

SPIKE library Installation Instructions

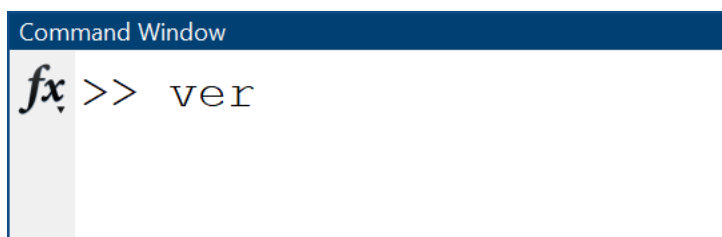
1. Install MATLAB

- a. Install MATLAB, version R2024b or later, with reference to the MathWorks documentation (<https://www.mathworks.com/help/install/install-products.html>).

Products requiring installation are listed below.

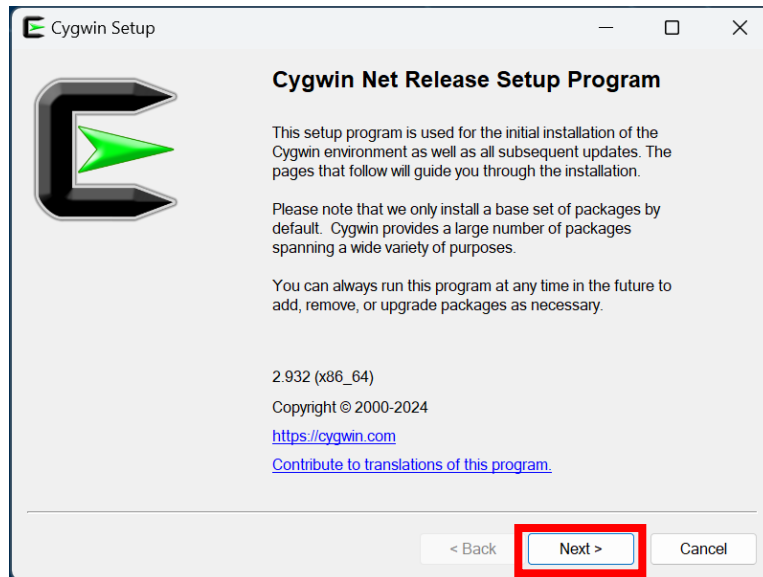
- MATLAB
- Simulink
- MATLAB Coder
- Simulink Coder
- Embedded Coder

- b. After starting up MATLAB, enter 'ver' in the command window to check if the listed products are installed.

