

Setting Up Java Development Environment

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Steps

1. Install JRE (JAVA RUNTIME ENVIRONMENT):

<https://www.java.com/en/download/>

1. Install JDK (JAVA SDK):

<https://www.oracle.com/java/technologies/javase/javase-jdk8-downloads.html>

1. Set Environment Variables:

JAVA_HOME: jdk root

CLASSPATH: jdk root/lib

Path: jdk root/bin

1. Install Eclipse IDE:

<http://www.eclipse.org/downloads/>

1. Install Git

<https://git-scm.com/>

Install JRE(Java Runtime Environment)

- <https://www.java.com/en/download/>
- After download, keep clicking "Next" to install.

The screenshot shows the top navigation bar of the Java website. It includes the Java logo, links for 'Download', 'Developer Resources', and 'Help', and a search bar on the right.

This screenshot shows the '64-bit Java for Windows' download page. It features a yellow callout box containing 'Important Oracle Java License Information' and a note about the license change starting April 16, 2019. Below this, there's a paragraph about the Oracle Technology Network License Agreement and a link to a FAQ. At the bottom, there's a 'Download Java' button and a legal acknowledgment at the bottom.

This screenshot shows the 'Download Java for macOS' page. It has a similar layout to the Windows page, with a yellow callout box for license information, a note about the license change, a paragraph about the Oracle Technology Network License Agreement, and a 'Download Java' button at the bottom.

This screenshot shows a general Java download page. It features a large yellow callout box for license information, a note about the license change, a paragraph about the Oracle Technology Network License Agreement, and a 'Download Java' button at the bottom. A legal acknowledgment is present at the very bottom of the page.

This screenshot shows another view of the Java download page, likely for a different platform. It has a yellow callout box for license information, a note about the license change, a paragraph about the Oracle Technology Network License Agreement, and a 'Download Java' button at the bottom. A legal acknowledgment is present at the very bottom of the page.

This screenshot shows a final view of the Java download page. It has a yellow callout box for license information, a note about the license change, a paragraph about the Oracle Technology Network License Agreement, and a 'Download Java' button at the bottom. A legal acknowledgment is present at the very bottom of the page.

Install JDK(Java Development Kit)

- <https://www.oracle.com/java/technologies/javase/javase-jdk8-downloads.html>
- Need to login oracle to download. After download, keep clicking "Next" to install.

Linux macOS Solaris **Windows**

Product/file description	File size	Download
x86 Installer	159.66 MB	jdk-8u341-windows-i586.exe
x64 Installer	173.16 MB	jdk-8u341-windows-x64.exe

You must accept the [Oracle Technology Network License Agreement for Oracle Java SE](#) to download this software. 

I reviewed and accept the Oracle Technology Network License Agreement for Oracle Java SE
Required

You will be redirected to the login screen in order to download the file.

[Download jdk-8u341-windows-x64.exe](#)

Install JDK(Java Development Kit)

Linux macOS Solaris Windows

Product/file description

File size

Download

x64 DMG Installer

200.53 MB

 [jdk-8u341-macosx-x64.dmg](#)

You must accept the [Oracle Technology Network License Agreement](#) for Oracle Java SE to download this software. 

I reviewed and accept the Oracle Technology Network License Agreement for Oracle Java SE

Required

You will be redirected to the login screen in order to download the file.

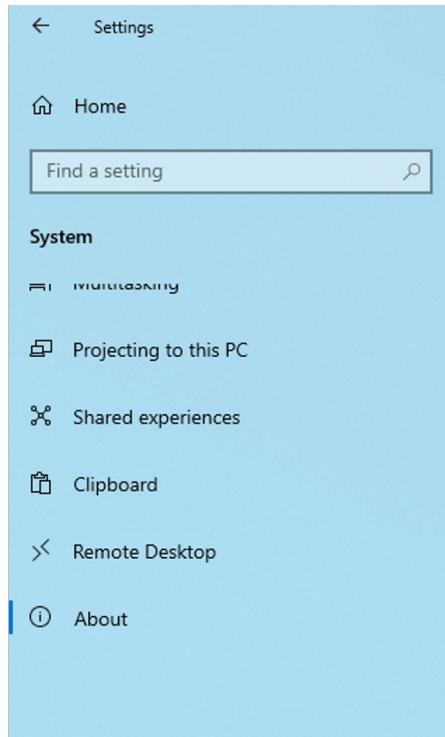
[Download jdk-8u341-macosx-x64.dmg](#) 

Set Environment Variables

- Notice: You don't need to set environment variables on MAC OS.
- Environment Variables are the common variables in OS. Therefore, to let the OS know where we install JDK and JRE, we will set the following three environment variables:
 1. JAVA_HOME:
Location of the installation directory of JAVA
 1. CLASSPATH:
Location of the library of the JAVA developer tool
 1. PATH:
Add JAVA-related commands to the system default search location

