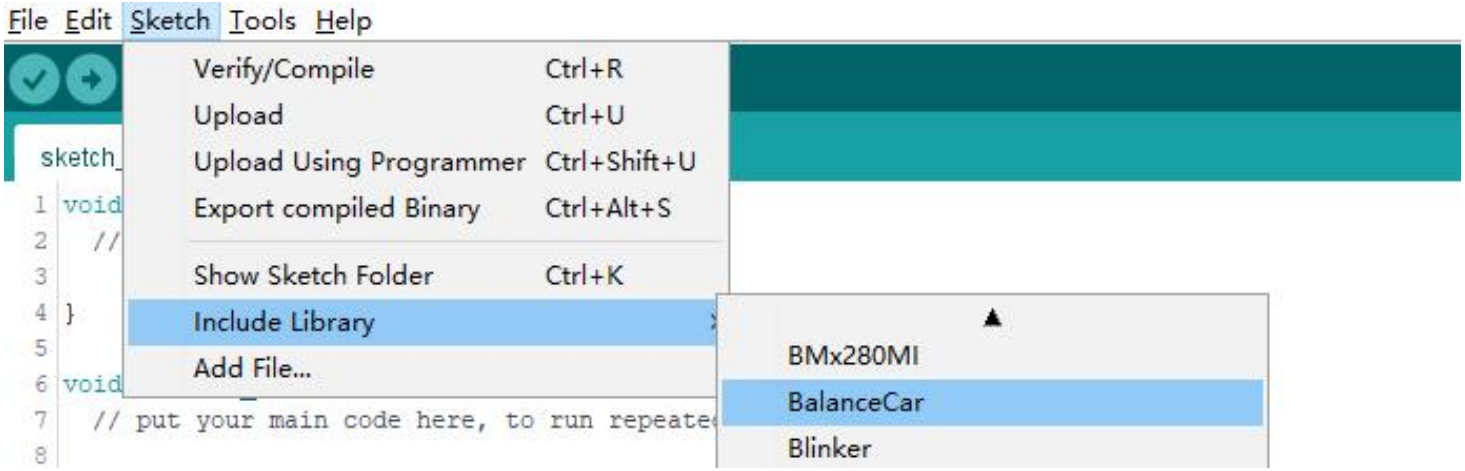


the directory path of the above file in the computer file explorer



Adding the library is done by pasting the library file in this path.

Restart the Arduino software (IDE) and go to Sketch > Include Library. Verify that the library you just added is available in the list ;



Please note: Arduino libraries are managed in three different locations: within the IDE installation folder, within the core folder, and within the library folder within Sketchbook. The way libraries are selected during compilation is designed to allow updating libraries present in the distribution. This means that placing a library in Sketchbook's "Libraries" folder will overwrite other library versions.

The same happens with libraries present in other core installations. It's also important to note that the version of the library you put into your sketchbook may be lower than the version in the distribution or core folder, but it will be the version used during compilation. When you select a specific kernel for a board, the library in the kernel folder will be used instead of the same library in the IDE distribution folder.

Last but not least is the way the Arduino software (IDE) upgrades itself: all files in Programs/Arduino (or the folder where you installed the IDE) will be deleted and a new folder created with the new content. That's why we recommend that you only install libraries into the sketchbook folder so they won't be removed during an Arduino IDE update.