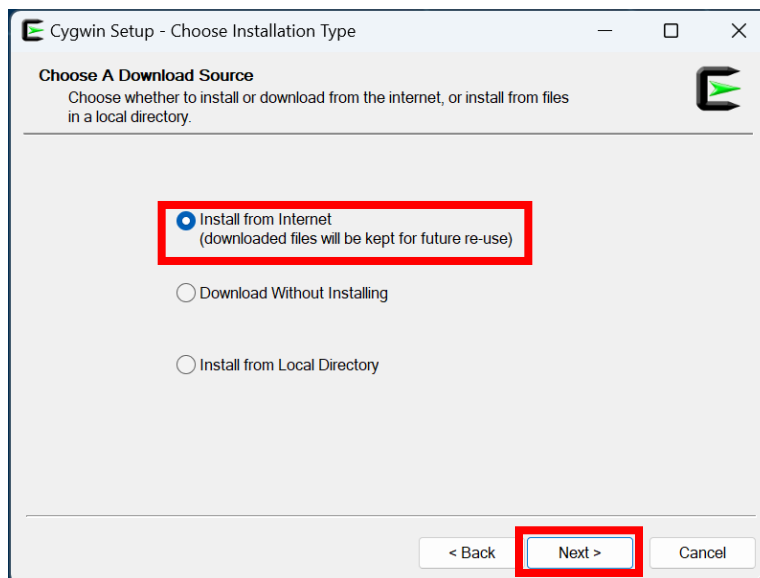


2. Install Cygwin

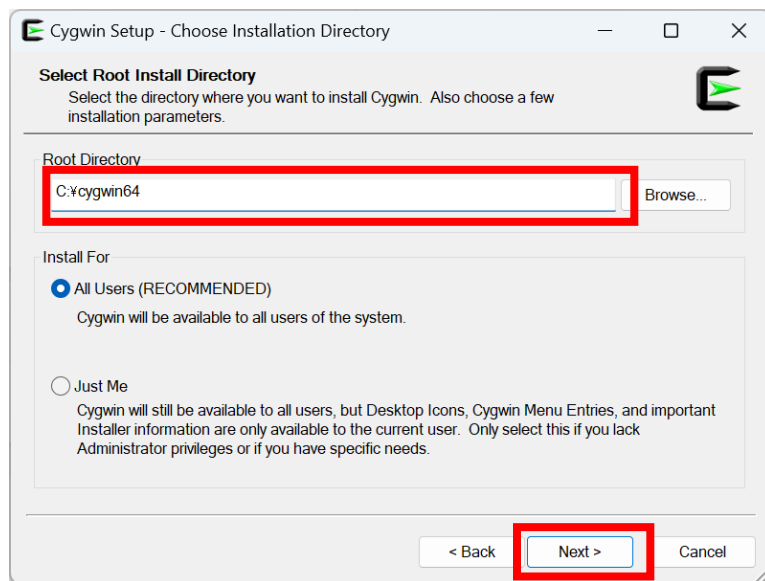
- a. Download Cygwin installer from Cygwin website (<http://www.cygwin.com/>)
- b. Launch setup.exe after downloading.
- c. The following screen appears. Click 'Next'.



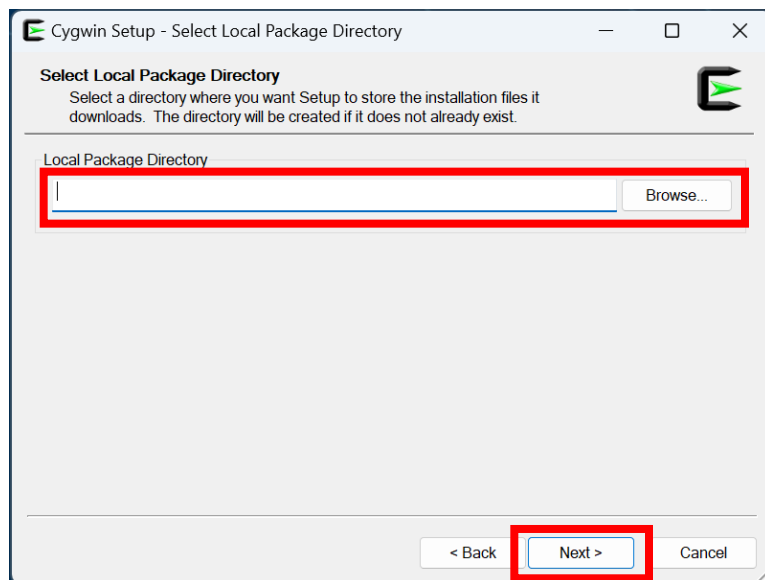
- d. Select 'Install from Internet' and click Next.



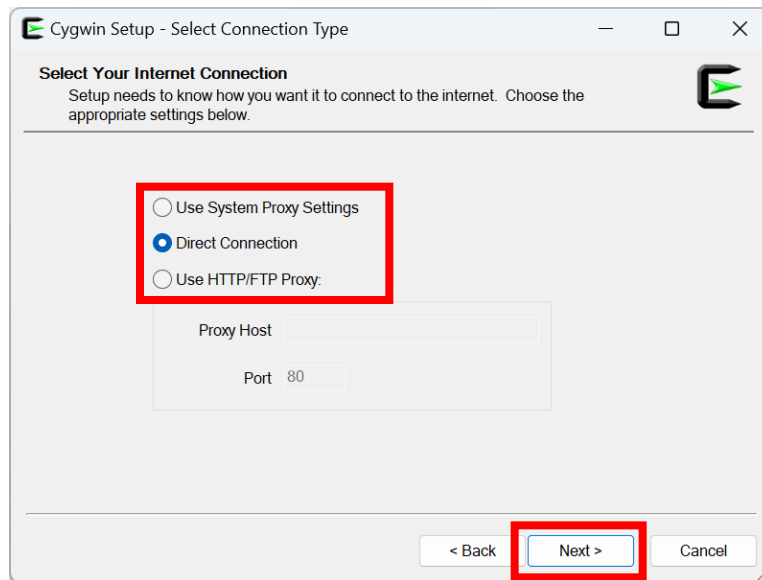
- e. The installation directory should be C:\cygwin64. If you change it, it will affect the build, etc. Then click Next.



