

# Rave installation instructions

## Obtaining the source

Download the rave source from <http://www.hepforge.org/downloads/rave>.

Some basic instructions can also be found at <http://projects.hepforge.org/rave/trac/wiki/UserGuide>.

```
svn co http://svn.hepforge.org/rave/trunk rave_svn
```

Download the org.lcsim plugin from <http://websvn.teilchen.at/listing.php?repname=lcsimrave&path=%2F&sc=0>. You may have to download some of the files individually.



### Setup

The following assumes that your current shell is bash. If you are uncertain whether this is the case, type `bash` at the command prompt.

## Building Rave at SLAC

You will need autotools to build Rave from source. The installation was successfully tested with

- m4 (GNU M4) 1.4.9
- libtool (GNU libtool) 1.5.22
- autoconf (GNU Autoconf) 2.61
- automake (GNU automake) 1.10

At SLAC these are already set up for you. Simply

```
source /nfs/slac/g/lcd/mc/prj/scripts/setup-autotools.sh
```

Now change to the rave source directory.

```
cd rave_svn
```

If you don't have a configure script inside `rave_svn`, you will now have to type

```
./bootstrap
```

Configure the package to install to a custom location, and to pick up the right versions of CLHEP and BOOST.

At SLAC you should use the following setup to build with Java bindings.

```
source /nfs/slac/g/lcd/mc/prj/scripts/setup-java.sh
source /nfs/slac/g/lcd/mc/prj/scripts/setup-swig.sh
./configure --with-boost=/nfs/slac/g/lcd/mc/prj/sw/extern/boost/v1-33-1 \
--with-clhep=/nfs/slac/g/lcd/mc/prj/sw/extern/clhep/2.0.3.0 \
--with-clhep_matrix-libpath=/nfs/slac/g/lcd/mc/prj/sw/extern/clhep/2.0.3.0/lib \
--with-clhep_vector-libpath=/nfs/slac/g/lcd/mc/prj/sw/extern/clhep/2.0.3.0/lib \
--prefix=<installation-dir>
```

If you don't want Java bindings, you can use this instead

```
./configure --with-boost=/nfs/slac/g/lcd/mc/prj/sw/extern/boost/v1-33-1 \
--with-clhep=/nfs/slac/g/lcd/mc/prj/sw/extern/clhep/2.0.3.0 \
--with-clhep_matrix-libpath=/nfs/slac/g/lcd/mc/prj/sw/extern/clhep/2.0.3.0/lib \
--with-clhep_vector-libpath=/nfs/slac/g/lcd/mc/prj/sw/extern/clhep/2.0.3.0/lib \
--disable-java
--prefix=<installation-dir>
```

In either case, replace `<installation-dir>` with the path where you want to install Rave.

After configuration has finished you will get a status report which options Rave will be built with.  
Build and install the package with

```
make && make install
```

## Building Rave on Mac OS X

You will have to make sure that you have all the dependencies listed on the Rave web page installed on your system. These instructions assume that you have installed them using fink. If you have a different setup, please modify the paths accordingly.

Note that in order to install Java bindings, you will need a SWIG version that is newer than 1.3.20, which is currently distributed with fink. The installation was tested with SWIG 1.3.31.

You will also have to install LCIO. You can get it from <http://lcio.desy.de/>.

For the Java version, colt is needed. The code can be obtained from <http://dsd.lbl.gov/~hoschek/colt/>.



Currently, lcio.jar and colt.jar are part of the lcsimrave repository

After downloading rave, change into the source directory with `cd rave_svn` and build the configure script with `./bootstrap`.  
If you have all dependencies installed, the following will configure the package properly:

```
./configure --with-boost=/sw \  
            --prefix=/opt/RAVE \  
            --with-clhep_matrix-libpath=/sw/lib \  
            --with-clhep_vector-libpath=/sw/lib  
make && make install
```

This will install Rave into `/opt/Rave`, assuming you have write permissions to that directory.

Now you are ready to run the lcsim plugin for Rave.

The `compile_processor` script that is part of the plugin has to be modified to match your setup. Be sure to specify the correct locations for the `JAVAROOT`, `RAVEPREFIX`, `LCSIMRAVELIB` and `TESTLIB` variables.

After a quick `chmod u+x compile_processor`, you should be able to execute the test with `./compile_processor`