

Steps to set up mpich, hdf5, & Chombo

Aref Hashemi

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1) apt-get install X

$X \equiv$ gfortran, gnuplot, doxygen, graphviz, libblas-dev, liblapack-dev, libgtk2.0-dev, tcl, tcl-dev, m4, csh, subversion.

2) source. autoconf, automake, libtool

- ./configure --prefix=/usr/local
- make
- sudo make install

3) mpich

- ./configure --prefix=/usr/local/PROG/mpich
- make
- sudo make install. Disregard the possible warnings about the libraries.

4) hdf5-serial

- ./configure --prefix=/usr/local/PROG/hdf5-serial --enable-fortran
- make
- make check
- sudo make install

5) hdf5-parallel

- CC=/usr/local/PROG/mpich/bin/mpicc ./configure --prefix=/usr/local/PROG/hdf5-parallel --enable-fortran --enable-parallel
- make
- make check
- sudo make install.

6) Add the bashrcadd content to the end of the ~/.bashrc file.

7) Chombo

- register in [Chombo Download Page](#) to get USERNAME & PASSWORD
- svn --username USERNAME co https://anag-repo.lbl.gov/svn/Chombo/release/{ver} {Directory-PATH-to-Chombo}. See [Download Instructions](#) for more information.
e.g., for Chombo version 3.2, USERNAME=rfjd, download directory /home/rfjd/Chombo:
svn --username rfjd co https://anag-repo.lbl.gov/svn/Chombo/release/3.2 /home/rfjd/Chombo/
- copy the file Make.defs.local into {Directory-PATH-to-Chombo}/lib/mk

- `cd {Directory-PATH-to-Chombo}/lib`
- `make lib`
- `make doxygen`. Chombo documentation and info can be found in `{Directory-PATH-to-Chombo}/lib/doc/doxygen/html/index.html` using your web browser.
- To run the released examples, go to the corresponding directory, `make all`, `mpiexec ./X.ex` inputs. You will be able to open *.hdf5 files using visit if `DIM = 2` or `3` in `Make.defs.local`.

8) visit

- download the visit install script (`visit_installX_Y_Z`, where X.Y.Z is the version) and platform from the [official download page](#).
- `chmod +x visit-installX_Y_Z`
- `./visit-installX_Y_Z X.Y.Z platform /usr/local/visit`
e.g., for linux-x86_64-ubuntu20 (platform) and version 3.1.4:
`./visit-install3_1_4 3.1.4 linux-x86_64-ubuntu20 /usr/local/visit`
- choose some number in the pop-up!
- add alias `visit='/usr/local/visit/bin/visit'` to the `.bashrc` file.
- typing 'visit' in a terminal brings up the software! You can then load the hdf5 files to view the Chombo results.

The above procedure was checked with Ubuntu 20.04 LTS, [autoconf-2.71](#), [automake-1.16.5](#), [libtool-2.4.7](#), [visit3_1_4.linux-x86_64-ubuntu20](#), [mpich-4.1.1](#), and [hdf5-1.14.0](#).