

## Downloading Eclipse

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In CS 106A, we'll be using Stanford's customized version of Eclipse to build our programs. Eclipse is an enormously popular industrial strength Java environment with many features. Fortunately, Eclipse is also open source—anyone is free to change Eclipse to work the way they want. We have taken advantage of that freedom to install special Stanford features into Eclipse, tailoring it specifically for CS 106A. This document gives instructions on how to get started using Stanford Eclipse. **Please pay close attention to these instructions and do not skip steps!** If you run into any trouble installing Eclipse, email the head TA, Alisha Adam ([aadam@stanford.edu](mailto:aadam@stanford.edu)) or come to office hours.

### Installing Eclipse

Before you begin to write programs for Karel or Java, you will need to obtain a copy of Eclipse from the CS 106A course website. The process for downloading Eclipse depends on what operating system you are using. The instructions for installing Eclipse on both the Macintosh and Windows machines appear in the sections that follow. On either platform, the process may take a while, so be patient!

### Installing Eclipse on a Mac

Stanford Eclipse will only work on Mac OS X version 10.6 or higher. If you have an older version of the operating system, you'll need to either upgrade or do your class work in a public computer cluster (which should already have Eclipse installed). If you don't know which version of Mac OS X you have, you can check by clicking the  menu in the upper left corner of the screen and selecting **About This Mac**.

1. **Get Java SDK from the CS 106A website.** You must first obtain a copy of the Java SDK version 1.8. Go to the CS 106A website at <http://cs106a.stanford.edu>. Then, click on the **Software** link (on the left side of the page) and then click on the link **Download and install the Java SDK installer for Mac**.
2. **Download Eclipse from the CS 106A website.** If you've followed step 1, you should be on the **Software** page of the CS 106A website. You should then click on the link **Download the Mac version of Eclipse**. Save the file somewhere on your hard drive (or it may automatically get saved to your **Downloads** folder).
3. **Install Eclipse.**
  - a. After Step 2, you should now have a file saved on your computer that is named **eclipse-mac.zip**.
  - b. Double click on the zip file, which will unpack the Eclipse application into a new folder. We'll refer to this new folder as the **eclipse** folder.
  - c. Drag the **eclipse** folder into the **Applications** folder on your Mac.

4. **Create a shortcut.** Open the `eclipse` folder and drag the Eclipse icon to your dock to create a shortcut.
5. **Open Eclipse.** Click on the Eclipse icon in the dock to open Eclipse. If you see an error that says Eclipse “can’t be opened because it is from an unidentified developer,” right-click on the Eclipse icon and select **Open** instead. You will be able to open Eclipse without right-clicking from now on.

### Installing Eclipse on Windows

Our version of Eclipse will run on Windows 7, Windows 8, and Windows 8.1 (and possibly XP and Vista, but we make no guarantees regarding such older operating systems). If you have an older version of Windows, you’ll need to either upgrade or do your class work in a public computer cluster (which should already have Eclipse installed). Before installing Eclipse, you will first need to have a copy of latest version of the Java JRE (Java Runtime Environment) installed on your computer. Note that Java version 1.8 is the latest version of Java. If you don’t know which version, if any, of the JRE you have just start at Step 1. In fact, we recommend that all students start at Step 1.

1. **Uninstall previous versions of the JRE.** Before installing a new version of the JRE, we recommend that you remove any existing copies that may be installed on your system.
  - a. Open the control panel by clicking on **Start**, then **Settings**, then **Control Panel**
  - b. Select **Add or Remove Programs** (on XP) or **Programs and Features** (on Vista and Windows 7/8).
  - c. From the list of programs you see, remove/uninstall any occurrences of **Java/J2SE Runtime Environment**, **Java SDK**, or **Java Update**. Note that the exact program name may be slightly different or include a version number, but you generally want to remove anything that includes the text: **Java/J2SE Runtime Environment**, **Java SDK**, or **Java Update**. To remove a program, click on the program name to highlight it and click the **Remove** button (XP) or the **Uninstall** button (Vista, Windows 7/8), or right-click on the program name and pick the **Uninstall** option.
2. **Download and install the JRE from the CS 106A website.**
  - a. You can obtain a copy of the Java JRE from the CS 106A website: <http://cs106a.stanford.edu>. Click on the **Software** link (on the left-hand side of the page). Go to the section entitled “Installing Eclipse in Windows” and go down to Step 2. There you will see two links (for the **32 bit version** or **64 bit version**) of the JRE. You should click the version appropriate for your version of Windows. If you don’t know which version of Windows you have, you can just install the **32 bit version**.