Set Environment Variables

1. Settings -> System ->About

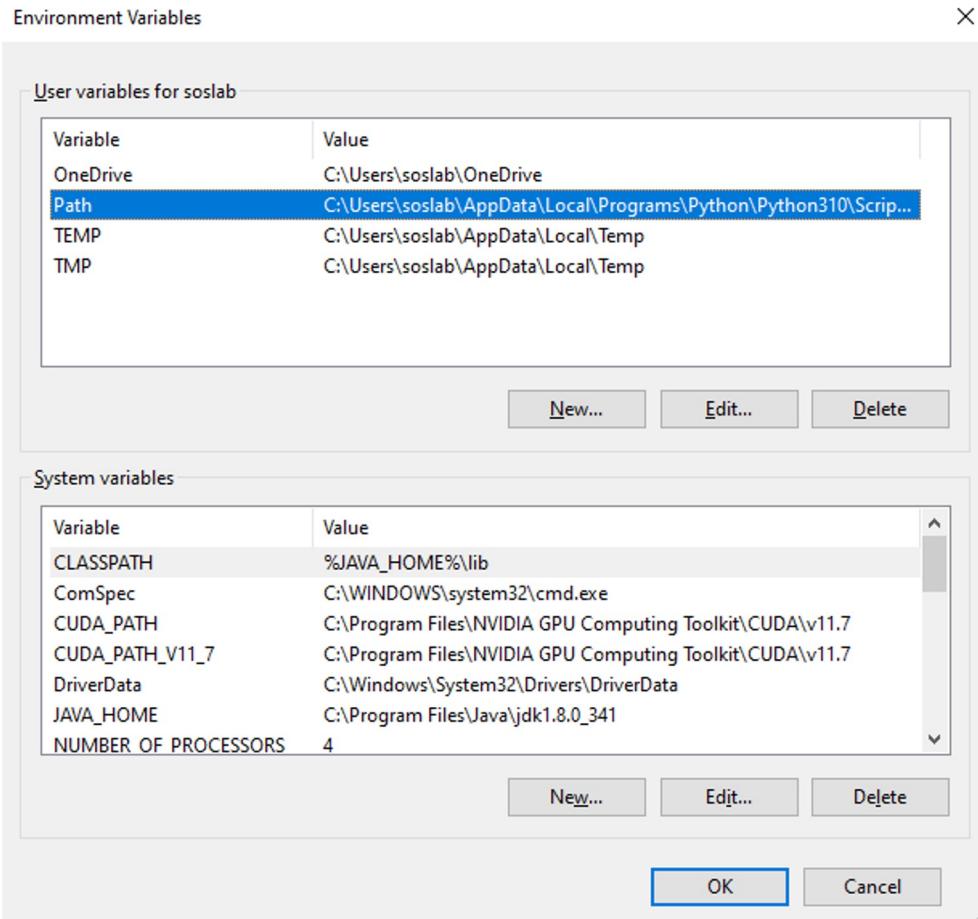


The image shows the Windows System Properties dialog box. It has tabs at the top: Computer Name, Hardware, Advanced, System Protection, and Remote. The Advanced tab is selected. The main content area says "You must be logged on as an Administrator to make most of these changes." and lists sections for Performance, User Profiles, and Startup and Recovery. In the System protection section, the "Advanced system settings" button is highlighted with a red box. In the bottom right corner of the dialog, there are "OK", "Cancel", and "Apply" buttons.

2. Click Advanced system settings

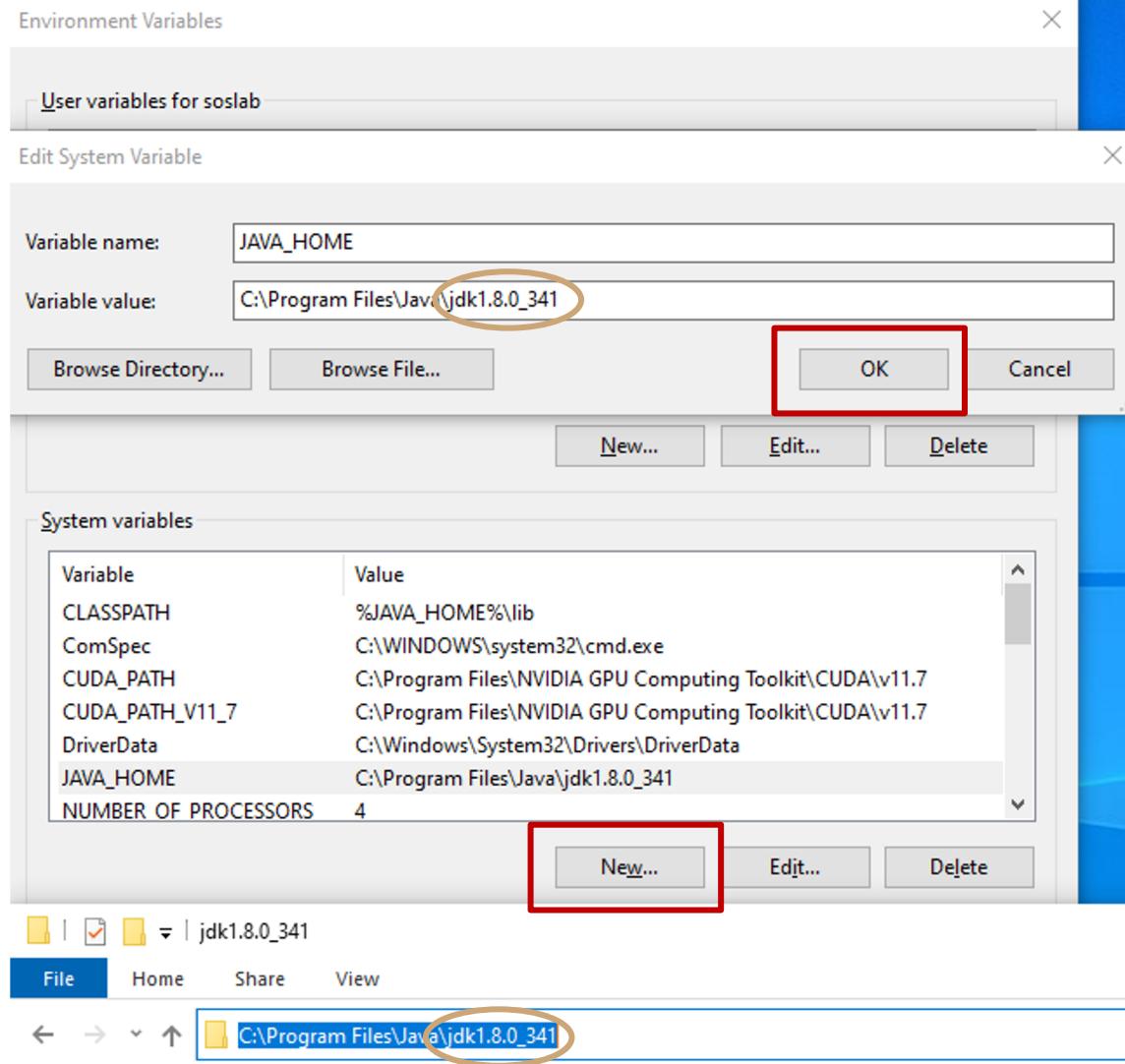
3. Click Environment Variables...

