



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>

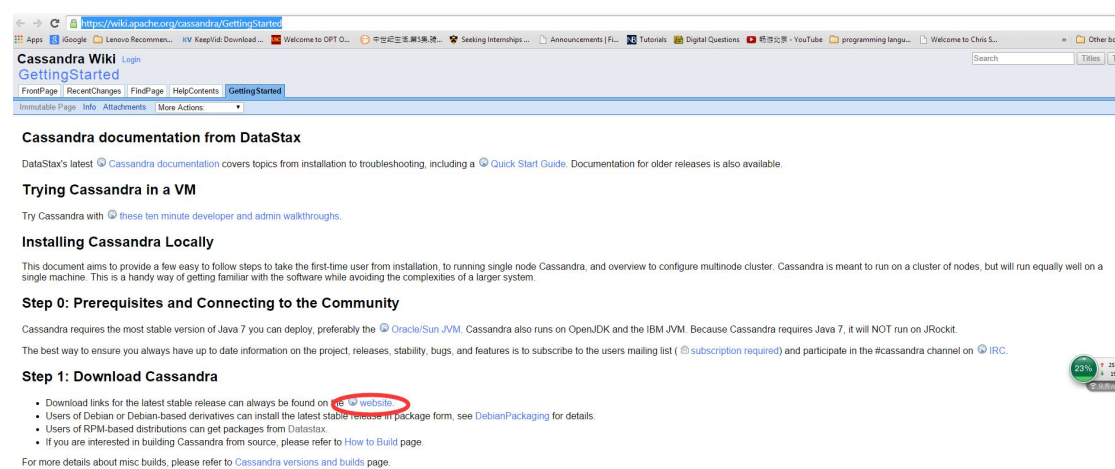
The link below is the step-by-step guide to install Cassandra.

<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;



Cassandra Wiki Login

Getting Started

FrontPage RecentChanges FindPage HelpContents Getting Started

Immutable Page Info Attachments More Actions

Cassandra documentation from DataStax

DataStax's latest [Cassandra documentation](#) covers topics from installation to troubleshooting, including a [Quick Start Guide](#). Documentation for older releases is also available.

Trying Cassandra in a VM

Try Cassandra with [these ten minute developer and admin walkthroughs](#).

Installing Cassandra Locally

This document aims to provide a few easy to follow steps to take the first-time user from installation, to running single node Cassandra, and overview to configure multinode cluster. Cassandra is meant to run on a cluster of nodes, but will run equally well on a single machine. This is a handy way of getting familiar with the software while avoiding the complexities of a larger system.

Step 0: Prerequisites and Connecting to the Community

Cassandra requires the most stable version of Java 7 you can deploy, preferably the [Oracle/Sun JVM](#). Cassandra also runs on OpenJDK and the IBM JVM. Because Cassandra requires Java 7, it will NOT run on JRockit.

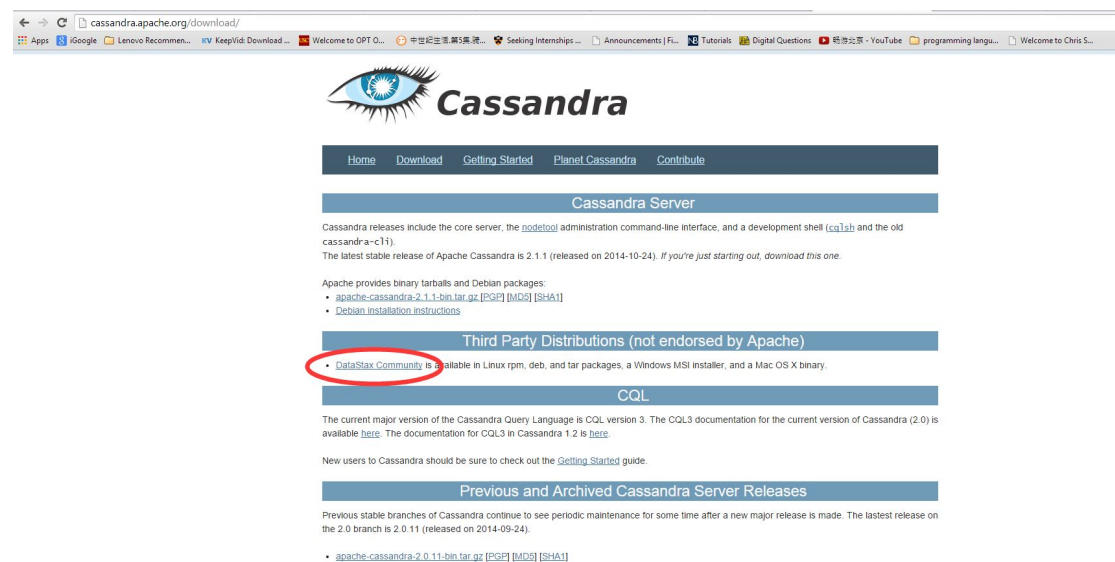
The best way to ensure you always have up to date information on the project, releases, stability, bugs, and features is to subscribe to the users mailing list ([subscription required](#)) and participate in the #cassandra channel on [IRC](#).

