

Instructions on how to get CaTS running on MacOS (Lion 10.7)

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1. Make sure you have XCode. If not, download from Apple Store.

- Go to XCode/Preferences/Downloads and install Command Line Tools.

2. Get MacPorts (if not available).

- Download the source file (<https://distfiles.macports.org/MacPorts/>) and do untar in /opt/

- Run the command lines:

```
# cd MacPorts-2.1.1  
# ./configure --enable-readline  
# make  
# sudo make install
```

3. Make sure X11 is available under /Applications/Utilities. If not, download from AppStore.

4. Get ROOT.

- Create a root directory in /opt/.

- Download the latest source files from subversion:

```
# svn co http://root.cern.ch/svn/root/tags/v5-34-00 root-5.34.00
```

- Run the command lines:

```
# cd root-5.34.00  
# ./configure macosx  
# make
```

- Create a file /.profile where you add the following lines:

```
# export PATH=/opt/local/bin:/opt/local/sbin:$PATH  
# export ROOTSYS=/opt/root  
# export PATH="$PATH:$ROOTSYS/bin:"  
# export DYLD_LIBRARY_PATH="$ROOTSYS/lib"  
# source /opt/root/root-5.34.00/bin/thisroot.sh
```

- Run the command line:

```
# sudo port -v selfupdate
```

6. Install gccxml:

- Run the command lines in /opt/:

```
# sudo port install gccxml-devel
```

5. Install cmake (<http://www.cmake.org/cmake/resources/software.html>).

- a. Untar downloaded source files in /opt/
- b. Run the command lines:

```
# ./bootstrap  
# make  
# make install
```

6. Install XercesC library.

- a. Download Xerces tar file (<http://xerces.apache.org/xerces-c/download.cgi>).
- b. Untar file in ~/.
- c. Run the command lines:

```
# cd xerces-c-3.1.1/  
# ./configure  
# make  
# sudo make install
```

7. Install Geant4:

- a. Download the Geant4 tar file (<http://geant4.web.cern.ch/geant4/support/download.shtml>).
- b. Untar the file in ~/ directory
- c. Run the command lines:

```
# mkdir geant4.9.5.p01-build  
# cd geant4.9.5.p01-build  
# cmake -DCMAKE_INSTALL_PREFIX=/Users/<username here>/geant4.9.5.p01-  
install -DGEANT4_USE_GDML=ON -DGEANT4_INSTALL_EXAMPLES=ON -  
DGEANT4_INSTALL_DATA=ON -DGEANT4_USE_OPENGL_X11=ON /Users/<username here>/  
geant4.9.5.p01  
# make -j 4  
# make install
```

- d. Add the following lines to /.profile:

```
#!/Users/<username here>/geant4.9.5.p01-install/bin/geant4.sh  
# . /Users/<username here>/geant4.9.5.p01-install/share/Geant4-9.5.1/  
geant4make/geant4make.sh
```

8. Install CaTS:

- a. Get CaTS source files by running the command lines :

```
# export CVSROOT=:pserver:anonymous@cdcvs.fnal.gov:/cvs/ilcdet  
# cvs login (password = ilcdet)
```

```
# cvs co CaTS
```

b. Open the README file in /CaTS

c. Create a new directory in ~ named CaTS-build and go there to run:

```
# cmake -DCMAKE_MODULE_PATH=/Users/<username here>/geant4.9.5.p01/
```

```
cmake/Modules -DGeant4_DIR=/Users/<username here>/geant4.9.5.p01-install/lib/
```

```
Geant4-9.5.1 ..../CaTS
```

```
# make
```

```
# cp ..../CaTS/pythia_event.data
```

```
# cp ..../CaTS/vis.mac
```

```
# cp ..../CaTS/electron.mac
```