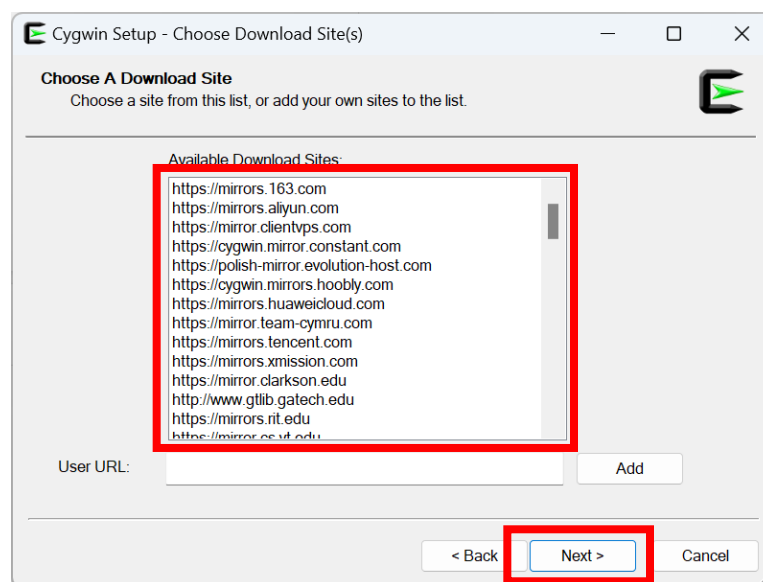
- f. Select a local storage location for the package to be downloaded. Once selected, click Next. Note that you can delete this package directory after installation.



- g. Select the method of connection to the Internet. Select the option that best suits your environment. If there is nothing special, select Direct and click Next.

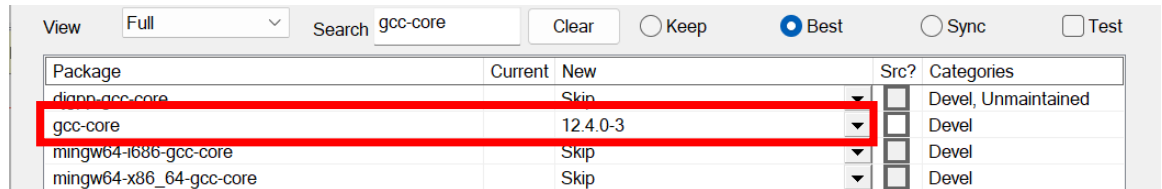


- h. Select from which server you want to download the package. It can be anywhere, but if the address ends with your country, it is likely to be relatively fast. It may be more stable if it starts with 'https:' instead of 'ftp:'. If the server you choose is extremely slow or communication is interrupted during the process, choose another server and retry.

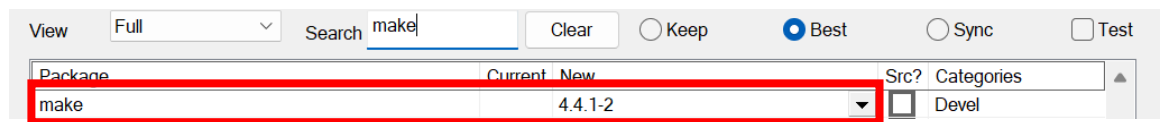


- i. Cygwin package list is displayed. Here, set 'view' to Full in the top left corner and select gcc-core, make, ruby and rubygems for installation. The screenshot below shows the screen after selecting each package. Only the versions shown have been tested. Finally, press 'Next' to proceed.

