

Scala from Home on Mac and Unix

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1 Introduction

This guide is for installing Java and Scala on Mac and Unix, first for the command line, and then in the Eclipse IDE. If you have any questions, feel free to email the TA list, or come to TA hours.

2 Java

Before you do anything else, you need to install Java on your computer.

On Mac, open Java Preferences from Spotlight: if Java is not installed, this should prompt you to install it.

Given the diversity of Unix distributions, we will leave the installation of Java up to you to figure out. However, if you need help, you are welcome to email the TA list or come to hours.

3 Step-by-Step guide

1. Goto <http://scala-lang.org/downloads> and download the most recent file for Mac, at this time of writing this is scala-2.10.4.tgz
2. Extract the .tgz file to `/usr/local/share/scala`. This can be done with a graphical program such as 7-Zip¹ or from the command line. Because you are extracting to a shared directory, you will need to execute these commands using `sudo`, which allows you to execute commands

¹<http://www.7-zip.org/>

as the administrator on your computer. It will prompt for your password, and will not print any characters as you type it: just press enter!

If scala is in your Downloads, you can use the following set of commands. A couple of notes:

- (a) Mac OSX seems to automatically turn the `.tgz` into a `.tar`. If this happens, just replace any reference below of `.tgz` to `.tar`.
- (b) It is important to `cd` into `/usr/local/share` because when you unzip the tar using `tar`, it will extract into the current directory.
- (c) The last command will delete the zipped file that you have just downloaded: you may want to wait until you finish these instructions and have confirm that everything is working before doing this.

```
sudo mkdir -p /usr/local/share/  
sudo cd /usr/local/share/  
sudo mv ~/Downloads/scala-2.10.4.tgz ./  
sudo tar xf scala-2.10.4.tgz  
sudo rm scala-2.10.4.tgz
```

- 3. Note that you can really install scala wherever you want, this is simply the canonical location. If you have elected put it somewhere else, you simply need to change the filepath in the following instructions.
- 4. Now that Scala is installed, you need to add it to your `$PATH` so that your terminal knows where it is when you type in `scala`! To do this, you need to edit either the `~/.profile` file if you are on Unix, or the `~/.bash_profile` file if on Mac. Because these are hidden system files that may be difficult to find using a normal text editor, we suggest using `vim`. Type `vim <filename>`, where `<filename>` is either `~/.bash_profile` or `.profile` as described above. If the file does not exist, this will automatically create it. Now, type the letter `a`. This puts you in insert mode in vim, and allows you to move the cursor with the arrow keys, and insert text just as in conventional text editors.
- 5. Inside this file, find the line that looks something like this:
`export PATH=stuffhere:$PATH`
Change this line to read:
`export PATH=stuffhere:$PATH:/usr/local/share/scala-2.10.4/bin`
- 6. If that line did not exist, add following line at the bottom of the file:
`export PATH=$PATH:/usr/local/share/scala-2.10.4/bin`
- 7. To save and quit this file type (in sequence) `<Escape>:wq` (the escape button, colon, w, q) and press enter.
- 8. Restart your terminal. You should now be able to run `scala` to enter the REPL or interpret `.scala` files!

4 Eclipse

There is also a Scala IDE plugin for Eclipse. If you already have Eclipse installed, you can skip to the next section.

1. Go to <http://eclipse.org/downloads> and download Eclipse Classic. You can download either 32 or 64 bit. Utilize whichever one matches your computer. Note that Eclipse depends on Java, so your version of Eclipse (32 or 64 bit) needs to match the version of Java you have. Once you click on a link it will take you to a list of mirrors. Mirrors are locations that host the file for eclipse.org so it doesn't have everyone downloading from it at once. Generally, you can download from the link the website recommends which will be next to the green arrow.
2. Unzip the zip file you just downloaded into a folder of your choice. You can put it into your user's home folder, but other places work as well. To launch Eclipse, double click the Eclipse icon.
3. (Optional) Drag the Eclipse icon to your dock so you'll be able to open Eclipse more easily.

5 Installing Scala in Eclipse

In CS 18, we will be using the Scala IDE Eclipse Plugin to simplify coding in Scala. The following instructions should help you install and configure Scala IDE. They are based on a video at scala-ide.org/download/current.html, which you can also refer to for reference. Note that the URL mentioned in the video is not necessarily the one you want (see below).

5.1 Requirements

For scala 2.10, use the ScalaIDE version appropriate to your version of Eclipse. If you have Eclipse 3.7 (Indigo), you will need to install the Scala IDE version 3.0.1. If you have Eclipse 3.8/4.2 (Juno) or Eclipse 4.3 (Kepler), you will be installing Scala IDE version 3.0.2. All versions will require the JDK 6 or JDK 7.

Older versions of the Eclipse IDE are not currently supported by ScalaIDE (and support for Eclipse 3.7 has been dropped as of version 3.0.1), but can still be used.

1. Because Scala IDE is a plugin for Eclipse, you can install it through Eclipse. To start this process, go to Help and select "Install New Software...".
2. The popup window has a field "Work With:". The entry for this depends on the version of Eclipse you are running (featured prominently on the eclipse startup box, also available from Help → About Eclipse). Copy the URL below for the appropriate version:
 - Juno/Kepler: <http://download.scala-ide.org/sdk/helium/e38/scala210/stable/site>
 - Indigo: <http://download.scala-ide.org/sdk/helium/e37/scala210/stable/site>
3. Once the URL is entered, just hit Return and wait a few seconds. You should get a list of various plugins. Select "Scala IDE for Eclipse", hit next, and follow the instructions to install this plugin.

4. To switch to the Scala perspective, click the button in the top-right corner of eclipse next to the selected button that says “Java”. From there, you can select the Scala perspective, and from now on a “Scala” button will be present next to the Java one.

6 Creating Scala Projects in Eclipse

To create a Scala project in Eclipse, click on the button in the upper left portion of the screen with the plus. Go to “Scala Wizards” select Scala Project, and hit “Next”. Name your project whatever you want (we suggest `scalaproject`, and then finish creating the project. From now on, creating new packages for each assignment, and classes will be as explained in lab.

Please let us know if you find any mistakes, inconsistencies, or confusing language in this or any other CS18 document by filling out the anonymous feedback form:

<http://cs.brown.edu/courses/cs018/feedback>.