

Part 1

Lesson

4

Building a Developed

Environment

Arduino IDE

As an open source **software**, Arduino IDE, based on going 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?

Upload program for MacOS

STEP 1:

- Download the Arduino Software (IDE) Open the URL: <https://www.arduino.cc/en/Main/Software> with browser.

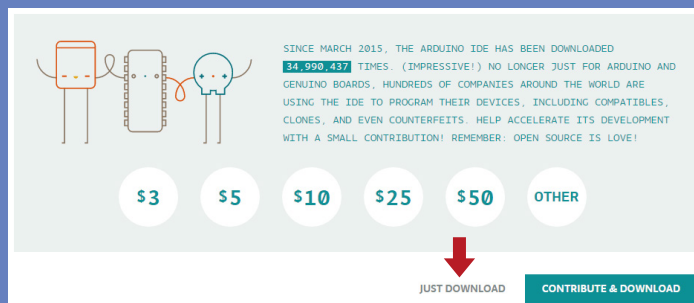
Click "Mac OSX 10.8 Lion or newer".

The version available at this website is usually the latest version, and the actual version may be newer than the version in the picture.



STEP 2:

- Click "JUST DOWNLOAD".



STEP 4:

- After the download is complete, an installation package will appear in the download directory. At this time, the Arduino development environment has been successfully built!

STEP 3:

- Open Finder.



Upload program for Ubuntu

STEP 1:

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

Download the Arduino IDE



The screenshot shows the Arduino IDE download page. On the left is the Arduino logo. To its right, the text reads: **ARDUINO 1.8.12**. Below this, it says: "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", "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", and a red box highlighting "Linux 32 bits", "Linux 64 bits", "Linux ARM 32 bits", and "Linux ARM 64 bits". At the bottom right, there are links for "Release Notes", "Source Code", and "Checksums (sha512)".

STEP 2:

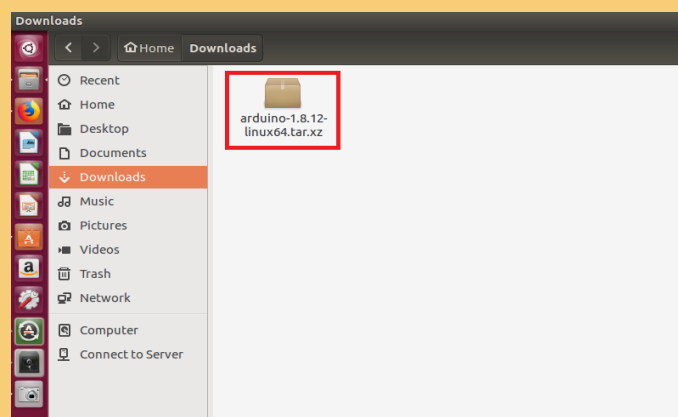
- Click **"JUST DOWNLOAD"**.



The screenshot shows the Arduino IDE download page with a focus on the donation options. It features a row of buttons for different donation amounts: "\$3", "\$5", "\$10", "\$25", "\$50", and "OTHER". A red arrow points down from the "\$25" button to the "JUST DOWNLOAD" button. Below the donation buttons, there is a "CONTRIBUTE & DOWNLOAD" button. Above the donation buttons, there is a text block that reads: "SINCE MARCH 2015, THE ARDUINO IDE HAS BEEN DOWNLOADED 40,523,101 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!"