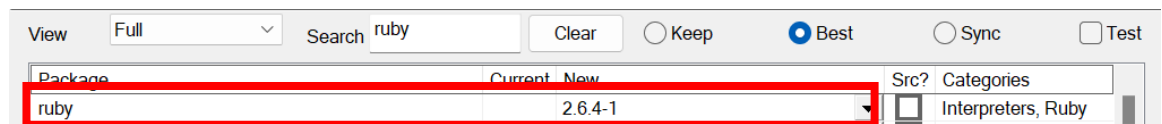
- gcc-core



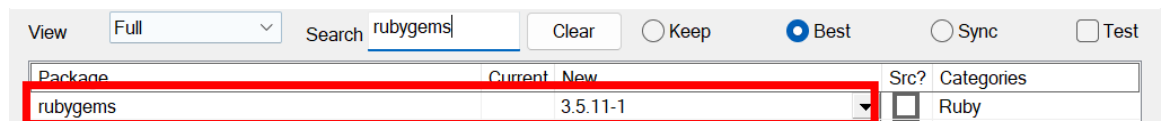
- make



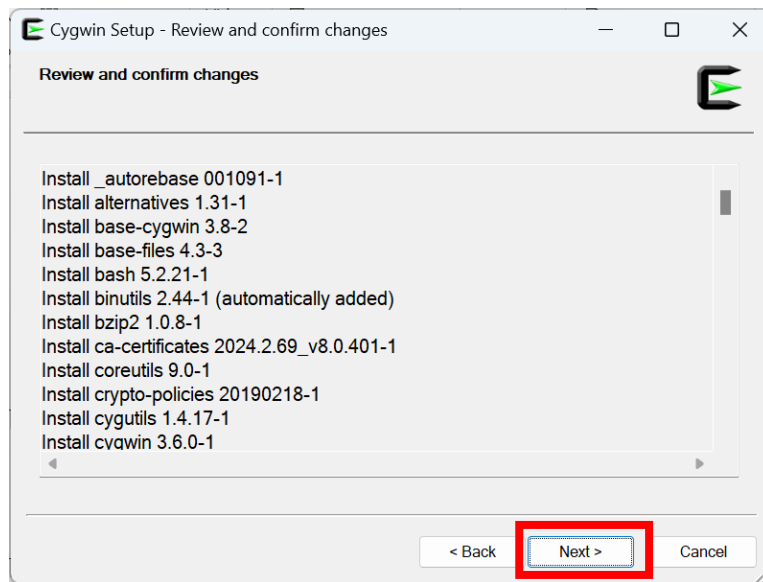
- ruby



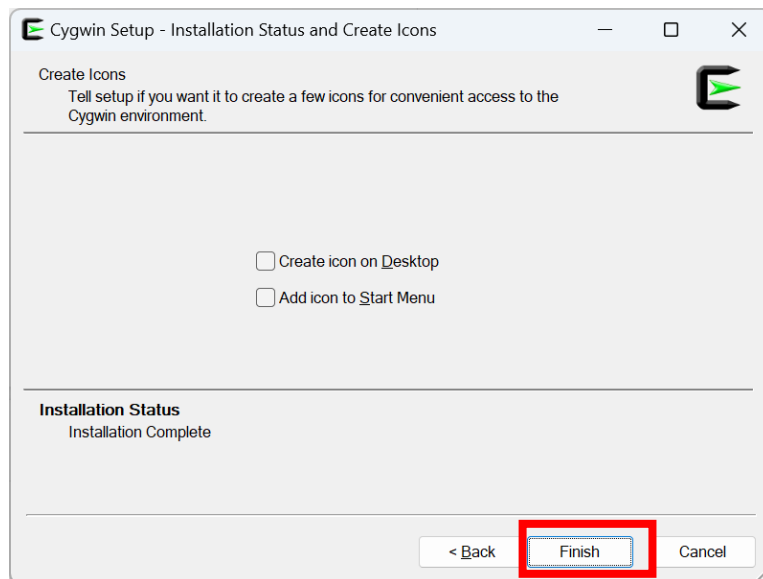
- rubygems



j. Changes will appear.' Click 'Next' to start the installation.



k. Click 'Finish' to complete the installation.

