Build Subversion from sources for Linux RedHat, CentOS or Ubuntu, including svn 1.14

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How to build Subversion / SVN from Sources, on CentOS 8, CentOS 7 or Ubuntu 18 / 19, so you can use the latest subversion version. This how-to is based on this blog post: Building Subversion on Ubuntu 12.10 but over time some changes have been made.

NOTE: This how-to is OK for a subversion client OR updating the binaries of a subversion SERVER that does NOT use Apache or any other stuff. Since I'm only interested in `svn+ssh` protocol, it's fine for me. Anyway a subversion SERVER requires more setup if you want to use Apache, svn+ssh, etc. which is not the purpose of this document. You can check my notes on setup a subversion server for svn+ssh

CentOS 8 minimal: build SVN 1.14 from sources

Compilation tested on CentOS 8 (minimal install, NO stock subversion installed). Updated 2020-11-02

Pre-requisites:

```
yum -y install epel-release
```

```
yum install net-tools bind-utils nano wget perl mlocate mailx crontabs
cronie rsync openssh-server unzip perl-libwww-perl yum-utils curl psmisc git
cpan colordiff pwgen bc perl-LWP-Protocol-https gcc libevent libevent-devel
zlib zlib-devel bzip2-devel openssl-devel pcre pcre-devel libmcrypt
libmcrypt-devel libjpeg-turbo-utils optipng zlib-devel libuuid-devel gcc
make git autoconf automake pkgconfig utf8proc apr apr-devel apr-util apr-
util-devel libtool boost python2
```

As non-root user:

```
cd ~; mkdir src; cd src
wget https://apache.brunneis.com/subversion/subversion-1.14.0.tar.gz
tar xzf subversion-1.14.0.tar.gz
cd subversion-1.14.0
```

```
./get-deps.sh
```

We have `python` executable as `python2`:

```
$ python2 --version
Python 2.7.17
```

Now, to avoid error: `/usr/bin/env: ‘python’: No such file or directory` when doing `autogen`:

```
$ sudo alternatives --set python /usr/bin/python2
```

```
$ python --version
Python 2.7.17
```

Under CentOS 8 we must set this env. variable:

```
$ export LIBTOOL_M4=/usr/share/aclocal
```

Next, autogen:

```
$ ./autogen.sh
[...]
You can run ./configure now.
[...]
```

Configure...

```
$ ./configure --with-lz4=internal --with-utf8proc=internal
[...]
config.status: executing svn_private_config.h.tmp commands
```

And make:

```
$ make
```

To check we pass all tests:

```
$ make check
```

Finally install:

```
$ sudo make install
```

We should have svn client there:

```
$ svn --version --quiet
1.14.0
```

CentOS 7 minimal: compiling SVN 1.14 from sources

Compilation tested on CentOS 7 (minimal install, NO stock subversion installed). Updated 2020-11-02

Subversion build: success as normal user (no root), under `/home/user/src`

Pre-requisites (and some other tools I like)

```
sudo yum install net-tools bind-utils nano
sudo yum install net-tools wget nano perl mlocate mailx bind-utils crontabs
cronie rsync openssh-server unzip perl-libwww-perl yum-utils deltarpm curl
psmisc git cpan colorize colordiff pwgen bc
sudo yum install epel-release
sudo yum install cpan colorize colordiff pwgen perl-LWP-Protocol-https
sudo yum install gcc libevent libevent-devel zlib zlib-devel bzip2-devel
gamin-devel lua lua-devel openssl-devel pcre pcre-devel pcre-static
libmcrypt libmcrypt-devel
sudo yum install libjpeg-turbo-utils optipng gifsicle
sudo yum install zlib-devel libuuid-devel gcc make git autoconf autogen
automake pkgconfig
sudo yum install utf8proc utf8proc-devel apr apr-devel apr-util apr-util-
devel libtool
```

Installing subversion from sources:

```
$ cd ~; mkdir src; cd src
$ wget http://ftp.cixug.es/apache/subversion/subversion-1.14.0.tar.gz
$ tar xzf subversion-1.14.0
$ cd subversion-1.14.0
$ ./get-deps.sh
```