Set Environment Variables



- If we set environment variables in the upper section (User variables for XXX), it means our setting only works when XXX login Windows.
- If we set environment variables on the bottom section (System variables), it works when any user login.
- **Recommend that you use the bottom (System variables) to set environment variables.**

Set Environment Variables JAVA_HOME



1. Click "New"

- Variable name: JAVA_HOME
- Variable value: installation directory of JDK

X64 windows usually is:

C:\ProgramFiles\Java\jdkXXXXXX

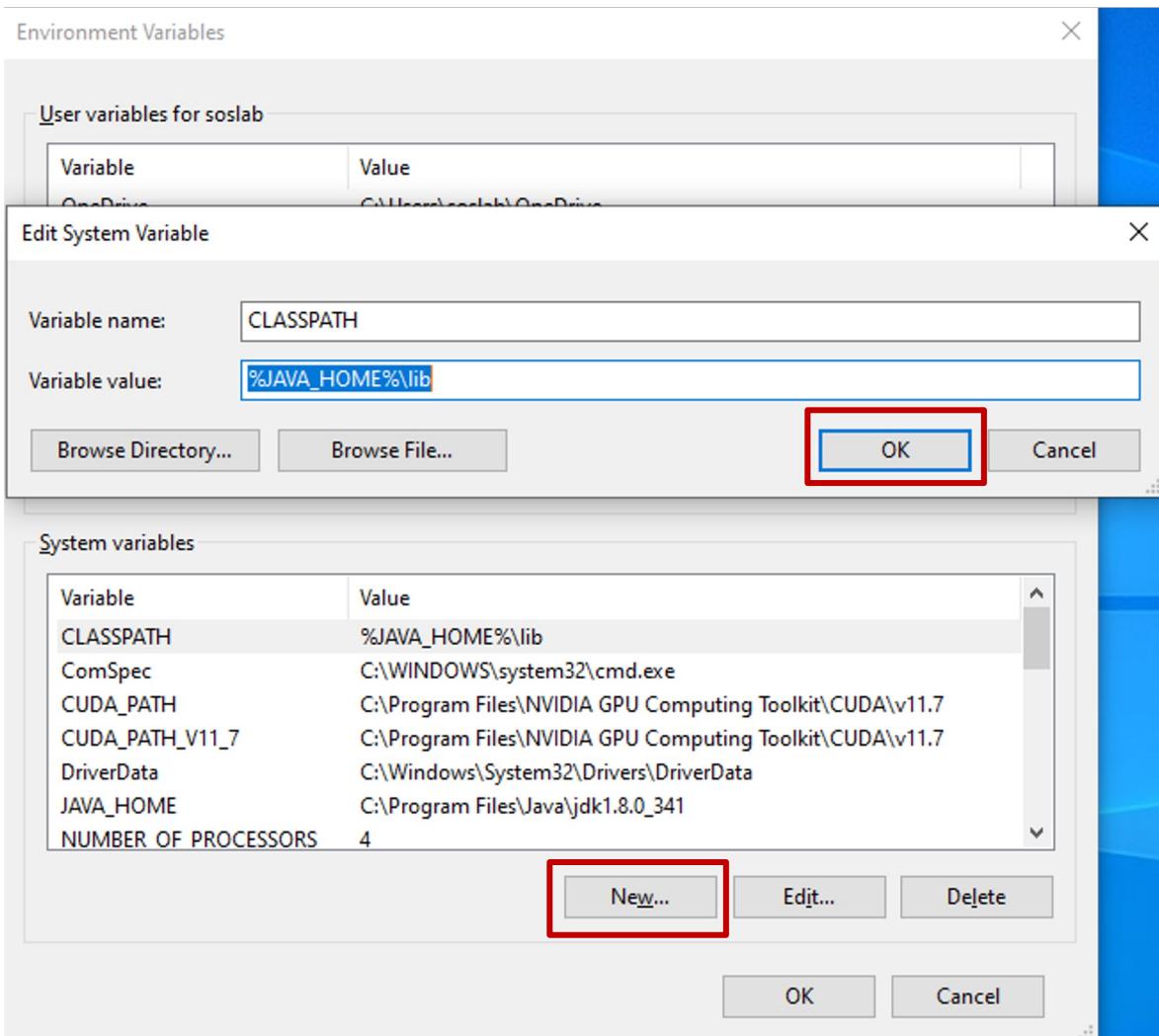
X86 windows usually is:

C:\Program Files(x86)\Java\jdkXXXXXX

- The red part depends on the version; please check whether the directory exists and set the environment variables.