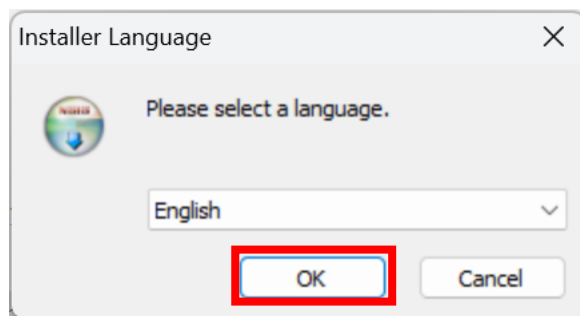


3. Install Arm GNU Toolchain

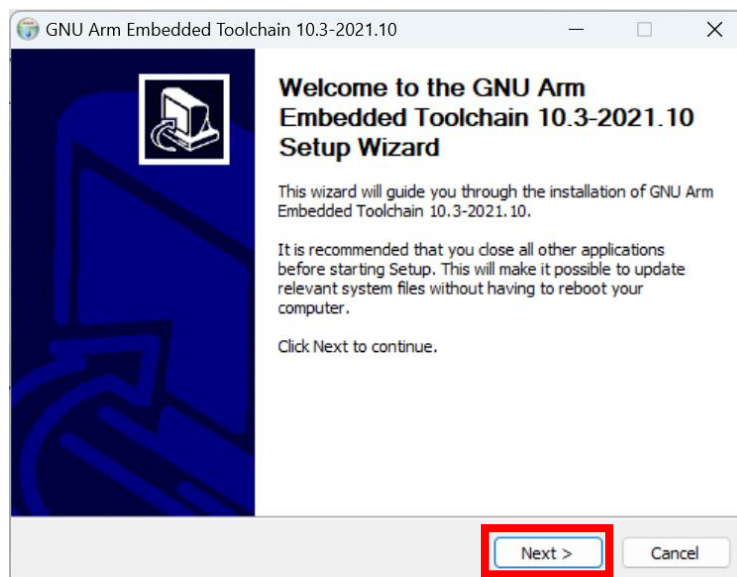
- a. Download Arm GNU Toolchain installer from arm developer website (<https://developer.arm.com/downloads/-/gnu-rm>)

Recommended is gcc-arm-none-eabi-10.3-2021.10-win32.exe, which has been tested to work.

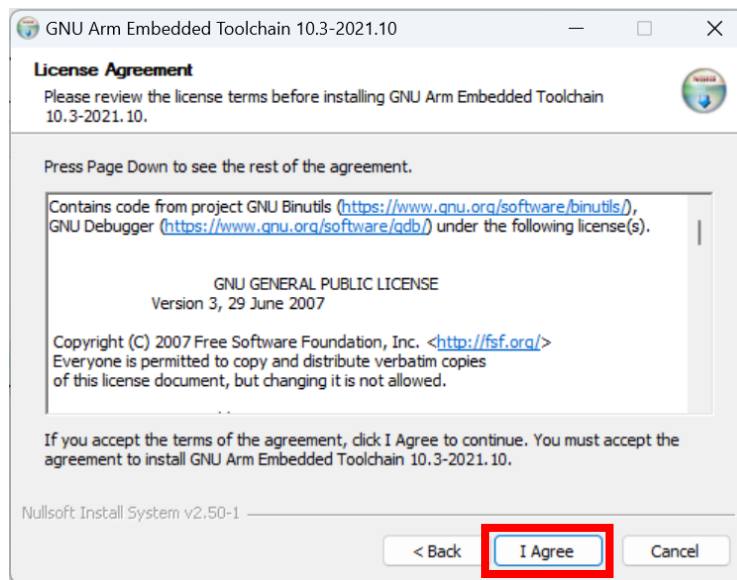
- b. Start the installer. Then select the language of your choice.



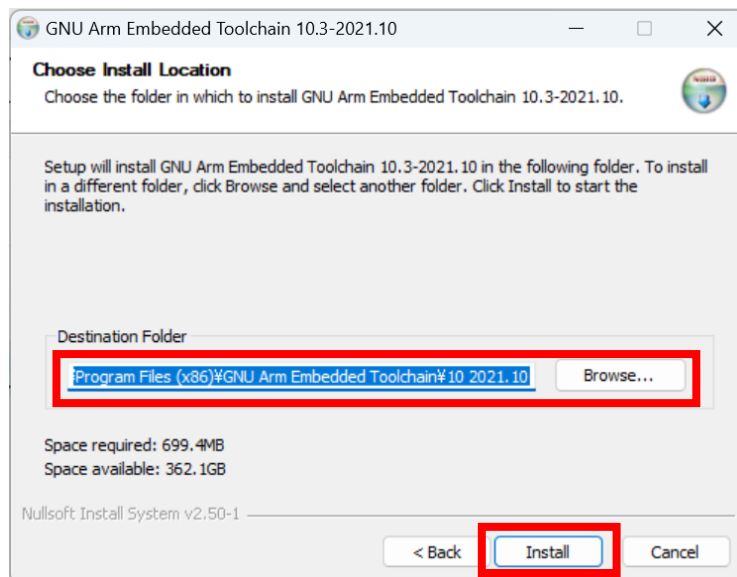
- c. Click "Next".