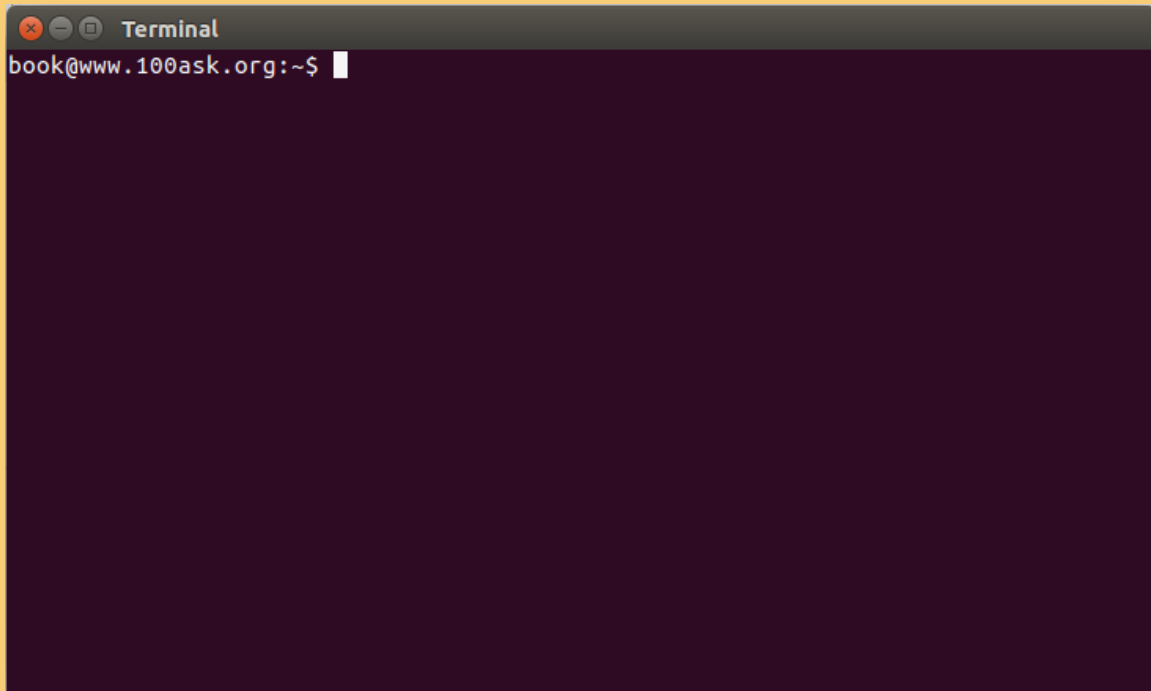
STEP 3:

- Check that the download was successful.



STEP 4:

- Press “**CTRL + ALT + T**” at the same time to open the command

A terminal window titled "Terminal" with a dark background. The prompt "book@www.100ask.org:~\$" is visible at the top left, followed by a white cursor. The rest of the terminal area is empty.

```
book@www.100ask.org:~$
```

STEP 5:

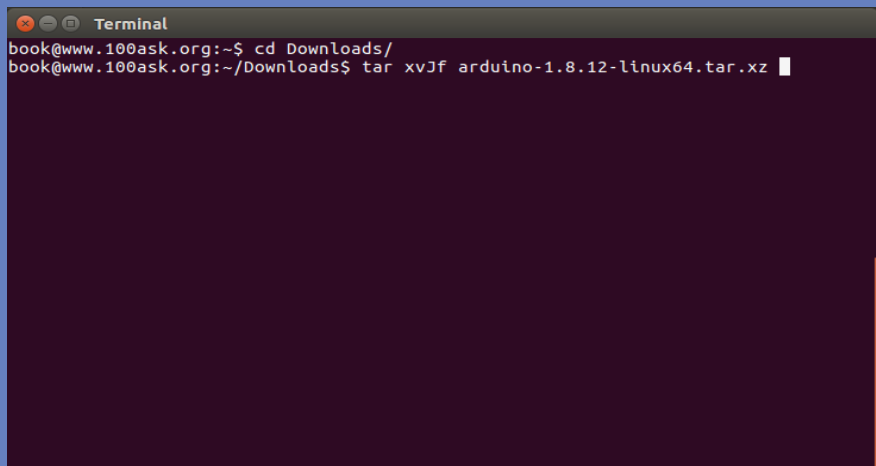
- Enter “**cd Downloads/**”.