2. Click "OK" to save.

Set Environment Variables CLASSPATH



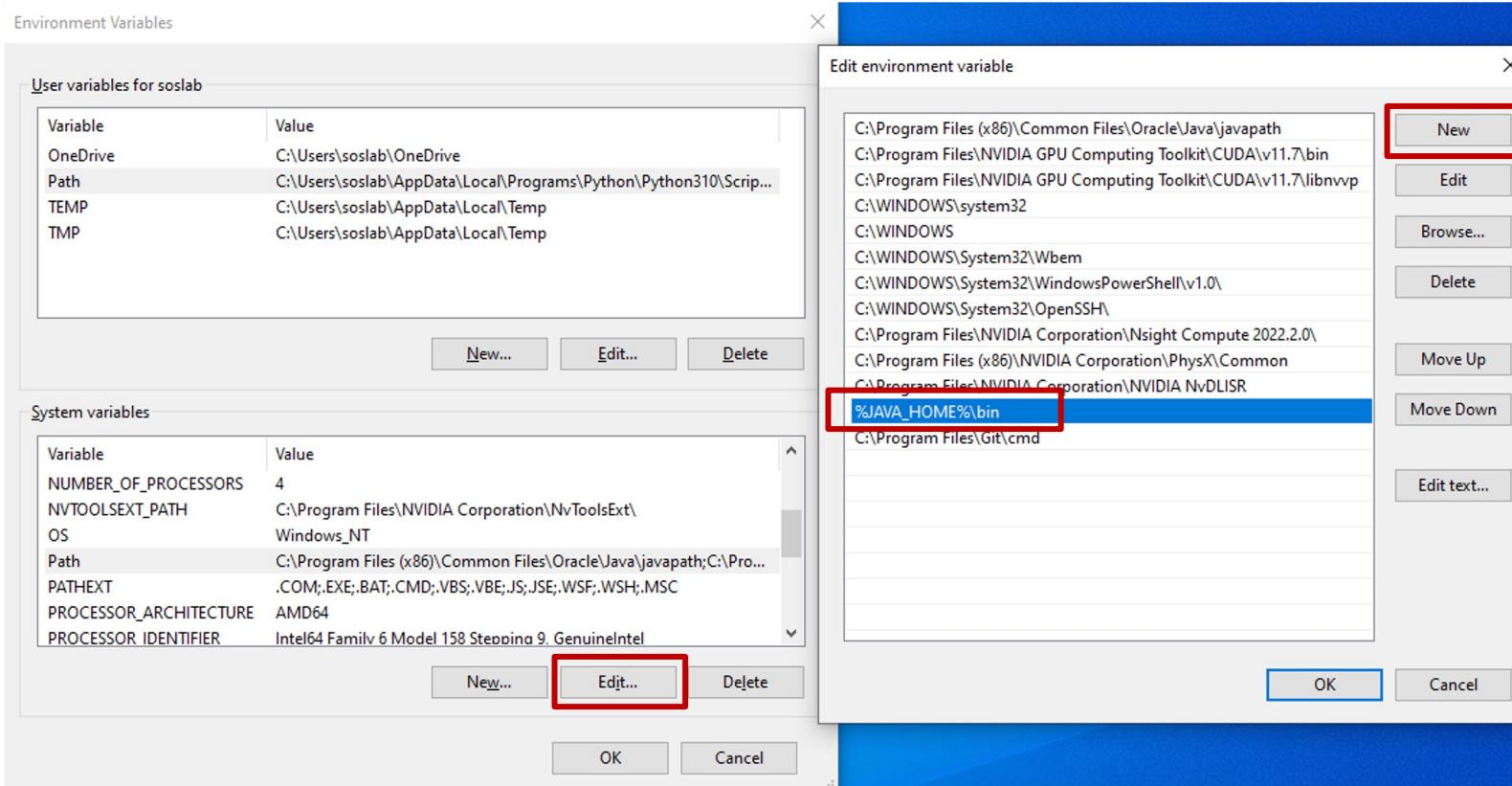
1. Click "New"

- Variable name: CLASSPATH
- Variable value: **%JAVA_HOME%\lib** installation directory of JDK
- **%JAVA_HOME%** is the path of JAVA_HOME
- If you alter the Java JDK version in the future, you only need to change the environment variables of JAVA_HOME, and don't need to change others.

2. Click "OK" to save.

Set Environment Variables PATH

- PATH variable usually has other values, so instead of adding this, we need to find the “PATH” variable in the list and **click “Edit”**.
- PATH contains lots of paths; click “**New**” and then input **%JAVA_HOME%\bin**
- **%JAVA_HOME%** is the path of JAVA_HOME



Install Eclipse IDE

- <https://www.eclipse.org/downloads/>

The Eclipse Installer 2022-06 R now includes a JRE for macOS, Windows and Linux.



Get Eclipse IDE 2022-06

Install your favorite desktop IDE packages.

Download x86_64

[Download Packages](#) | [Need Help?](#)

ECLIPSE FOUNDATION

Home / Downloads / Eclipse downloads - Select a mirror

All downloads are provided under the terms and conditions of the Eclipse Foundation Software User Agreement unless otherwise specified.

Download

Download from: Korea, Republic Of - Kakao Corp. (https)
File: [eclipse-inst-jre-win64.exe](#) SHA-512
[>> Select Another Mirror](#)

