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request for comments, finding errors in the build, and using set -e

Ken Moffat <lfs-support@lists.linuxfromscratch.org>

Mon, May 9, 2022 at 7:54 AM

Reply-To: Ken Moffat <zarniwhoop@ntlworld.com>

To: Thomas Walker Lynch <lfs-support@lists.linuxfromscratch.org>

On Mon, May 09, 2022 at 03:04:16AM +0200, Thomas Walker Lynch wrote:

> A lot of stuff flies by in the transcript while building LFS, so I was
 > wondering how to better monitor the health of the build.
 >
 > I tried searching for 'error' in the build transcript. That is sort of OK,
 > but it is not perfect as the word appears in many contexts unrelated to a
 > part of the build failing. Also a command could fail with a message
 > without this keyword, or with no message at all.
 >

Yes indeed, and most of them are harmless. For CMMI packages, searching for Error: is useful (but more so in BLFS - and the meson and cmake packages can be a pain in the proverbial to find *what* broke - but at least they tell you it broke :)

For multicore builds, e.g. make -j8, on some machines and packages the install can fail with modern make unless you force make -j1 install - more a BLFS issue, e.g. gimp-help and asymptote git builds, but only on *some* machines.

> A method for stopping a script upon an error is to use set -e in the
 > shell. So I started the build with:
 >
 > > set -e
 > > export SHELLOPTS

I use set -e in my scripts without the export of SHELLOPTS (but with my own CFLAGS or CXXFLAGS when those are set - see my past notes on forcing optimizations / hardening flags) - and do not have a problem. But I've no idea what is in your SHELLOPTS.

Those notes are at <https://www.linuxfromscratch.org/~ken/tuning/> but it's some time since I did those, and for a first LFS build you should not be forcing your own CFLAGS, CXXFLAGS. When you have logs of how a package builds (for some, 'make -V' is ISTR needed) and a desire to optimize, or harden, your build you can then compare what results and decide in some cases (more BLFS than LFS) whether the aggravation is worthwhile or just give up trying to use your own flags (recent qtwebengine5).

>
 > Following the LFS 11 stable book, on a Debian 11 build, it did
 > indeed stop with an error on the very first build, though this
 > error seems to be normally ignored. Attached is a tar file with
 > full shell transcripts of the LFS 11 build up through the chapter
 > 5 binutils configure along with the configure log. It is shown
 > without the set -e, and with it. With the set -e, the configure
 > command itself returns a different exit code.
 >

I can't read that unless I download it and extract it (hint - if it is only the output from configure then why tar t up ?), but for *all* regular configure scripts some tests such as testing for

'gccn-V' *will* fail.

- > Any discussion and insights into the set -e behavior appreciated. Any
- > better understanding of the gcc -V >&5 line in the binutil configure log
- > appreciated (I don't think gcc has a capital V option does it? and
- > generally what is that digit 5 without a dash on the file redirect?)
- >
- > And generally what do you all do to check that the build was healthy?

The proof of the pudding is in the eating - after building LFS for more than 15 years, when I run testsuites in LFS I check for new failures (i.e. for packages where tests are known to fail I add '|| true' to my scripts, so more, or fewer, test failures will not be apparent.

The real test for me is "Does the new build (plus the extra things I need, such as nfs v3) work when I boot it ?". eo me, "work" means inter-alia - let me ssh to my server (so ssh is one of my extras), check the output there from smartmontools via fcrontab (more extras), at least on non-nvme drives, su to my other users, etc.

If the test for 'gcc -V' is what breaks your configure of binutils than I think your SHELLOPTS might be implicated.

Also, although I do use my own CFLAGS and CXXFLAGS in most builds, only omitting them on the one system where I measure builds for BLFS, I don't set them in the initial stages.

ken

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Ignorance is Strength

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