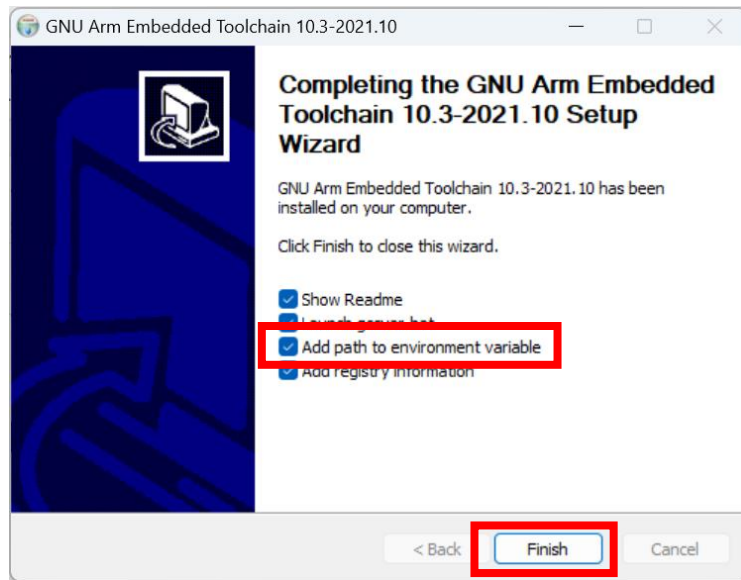
d. Click “I Agree”.



e. Set the installation folder and click ‘Install’.



- f. Check 'Add path to environment variable' and click 'Finish'.

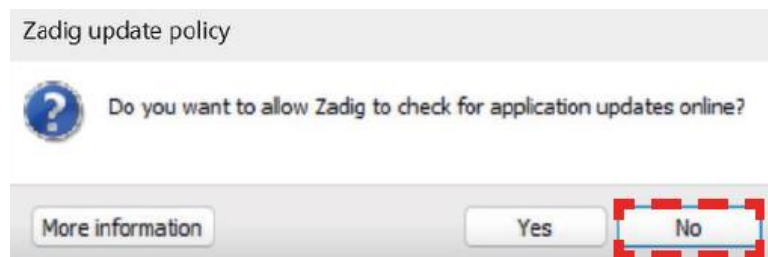


4. Install USB driver

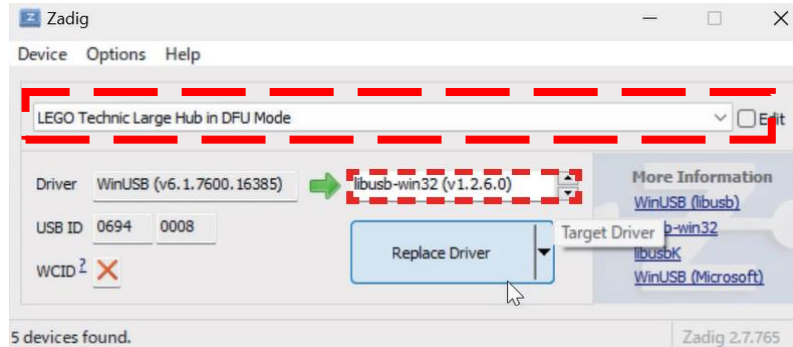
- a. Download Zadig USB driver from Zadig website (<https://zadig.akeo.ie/>)
Recommendation version is zadig-2.7.exe
- b. Turn off the power of the SPIKE Prime Large Hub.
While holding down the Bluetooth button on the SPIKE, connect the SPIKE to the computer using a USB cable. When connected to the computer, the Bluetooth button will light up in purple. Continue holding the Bluetooth button for a while, and the Bluetooth button will repeatedly light up in the sequence 'red → green → blue → off → red → ...'. After that, release the Bluetooth button.



- c. Next, launch the downloaded zadig exe file. If the following screen appears, click 'No'.



- d. An installation window will open. Ensure that 'SPIKE Technic Large Hub in DFU Mode' is selected in the display near the center of the window. Next, change the driver type by pressing ▼ button once and select 'libusb-win32.' Finally, click 'Install WCID Driver' to install the driver.



[Note] About selecting 'SPIKE Technic Large Hub in DFU Mode'

If the selection 'LEGO Technic Large Hub in DFU Mode' does not appear, check that the LEGO SPIKE is connected to the computer and that the Bluetooth button on the LEGO SPIKE is glowing in rainbow colours. Alternatively, click 'Option' ⇒ 'List All Devices'.