Sponsored Ad



An Open-Source Strategy

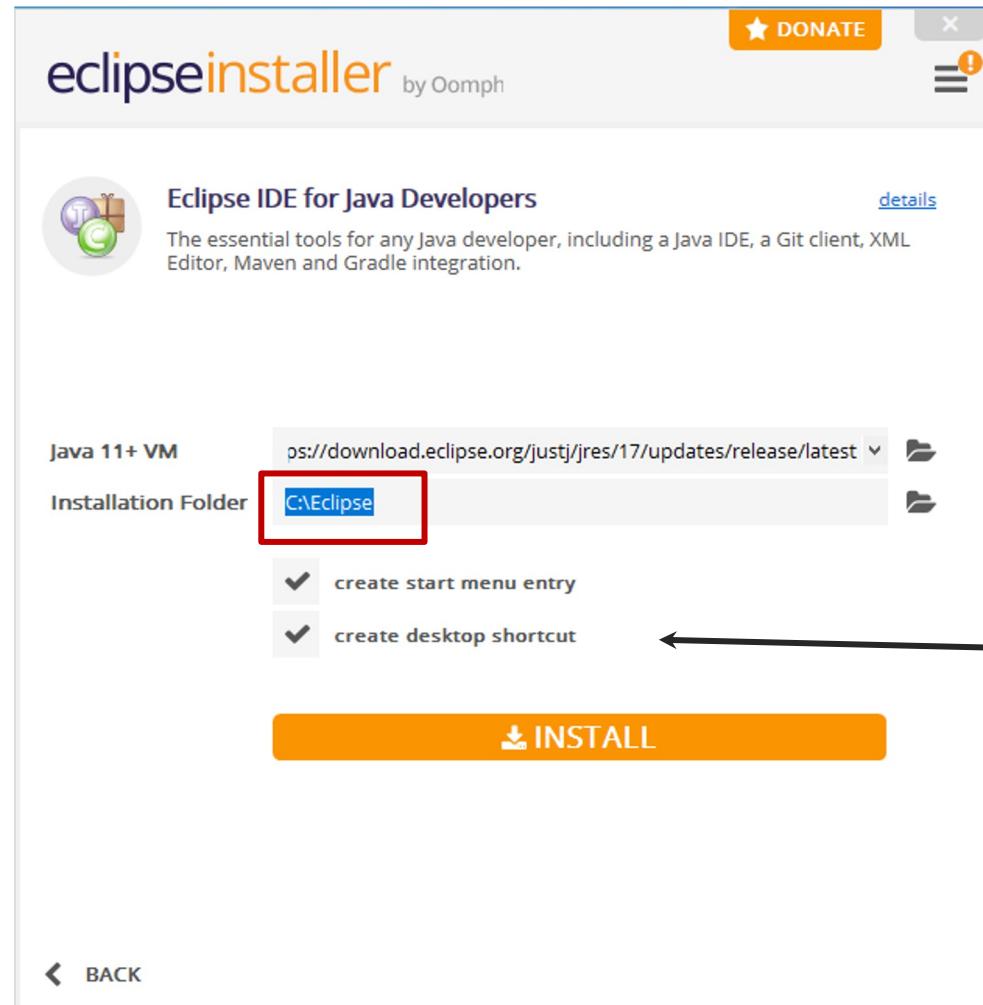
Install Eclipse IDE

- You can download the basic Java SE (first one) for usual, and use Java EE(Enterprise) for the final.
- Eclipse is the tool for coding in the future, so please put the unzipped folder in a suitable place (ex C:\), don't put it in the folder like "Download" to avoid losing it in the future.

The screenshot shows the **eclipseinstaller** website by Oomph. The page features a search bar labeled "type filter text" and a "DONATE" button. Below the header, there are four listed options, each with an icon and a brief description:

- Eclipse IDE for Java Developers**: The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Maven and Gradle integration.
- Eclipse IDE for Enterprise Java and Web Developers**: Tools for developers working with Java and Web applications, including a Java IDE, tools for JavaScript, TypeScript, JavaServer Pages and Faces, Yaml, Markdown, Web...
- Eclipse IDE for C/C++ Developers**: An IDE for C/C++ developers.
- Eclipse IDE for Embedded C/C++ Developers**: An IDE for Embedded C/C++ developers. It includes managed cross build plug-ins (Arm and RISC-V) and debug plug-ins (SEGGER J-Link, OpenOCD, pyocd, and QEMU)....
- Eclipse IDE for PHP Developers**: The essential tools for any PHP developer, including PHP language support, Git client and editors for JavaScript, TypeScript, HTML, CSS and XML. Click here to report an issue...