Step 1: Download Cassandra

- Download links for the latest stable release can always be found on [the website](#)
- Users of Debian or Debian-based derivatives can install the latest stable release in package form, see [DebianPackaging](#) for details.
- Users of RPM-based distributions can get packages from [DataStax](#).
- If you are interested in building Cassandra from source, please refer to [How to Build](#) page.

For more details about misc builds, please refer to [Cassandra versions and builds](#) page.

C. Click “DataStax Community”;



Cassandra

Home Download Getting Started Planet Cassandra Contribute

Cassandra Server

Cassandra releases include the core server, the [nodetool](#) administration command-line interface, and a development shell ([cqlsh](#)) and the old [cassandra-c11](#).

The latest stable release of Apache Cassandra is 2.1.1 (released on 2014-10-24). If you're just starting out, download this one.

Apache provides binary tarballs and Debian packages:

- [apache-cassandra-2.1.1-bin.tar.gz](#) [PGP] [MD5] [SHA1]
- [Debian installation instructions](#)

Third Party Distributions (not endorsed by Apache)

- [DataStax Community](#) is available in Linux rpm, deb, and tar packages, a Windows MSI installer, and a Mac OS X binary.

CQL

The current major version of the Cassandra Query Language is CQL version 3. The CQL3 documentation for the current version of Cassandra (2.0) is available [here](#). The documentation for CQL3 in Cassandra 1.2 is [here](#).

New users to Cassandra should be sure to check out the [Getting Started](#) guide.

Previous and Archived Cassandra Server Releases

Previous stable branches of Cassandra continue to see periodic maintenance for some time after a new major release is made. The latest release on the 2.0 branch is 2.0.11 (released on 2014-09-24).

- [apache-cassandra-2.0.11-bin.tar.gz](#) [PGP] [MD5] [SHA1]

D. Install 2.0.11 version;

The screenshot shows the Planet Cassandra website. The main navigation bar includes links for TRY CASSANDRA, DOWNLOADS, EDUCATION, DOCUMENTATION, and BLOG. Below this, there are links for DOWNLOAD APACHE CASSANDRA, OPSCENTER, DEVCENTER, CLIENT DRIVERS, RELATED PROJECTS, and FREEBIES. A search bar is also present. The page is titled "Download DataStax Community Edition — Apache Cassandra". It states that Apache Cassandra is completely free to download, use, and share. It mentions that DataStax Community Edition is a free packaged distribution of Apache CassandraTM made available by DataStax. There's a link to a 10-minute walkthrough for developers and administrators. It also mentions that already a user in production, consider sharing your use case with the Planet Cassandra community. The page lists the components of DataStax Community Edition: 1. The "Most Stable and Recommended" or "Latest Development Release" Apache Cassandra, 2. DataStax OpsCenter (Included in the Windows .MSI installer packages; click here to download & setup in other environments), 3. Sample Application and Demo Database, 4. Smart Installers for Linux, Windows, and Mac. The Downloads section features a table with columns for the operating system, the version (v2.0.11, v2.1.1, v1.2.19), and the download type (Tarball, MSI Installer). The v2.0.11 version is highlighted as the stable and recommended version. The table also includes a section for DataStax Enterprise 4.5 (Production Certified Apache Cassandra v2.0.10), which provides production certified Apache Cassandra, integrated analytics, powered by Apache Solr, in-memory capabilities and advanced security. DataStax Enterprise is free to use in development environments; to use it in production, you will need to purchase a license.

	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

DataStax Enterprise 4.5
(Production Certified Apache Cassandra v2.0.10)

DataStax Enterprise provides production certified Apache Cassandra, integrated analytics, powered by Apache Solr, in-memory capabilities and advanced security.

DataStax Enterprise is free to use in development environments; to use it in production, you will need to purchase a license.

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

I. Rebuild Cassandra, run these commands in bash:

- \$cd bluemorphoserver
- \$cd bluemorphoserver-db
- \$cd migration
- \$cd cassandra
- \$cd DatabaseChanges
- \$bash rebuild_import_database.sh local cassandra cassandra localhost

Now, you have finished the installation and setting up of Cassandra.

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 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. Step 2: In a command terminal, add the H2_HOME environment variable, e.g. export H2_HOME=/usr/local/apache-maven/apache-maven-3.2.3. Step 3: Add the H2 environment variable, e.g. export H2_HOME=/bin. Step 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. Step 5: Add H2 environment variable to your path, e.g. export PATH=\$H2_HOME:\$PATH. Step 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. Step 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?