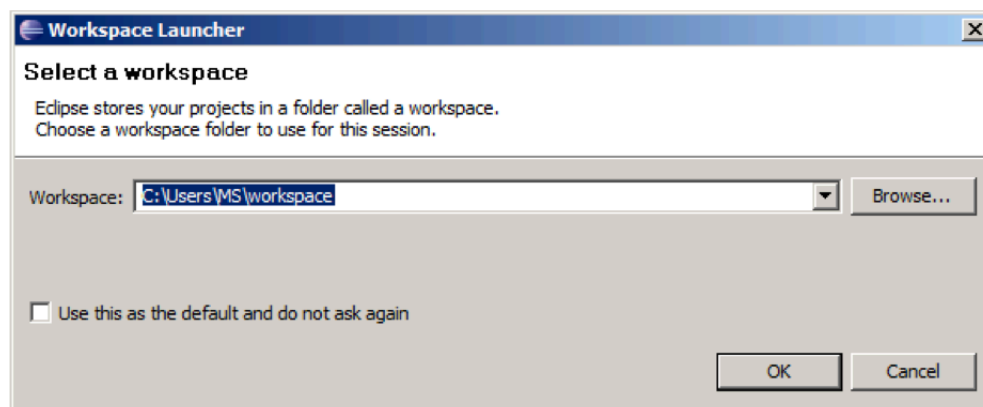
After clicking this link a prompt will likely appear to ask you whether you want to **Run** or **Save** the file. Click **Run** to begin the download and installation process. If you did not get a prompt to run the file after the download completed, you should double-click the file you downloaded to run it manually. If a subsequent security warning dialog box appears, click **Run** (or **Yes**) to continue with the installation.

The Java JRE installation program should begin. Do a **Typical** installation, and follow the rest of the instructions given in order to complete your installation.