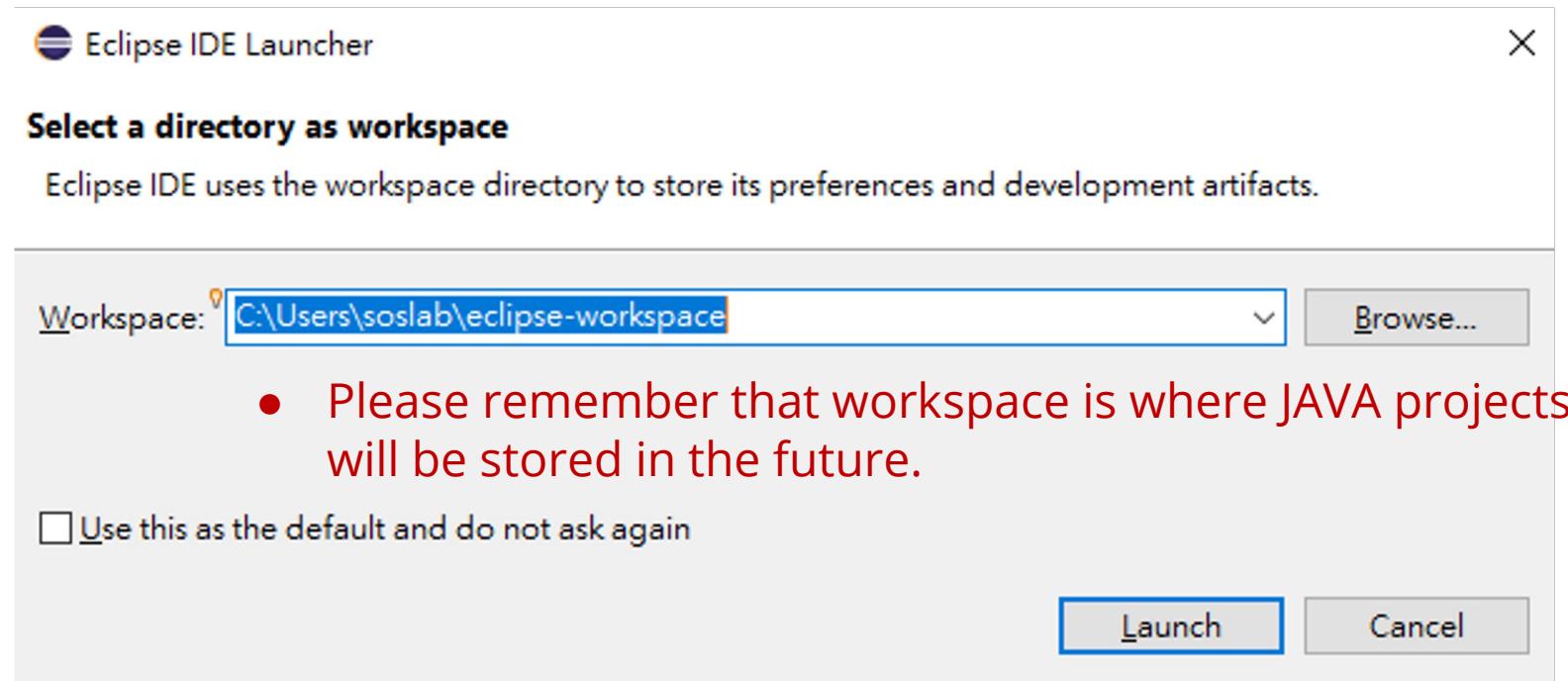
Install Eclipse IDE



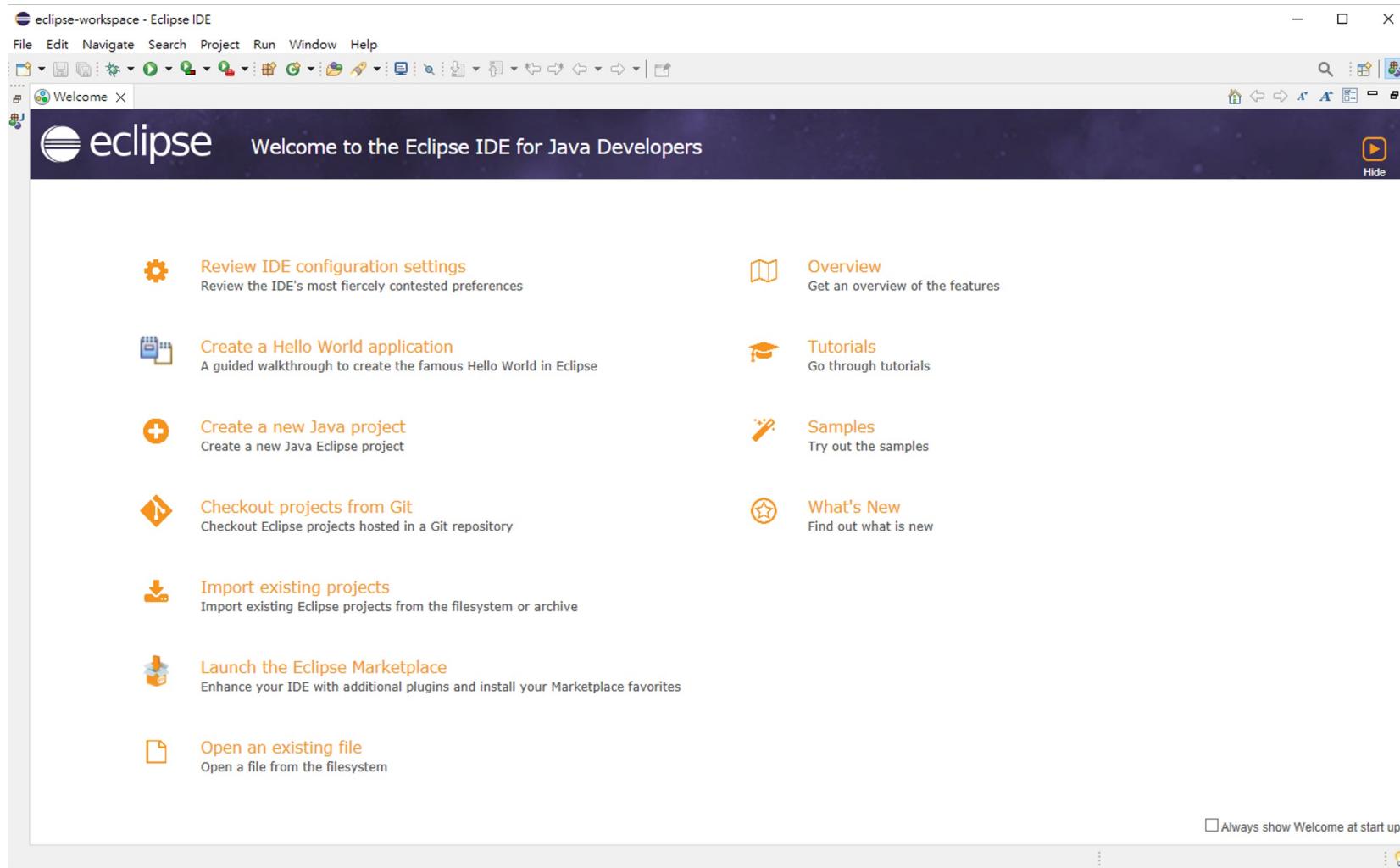
- Recommend adding a new folder (ex: Eclipse) in driver C, and select the folder you just created here.

- Recommend everyone put a shortcut of Eclipse on the desktop; it will be easier to find in the future!

Open Eclipse IDE



Finish!

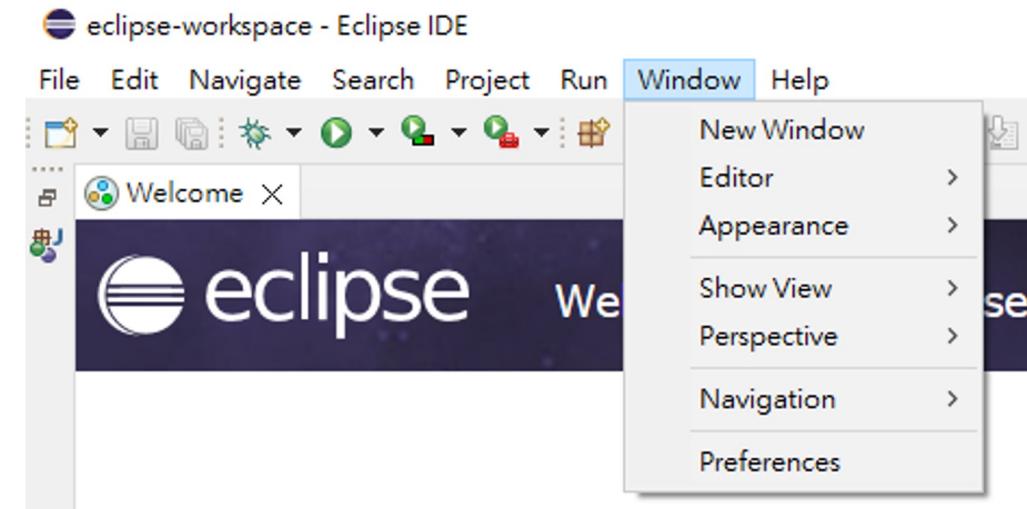


- Students who have used commercial development environments, such as Visual Studio, will feel difficult to adapt when they are new to Eclipse. However, Eclipse is a high-end free development environment; the function of Visual Studio can also be used on Eclipse with a little setting.
- Following will teach everyone to set the code auto-completion function via “Preference...”

How to open Preferences...

