



Freshman Instruction

This instruction will tell you what tools you need to install on Mac before your coding work and will list each step to tell you how to install them. Generally, you need install seven tools: hombrew, git, maven, Cassandra, cucumber, Protocol Buffer and Eclipse.

If you still have questions or problems, please feel free to ask your teammates and all of them are nice guys and are willing to helping you. Now, let us begin.

1. Install Hombrew

Homebrew is a free/open source software package management system that simplifies the installation of software on the Mac OS X operating system.

A. Go to the website “**brew.sh**”;

B. Go to the end of the web page and copy the command line to the Mac terminal prompt;



Now, you have finished the installation of homebrew. It is very simple.

2. Install git

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. The website “**git-scm.com**” is really good for you to learn git, which has git introduction, documents and download, etc. We use homebrew to install git, which only needs one step.

A. In the terminal, run this command: “`$brew install git`”.

B. Git is installed in `/usr/local/Cellar/git/`. Now, you have finished the installation of git. And you can run this command “`$brew list`” to find which tools you have installed and “`$brew list git`” to find the path.

C. There is an interesting game to be familiar with git. You need install it on your Mac and play it. Follow the link: <https://github.com/Gazler/githug>

3. Install Cassandra

Before installation, the links below are useful for you to learn about what Cassandra database is.

<http://www.ebaytechblog.com/2012/07/16/cassandra-data-modeling-best-practices-part-1/#.VFA3yYd6y6U>

<http://www.ebaytechblog.com/2012/08/14/cassandra-data-modeling-best-practices-part-2/#.VFA3yYd6y6U>

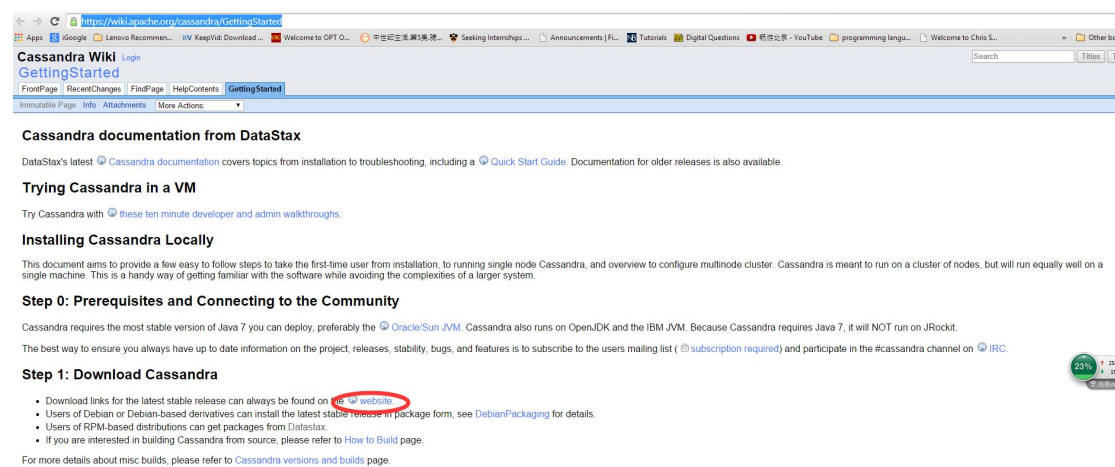
The link below is the step-by-step guide to install Cassandra.

<https://confluence.fuhu.org/display/SDBP/How+to+set+up+Cassandra+on+a+Mac?src=search>

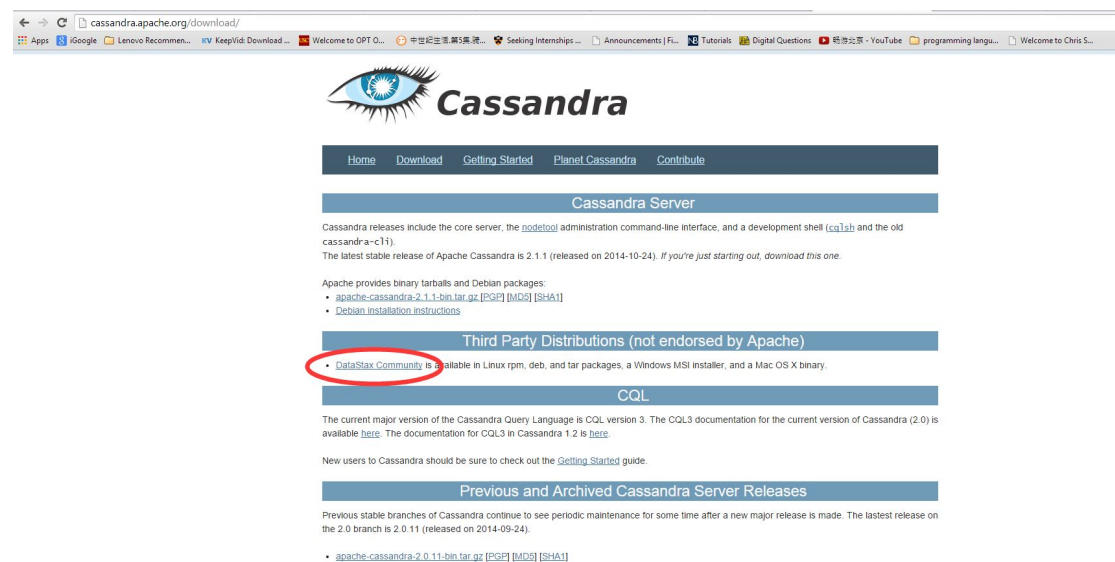
There are two ways. We recommend the first method that installs Cassandra manually. Even though the second way is faster and easier, that method will install the newest version Cassandra that can not work with our system. Let us follow the guide to install Cassandra.