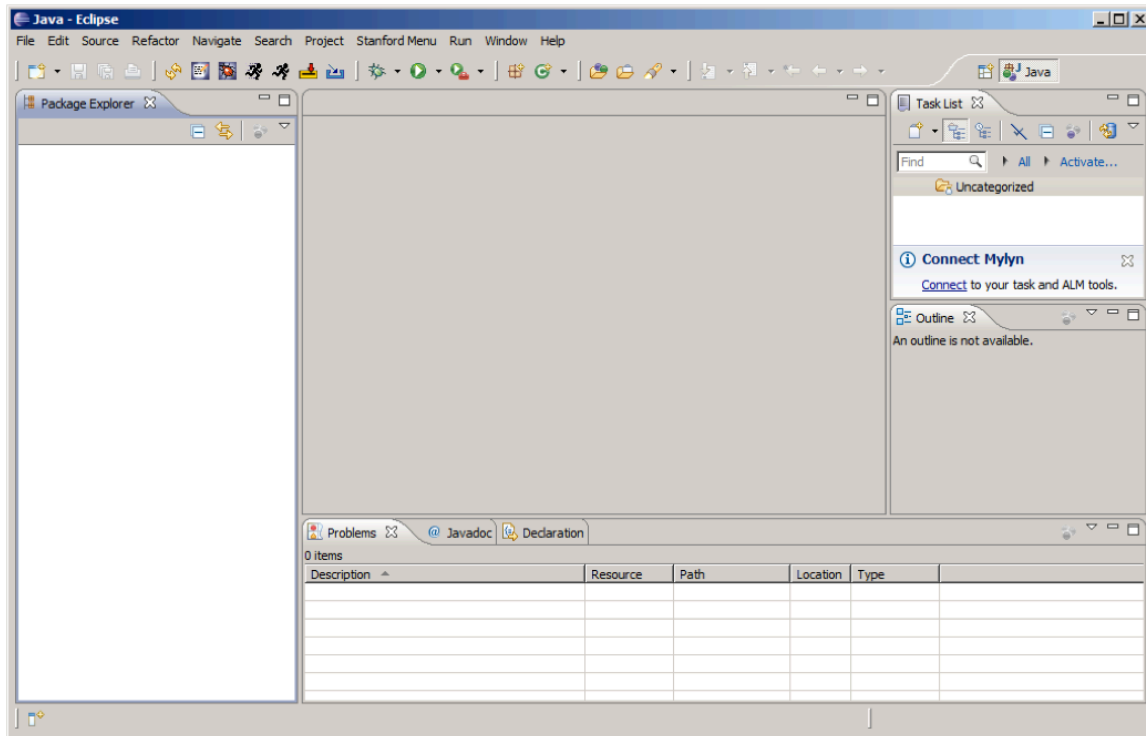
3. **Download Eclipse from the CS 106A website.** If you've followed step 2, you should be on the **Software** page of the CS 106A website. In the section entitled "Installing Eclipse in Windows," go to Step 3. There you will see two links (for the **32 bit version** or **64 bit version**) of the Eclipse. You should click the version appropriate for your version of Windows (which should be the same as the version you clicked on for the JRE in step 2 above). Save the file to somewhere on your hard drive. This may take a little while as the file being downloaded is rather large. **Important note:** make sure to get the version of Eclipse the from CS 106A website. If you have an existing version of Eclipse installed on your machine, it will not function properly, and you should download the CS 106A version.
4. **Install Eclipse.** Unzip/extract the contents of the file by right-clicking on the folder you just downloaded (which is named **eclipse-windows.zip** or **eclipse-windows64.zip**), selecting the **Extract All** option and typing **C:\Program Files\Eclipse** as the location to extract the files to. Note that you may need to create a new folder located at **C:\Program Files\Eclipse** *prior* to performing the unzip/extract. Then continue following the steps in the extraction process. (Note: if your version of Windows does not have built-in support for unzipping/extracting programs, you can obtain a program to unzip/extract files at <http://www.7-zip.org>.)
5. **Create a shortcut.** After extracting Eclipse, you can then create a shortcut for easy access to the program.
  - a. Open the **C:\Program Files\Eclipse\eclipse** directory
  - b. Right-click and drag the **eclipse.exe** file (i.e., the Eclipse application) to your desktop and then select the option **Create shortcut here**

## Running Eclipse

At this point you should have Eclipse installed and working on your computer. When you run eclipse for the first time, you may get a screen that looks like this:



A workspace is just a directory that Eclipse will use to place new projects in. In 106A you won't have to make any new projects from scratch. We always give you skeleton projects for your assignments, so you don't need to worry about where the workspace is. The suggested location is fine. Click the **Use this as the default and do not ask again** checkbox, and then click **OK**. Once you do, Eclipse will start running and—after what may seem like a relatively long time—bring up the following screen (it may look slightly different on the Mac):



The layout of the screen—which the Eclipse designers decided to call a *perspective*—corresponds to the Stanford Editor perspective, which is where you will want to start editing your programs. Because Eclipse is a professional tool, it contains many advanced features that only get in the way in an introductory course. The purpose of the Stanford Editor perspective is to hide all the scary-looking features that you don't need. If you ever find yourself in a perspective that seems confusing, click on **Stanford** in the menu bar and then select **Switch to Editor**. You can also click on the **Switch to Editor** button from the main toolbar, which looks like this:



Once you have Eclipse loaded, your next step is usually to create a new project in your workspace by importing a skeletal framework that we provide called a *starter project*. Using starter projects make your life much easier by allowing you to ignore the many details involved in creating a project from scratch. Every assignment will include a starter project for each problem, and your first task will be to download the starter project from the class website and then to import it into your workspace. The details for doing so are described in Handout #7 (Using Karel with Eclipse).