Now, since SVN 1.14.x, we need to make install newer APR tools (stock CentOS 7 version for APR is 1.5 which is old):

```
$ cd apr/; ./buildconf; ./configure; make; sudo make install
$ cd ../apr-util; ./buildconf; ./configure --with-apr=../apr; make; sudo
make install
$ cd ../apr-util/xml/expat/; ./buildconf.sh; ./configure; make; sudo make
install; cd ../../..
```

Make sure you do this on CentOS:

```
$ export LIBTOOL_M4=/usr/share/aclocal
$ export LIBTOOL_CONFIG=/usr/share/libtool/config
```

Then `autogen` will work:

```
./autogen.sh
```

Now for svn 1.14 we need to tell configure where APR is:

```
$ ./configure --with-lz4=internal
$ ./configure --with-lz4=internal --with-apr=./apr --with-apr-util=./apr-
util
$ make
```

If you want peace of mind, run the tests:

```
$ make check
```

Install binaries:

```
$ sudo make install
```

Check version:

```
# svn --version --quiet
1.14.0
```

Also be sure to check the final notes at the page bottom, when you need to re-compile a newer version of SVN.

Ubuntu 19 server: Compiling and installing SVN from sources

Tested on Ubuntu 19 Server (minimal install, NO stock subversion previously installed)

Subversion build: success as a normal user, in `/home/user/src`

Pre-requisites on Ubuntu 18

```
# apt-get install build-essential git libtool libtool-bin unzip libutf8proc1
libutf8proc-dev
```

Pre-requisites on Ubuntu 19 (libutf8proc1 is not needed anymore)

```
# apt-get install build-essential git libtool libtool-bin unzip
```

More pre-requisites:

- Enable (uncomment) the lines beginning with `deb-src` inside the file `/etc/apt/sources.list`
- Update the packages now with `sudo apt-get update`
- Get dependencies from the stock subversion (lazy & dirty) with `sudo apt-get build-dep`

```
    subversion
```

Download subversion sources:

```
# cd ~; mkdir src; cd src
# wget http://ftp.cixug.es/apache/subversion/subversion-1.14.0.tar.gz
# tar xvzf subversion-*
# cd subversion-1.14.0
```

Going to compile and install subversion from sources on Ubuntu:

```
# ./get-deps.sh apr serf zlib sqlite
# cd apr/; ./buildconf
# cd ../apr-util; ./buildconf
# cd ../apr-util/xml/expat/; ./buildconf.sh; cd ../../..
```

Continue:

```
# ./autogen.sh
# ./configure --with-lz4=internal
# make
# make check
# sudo make install
```

Everything went OK, make and (sudo) make install, BUT got this error when tried to execute `svn` command:

```
# svn
svn: error while loading shared libraries: libsvn_ra_svn-1.so.0: cannot open
shared object file: No such file or directory
```

Fixed forcing `ldconfig`:

```
sudo ldconfig
```

Then it works:

```
# svn --version --quiet
1.14.0
```

Note on RE-building subversion from sources

How to fix error: `recipe for target 'subversion/svnmucc/svnmucc' failed`

If you RE-build a new version from sources, you should move or delete all files prefixed `libsvn_*` from `/usr/local/lib` to avoid the following errors when doing `make`: (this is an example when I re-build svn v1.12 when previously compiled 1.11 on the same box):

```
../../subversion/libsvn_client/.libs/libsvn_client-1.so: undefined reference
to `svn_wc__get_experimental_dir'
../../subversion/libsvn_client/.libs/libsvn_client-1.so: undefined reference
to `svn_wc__find_copies_of_repos_path'
collect2: error: ld returned 1 exit status
build-outputs.mk:1194: recipe for target 'subversion/svnmucc/svnmucc' failed
make: *** [subversion/svnmucc/svnmucc] Error 1
```

After moving the files, make succeeded.

~~DISCUSSION|Comments~~

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