

Quick Start: Basic Seismic Utilities (BSU) Compiling BSU

These instructions are for compiling BSU from the TAR archive. On Linux, untar the archive, **bsu-3.0.1.tar.gz**, under either **/usr/local** or **/usr/local/src**. On MAC OSX might be better in your home directory since Homebrew uses **/usr/local**. For dependencies, I prefer Fink (installs under **/sw**) and Macport (installs under **/opt**).

DEPENDENCIES:

The configure script will help point out missing dependencies on your system. You will need the following:

- BLAS (Basic linear algebra)
- LAPACK (more linear algebra)
- GSL (GNU Scientific Library)
- GFORTRAN
- GCC (Gnu Compiler)
- GNUPLOT (Plotting package, sometimes piped to)
- PLPLOT (Plotting package, can configure without, relying only on Gnuplot)
- libshp (needed by plplot)
- Development packages for blas, lapack, gsl, plplot. These end with names like **-dev** (Debian) or **-devel** (Redhat).
- Mac OSX install XQuartz

See the User Guide for more specifics by operating system.

STEPS:

1. Change into the top level directory, **bsu-3.0.1**
2. Type the following commands:
 - **configure** <options as needed>
 - **make**
 - **make install** (may need to do as root, **sudo make install**)
 - **sudo ldconfig**

CONFIGURE OPTIONS

These may change over time as upgrades occur in distributions.

- Debian 7
 - **configure --with-plplot-old --with-plplotlib**
 - **configure**
 - **configure --enable-all-static**
- Debian 8, Debian 9, Xubuntu16.4, Mint 17.3 and 18.4
 - **configure --with-plplotlib**
 - **configure**
 - **configure --enable-all-static**
- Slackware (see User Guide for notes)
 - **configure --with-plplotlib**
 - **configure**
 - **configure --enable-all-static**
- Arch Linux (see User Guide for notes)
 - **configure --with-plplotlib PKG_CONF_PATH=/usr/local/lib/pkgconfig**
 - **configure**
- Mac Book Pro (OSX) (see User Guide for notes)
 - **configure**

- CentOS 6
 - `configure --with-plplotlib --with-plplot-old`
 - `configure`
- CentOS 7
 - `configure --with-plplotlib`
 - `configure`
- OpenSuse (not recommended, some problems freezing system)
 - `configure --with-plplotlib`
 - `configure`
- Chrome Book (requires developer mode and Crouton)
 - `configure -with-plplotlib -with-plplot-old`
 - `configure`
- MacBook Pro (OSX 10.12.5)
 - `configure`
- Redhat Enterprise (see user guide notes, need to rebuild plplot)
 - `configure -with-plplotlib PKG_CONFIG_PATH=/usr/lib64/lib/pkgconfig`
- Microsoft Windows (8.1 or XP)
 - This is a cross-compile on a Linux system that has the Mingw32 tool chain installed. No `configure` command. Hardwired Makefiles.
 - `Make`
 - `make install`

There are useful tips in the user guide. For example, Redhat Enterprise includes a very old PLPLOT package, and that does not support Fortran 90 syntax. So you have to build PLPLOT from source using CMAKE to replace this old version with something more modern. It is worth the effort since PLPLOT graphics are faster than Gnuplot. There are also good tips on meeting dependencies on some of the linux distributions.

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