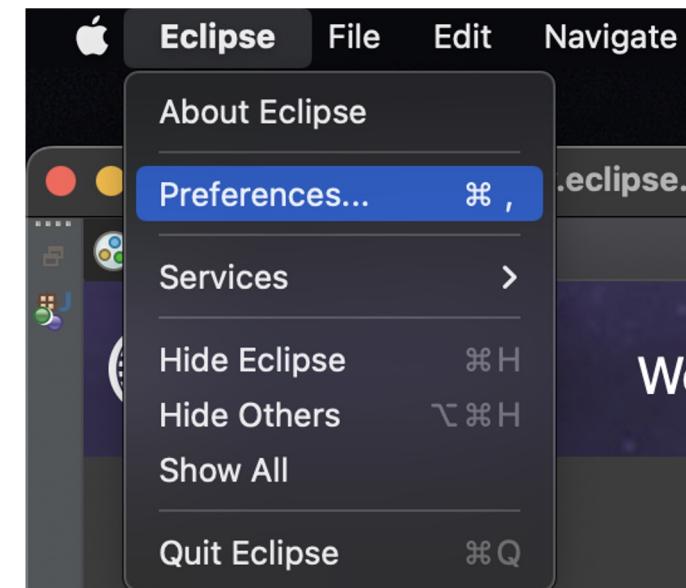
- Windows

The top menu of Eclipse “Window” → “Preferences...”

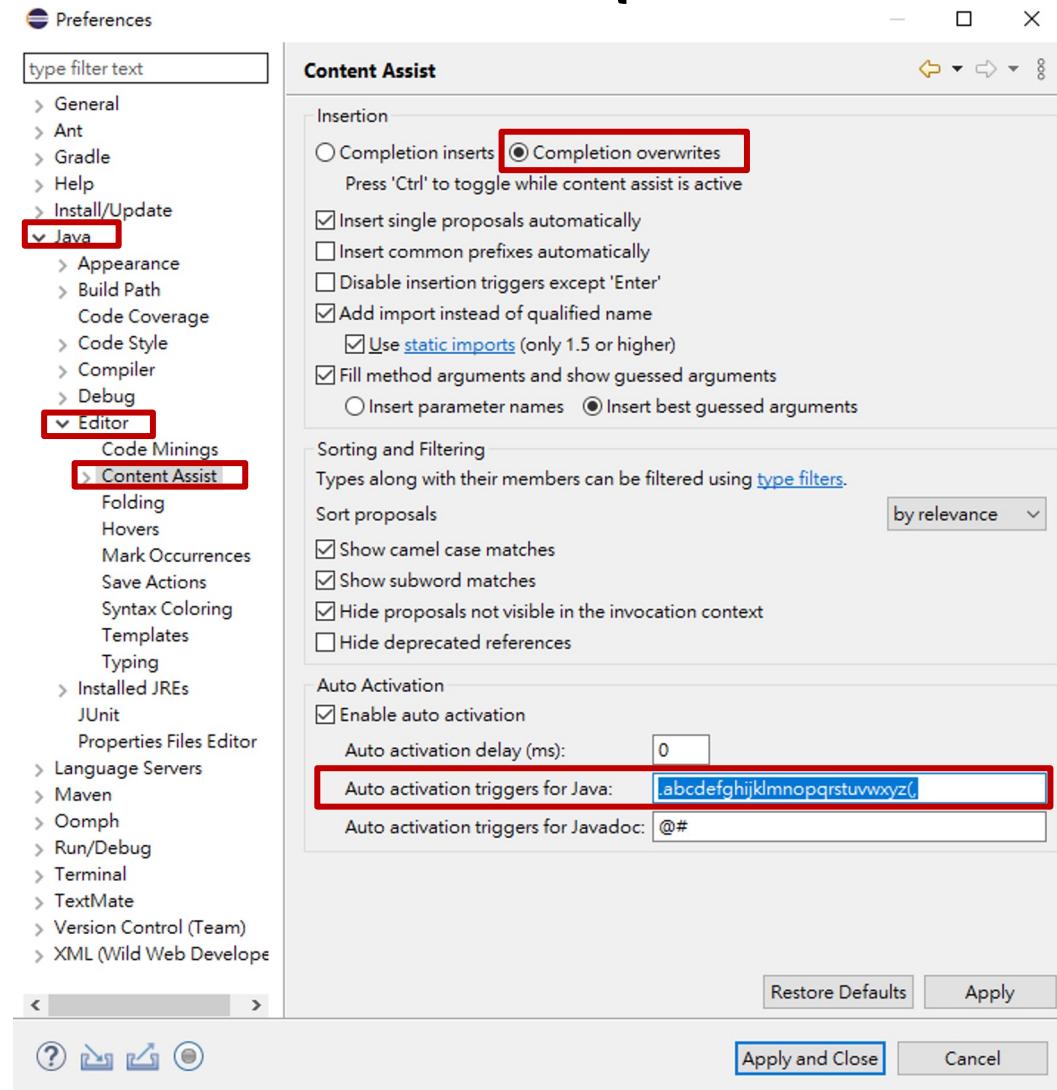


- MAC

The top menu of Eclipse “Eclipse” → “Preferences...”



Code auto completion



1. Open “Preferences...”
2. Preferences select “Java” → “Editor” → “Content Assist” on the left side.
3. Choose “Completion overwrites” on the right side.
4. Change “Auto activation triggers for java” value to **.abcdefghijklmnopqrstuvwxyz()**,

Install git

- <https://git-scm.com/>

The screenshot shows the official Git website at <https://git-scm.com/>. The page features a large header with the Git logo and the tagline "local branching on the cheap". Below the header is a search bar. The main content area contains text about Git's benefits (free and open source, fast performance) and its architecture (distributed version control). To the right is a diagram illustrating a distributed repository network. The footer includes links for "About", "Documentation", "Downloads", and "Community", along with a "Pro Git" book link.

Download for Windows

[Click here to download](#) the latest (2.37.3) 64-bit version of **Git for Windows**. This is the most recent [maintained build](#). It was released [5 days ago](#), on 2022-08-30.