A terminal window titled "Terminal" with a dark background. The prompt "book@www.100ask.org:~\$" is visible at the top left. The command "cd Downloads/" has been entered, and the prompt has changed to "book@www.100ask.org:~/Downloads\$".

```
book@www.100ask.org:~$ cd Downloads/  
book@www.100ask.org:~/Downloads$
```

STEP 6:

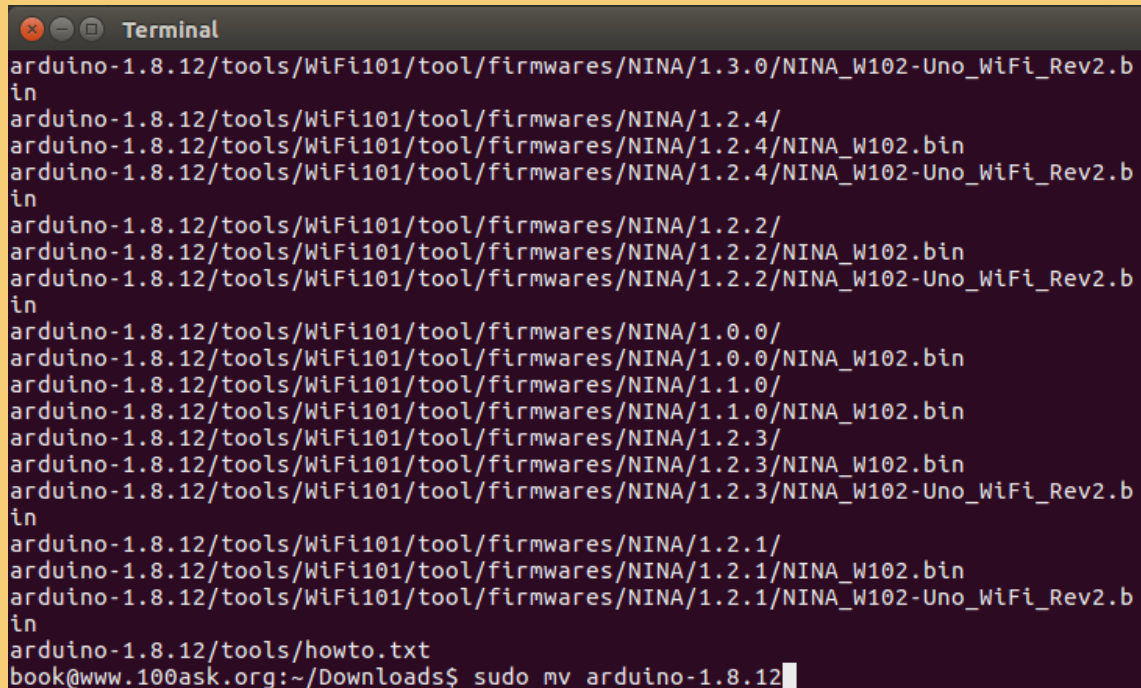
- Enter “**tar xvjf arduino-1.8.12-linux64.tar.xz**” to unzip the files.

A terminal window titled "Terminal" with a dark background. The prompt "book@www.100ask.org:~\$" is visible at the top left. The command "cd Downloads/" has been entered, and the prompt has changed to "book@www.100ask.org:~/Downloads\$". The command "tar xvjf arduino-1.8.12-linux64.tar.xz" has been entered, and the prompt is now "book@www.100ask.org:~/Downloads\$".

```
book@www.100ask.org:~$ cd Downloads/  
book@www.100ask.org:~/Downloads$ tar xvjf arduino-1.8.12-linux64.tar.xz
```

STEP 7:

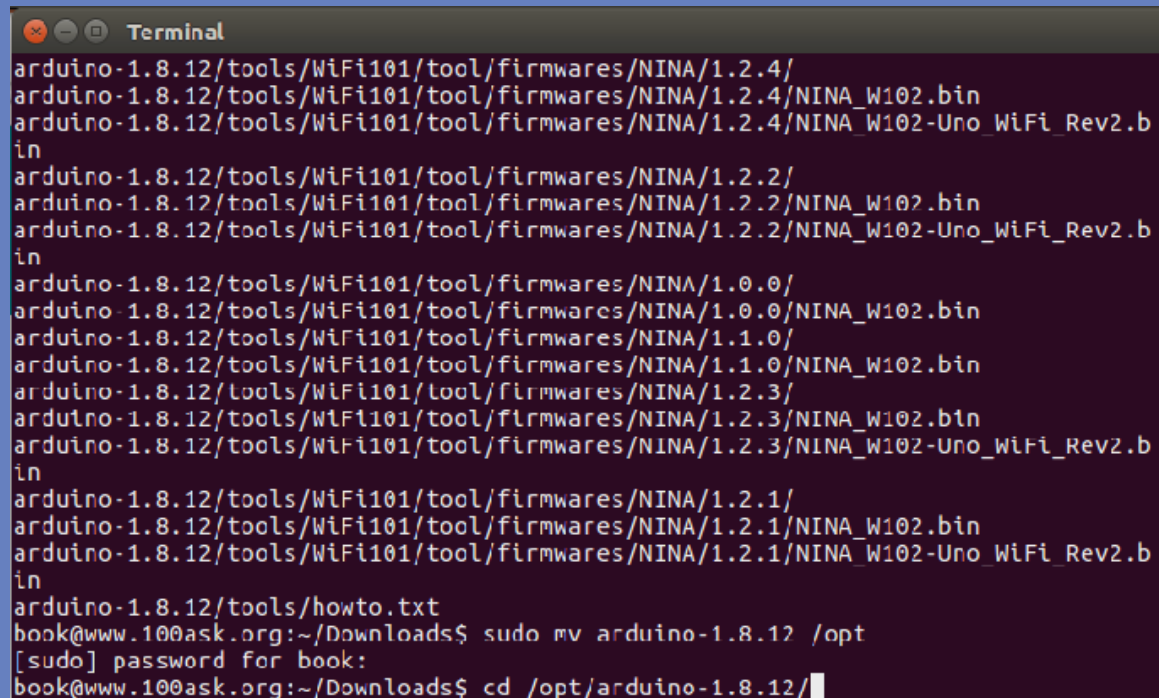
- Enter **"`sudo mv arduino-1.8.12 /opt`"** to move the unzipped files to the "opt" folder.



```
Terminal
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.3.0/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.4/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.4/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.4/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.2/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.2/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.2/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.0.0/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.0.0/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.1.0/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.1.0/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/howto.txt
book@www.100ask.org:~/Downloads$ sudo mv arduino-1.8.12
```

STEP 8:

- Enter **"`cd /opt/arduino-1.8.12/`"** to go to the arduino folder.



```
Terminal
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.4/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.4/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.4/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.2/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.2/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.2/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.0.0/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.0.0/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.1.0/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.1.0/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/howto.txt
book@www.100ask.org:~/Downloads$ sudo mv arduino-1.8.12 /opt
[sudo] password for book:
book@www.100ask.org:~/Downloads$ cd /opt/arduino-1.8.12/
```

STEP 9:

- Enter “`sudo chmod +x install.sh`” and “`sudo chmod +x install.sh`” to complete the installation.

```
Terminal
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.0.0/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.0.0/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.1.0/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.1.0/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.3/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/NINA_W102.bin
arduino-1.8.12/tools/WiFi101/tool/firmwares/NINA/1.2.1/NINA_W102-Uno_WiFi_Rev2.b
in
arduino-1.8.12/tools/howto.txt
book@www.100ask.org:~/Downloads$ sudo mv arduino-1.8.12 /opt
[sudo] password for book:
book@www.100ask.org:~/Downloads$ cd /opt/arduino-1.8.12/
book@www.100ask.org:/opt/arduino-1.8.12$ sudo chmod +x install.sh
book@www.100ask.org:/opt/arduino-1.8.12$ sudo ./install.sh
Adding desktop shortcut, menu item and file associations for Arduino IDE...

done!
book@www.100ask.org:/opt/arduino-1.8.12$
```