A. Go to website “<https://wiki.apache.org/cassandra/GettingStarted>”;

B. Click the “website” download link;



C. Click “DataStax Community”;



D. Install 2.0.11 version;

The screenshot shows the Planet Cassandra website. The main heading is "Download DataStax Community Edition — Apache Cassandra". Below this, it states "Apache Cassandra is completely free to download, use and share!". There are links for "New to Cassandra?" and "Already a user in production?". A section titled "DataStax Community Edition Consists of Several Components!" lists four items. The "Downloads" section contains a table with columns for operating systems and versions. The table has three main columns: "v2.0.11 (Stable & Recommended)", "v2.1.1 (Latest Development Release)", and "v1.2.19 (Archive)". The rows are "Unix & Mac OS X 10.x", "Windows Server 2008 / Windows 7 (32-Bit)", and "Windows Server 2008 / Windows 7 (64-Bit)". The "v2.0.11" column is circled in red, and the "Tarball 2.0.11" link is highlighted. To the right of the table is a box for "DataStax Enterprise 4.5".

	v2.0.11 (Stable & Recommended)	v2.1.1 (Latest Development Release)	v1.2.19 (Archive)
Unix & Mac OS X 10.x	Tarball 2.0.11	Tarball 2.1.1	Tarball 1.2.19
Windows Server 2008 / Windows 7 (32-Bit)	MSI Installer (32 Bit) 2.0.11	MSI Installer (32 Bit) 2.1.1	MSI Installer (32 Bit) 1.2.19
Windows Server 2008 / Windows 7 (64-Bit)	MSI Installer (64 Bit) 2.0.11	MSI Installer (64 Bit) 2.1.1	MSI Installer (64 Bit) 1.2.19

E. Unzip and put it somewhere on your local drive;

F. Modify your PATH to point to that installation folder. You need modify the .bash_profile to add path. In terminal, run these commands:

- “\$vi .bash_profile”(open and edit .bash_profile file);
- Insert “export PATH=\${PATH}:/Users/username/dsc-cassandra-2.0.11/bin”

G. To start, run this command: “\$sudo bin/cassandra -f”

H. To run cqlsh, run this command: “\$cqlsh” or bin/cqlsh

4. Install maven

The link below is the video to teach how to install maven step-by-step. It is very clear.

<https://www.youtube.com/watch?v=ghlvOYDs0BM>

The screenshot shows the Maven installation instructions for Unix-based operating systems (Linux, Solaris and Mac OS X). The instructions are numbered 1 through 7. Step 4 is highlighted in red, and step 6 is also highlighted in red. The instructions are as follows:

1. Extract the distribution archive, i.e. `apache-maven-3.2.3-bin.tar.gz` to the directory you wish to install Maven 3.2.3. These instructions assume you chose `/usr/local/apache-maven`. The subdirectory `apache-maven-3.2.3` will be created from the archive.
2. In a command terminal, add the `MAVEN_HOME` environment variable, e.g. `export MAVEN_HOME=/usr/local/apache-maven/apache-maven-3.2.3`.
3. Add the `PATH` environment variable, e.g. `export PATH=$PATH:$MAVEN_HOME/bin`.
4. **Optional:** Add the `MAVEN_OPTS` environment variable to specify JVM properties, e.g. `export MAVEN_OPTS="-Xms256m -Xmx512m"`. This environment variable can be used to supply extra options to Maven.
5. Add `MAVEN_OPTS` environment variable to your path, e.g. `export PATH=$PATH:$MAVEN_HOME/bin`.
6. **Make sure that `JAVA_HOME` is set to the location of your JDK, e.g. `export JAVA_HOME=/usr/java/jdk1.7.0_51` and that `$JAVA_HOME/bin` is in your `PATH` environment variable.**
7. Run `mvn --version` to verify that it is correctly installed.

You need to set JAVA_HOME in .bash_profile. Follow these commands:

- “\$vi .bash_profile”
- Insert “export JAVA_HOME=\$(/usr/libexec/java_home)”

5. Learn Protocol Buffer and Install Protocol Buffer

Follow the link: <https://developers.google.com/protocol-buffers/>

This tutorial includes everything you need.

6. Install Cucumber

Follow the link: <https://www.youtube.com/watch?v=pD4B839qfos>

7. Install Eclipse

I do not need say anything about that, right?