Other Git for Windows downloads

[Standalone Installer](#)

[32-bit Git for Windows Setup.](#)

[64-bit Git for Windows Setup.](#)

[Portable \("thumbdrive edition"\)](#)

[32-bit Git for Windows Portable.](#)

[64-bit Git for Windows Portable.](#)

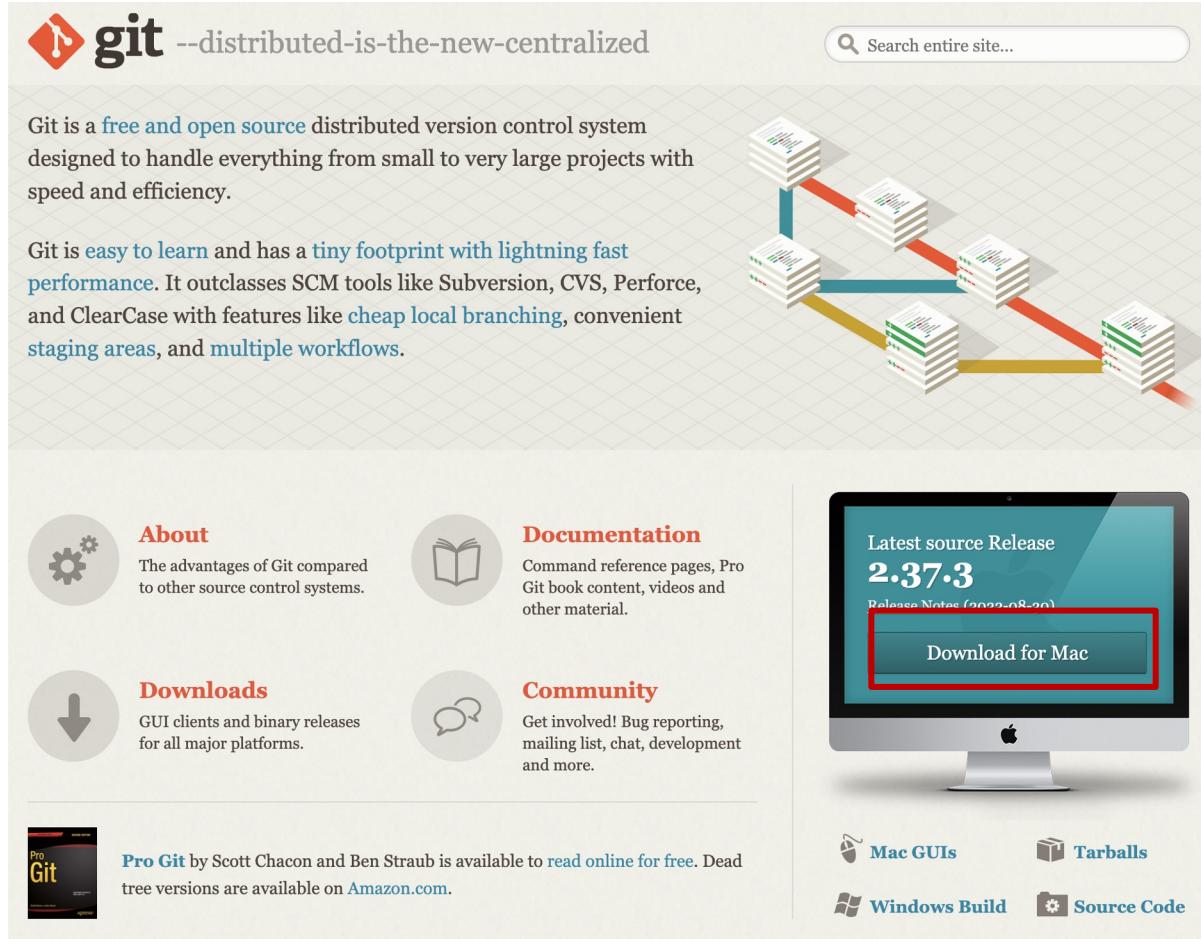
Using winget tool

Install [winget tool](#) if you don't already have it, then type this command in command prompt or Powershell.

```
winget install --id Git.Git -e --source winget
```

The current source code release is version 2.37.3. If you want the newer version, you can build it from [the source code](#).

Install git



The screenshot shows the official Git website (git-scm.com). At the top, there's a search bar with the placeholder "Search entire site...". Below the search bar, the Git logo (a red diamond with a white "g") and the slogan "git --distributed-is-the-new-centralized" are displayed. The main content area features two sections: "Git is a free and open source distributed version control system" and "Git is easy to learn and has a tiny footprint with lightning fast performance". A diagram illustrates the distributed nature of Git, showing multiple repositories connected by red lines. Below these sections are several navigation links: "About", "Documentation", "Downloads", "Community", and "Pro Git". Each link has a corresponding icon: a gear for "About", a book for "Documentation", a download arrow for "Downloads", a speech bubble for "Community", and a small book for "Pro Git". At the bottom, there's a link to "Read online for free" and a link to "Amazon.com".

Download for macOS

There are several options for installing Git on macOS. Note that any non-source distributions are provided by third parties, and may not be up to date with the latest source release.

Homebrew

Install [homebrew](#) if you don't already have it, then:

```
$ brew install git
```

MacPorts

Install [MacPorts](#) if you don't already have it, then:

```
$ sudo port install git
```

Xcode

Apple ships a binary package of Git with [Xcode](#).

Binary installer

Tim Harper provides an [installer](#) for Git. The latest version is [2.33.0](#), which was released about 1 year ago, on 2021-08-30.

Building from Source

If you prefer to build from source, you can find tarballs on [kernel.org](#). The latest version is [2.37.3](#).

Installing git-gui

If you would like to install [git-gui](#) and [gitk](#), git's commit GUI and interactive history browser, you can do so using [homebrew](#)

```
$ brew install git-gui
```

Check git installation

- Check whether the git installation is successful.
- Type *git --version* in Terminal and enter.

```
Command Prompt
Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

C:\Users\soslab>git --version
git version 2.37.3.windows.1
```

```
(base) [REDACTED] @ [REDACTED] MacBook ~ % git --version
git version 2.33.0
```

- It will show the version you installed, which means your installation is successful.