

Perl Module

```
#!/bin/sh

# Begin ~/bin/pml.sh

# List of installed Perl Modules

# grep "$pattern" - $1                (.),      $1
# /"Module"/ - "Module" 가
# !seen[$NF]++ - awk
# print $NF - ( )
# sort --ignore-case (-f) |

pattern="${1:-.}"

perldoc perllocal | awk '/"Module"/ {if (!seen[$NF]++) print $NF}' | sort --
ignore-case | grep --color=always -E -i "$pattern"

# End ~/bin/pml.sh
```

```
pml.sh "tiny|test"
Capture::Tiny
Class::Tiny
Test::Deep
Test::Exception
Test::Fatal
Test::Needs
Test::Warnings
Try::Tiny
```

가 .

Python3 Module

```
pip3 list
```

Qemu Screen Dump

1. <Ctrl>+<Alt>+<2>
<Ctrl>+<A>, <C> -nographic

Configure Options #1

Fail

가

-docdir=/usr/share/doc/<package name>

\$HOME/.bashrc 가

```
if [ -d $HOME/.bashrc.d ] ; then
    for conf in $HOME/.bashrc.d/*.conf ; do
        source $conf
    done
fi
```


```
cat > $HOME/.bashrc.d/config_opts.conf << EOF
alias doc-dir='echo "--prefix=/usr --enable-shared --disable-static --
sysconfdir=/etc --docdir=/usr/share/doc/${basename $(pwd)} --enable-
dependency-tracking"'
EOF
```

```
./configure $(doc-dir)
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
... ..
checking that generated files are newer than configure... done
configure: creating ./config.status
config.status: creating Makefile
config.status: creating src/Makefile
config.status: creating tests/Makefile
config.status: creating config/Makefile
config.status: creating config/gdlib.pc
config.status: creating src/config.h
config.status: executing depfiles commands
config.status: executing libtool commands
make
sudo make install
```

Find script

가

: [ANSI Code Generator](#)

 git clone <https://github.com/fidian/ansi.git>

```
baecy-lfs@m5pro-lfs < ~ > $
double-check libGLEW
/usr/lib/libGLEW.so
/usr/lib/libGLEW.so.2.2
/usr/lib/libGLEW.so.2.2.0
I searched for libGLEW you wanted in th /usr you specified
baecy-lfs@m5pro-lfs < ~ > $
```

```
function file-finder() {
    local FindWord=${1}*
    local FindDir=$2
    if [ -z $FindDir ] ; then
        FindDir=/usr
    fi
    find $FindDir -name $FindWord 2> /dev/null | sort | grep -E --
color=always $1
    echo "Found file $(ansi --green ${1}) in directory $(ansi --yellow
${FindDir}) (refer to the list above)."
}
export -f file-finder
```

Patch with Wget

```
wget -q -O- <patch url> | patch <options>
```

1

docbook-xsl-nons-1.79.2 patch

```
wget -q -O-
https://www.linuxfromscratch.org/patches/blfs/12.1/docbook-xsl-nons-1.79.2-s
tack_fix-1.patch \
| patch -Np1
```

2

libpng patch

```
wget -O-
https://downloads.sourceforge.net/sourceforge/libpng-apng/libpng-1.6.40-apng
.patch.gz \
| gzip -cd | patch -p1
```

PS1

```
touch $LFS/etc/lfs-chroot
```

~/bashrc

```
if [ -f /etc/lfs-chroot ]; then
    PS1='\[$(tput setaf 75)\]<LFS> \[$(tput setaf 229)\]\u\[$(tput setaf
199)\]@\[$(tput setaf 215)\]\h \[$(tput setaf 75)\]\w \[$(tput sgr0)\]\$ \n'
else
    PS1='\[$(tput setaf 75)\]\[$(tput setaf 229)\]\u\[$(tput setaf
199)\]@\[$(tput setaf 215)\]\h \[$(tput setaf 75)\]\w \[$(tput sgr0)\]\$ \n'
fi
```

1

```
# chroot
if [ "$(awk '$5=="/" {print $1}' </proc/1/mountinfo)" != "$(awk '$5=="/"
{print $1}' </proc/$$/mountinfo)" ] ; then
    PS1='<Chroot> \[$(tput setaf 229)\]\u\[$(tput setaf 199)\]@\[$(tput setaf
```

```

215)\]\h \[$(tput setaf 203)\][ \[$(tput sgr0)\]\w \[$(tput setaf 203)\]
\[$(tput sgr0)\]\$\n'
else
# root
    if [ $(id -u) -eq 0 ] ; then
        PS1='\[$(tput setaf 229)\]\u\[$(tput setaf 199)\]@\[$(tput
setaf 215)\]\h \[$(tput setaf 203)\][ \[$(tput sgr0)\]\w \[$(tput setaf
203)\] \[$(tput sgr0)\]\$\n'
    else
        PS1='\[$(tput setaf 229)\]\u\[$(tput setaf 199)\]@\[$(tput
setaf 215)\]\h \[$(tput setaf 75)\][ \[$(tput sgr0)\]\w \[$(tput setaf
75)\] \[$(tput sgr0)\]\$\n'
    fi
fi

```

2

```

PS1_ROOT='\[$(tput setaf 203)\][ \[$(tput sgr0)\]\w \[$(tput setaf 203)\]
\[$(tput sgr0)\]\$\n'
PS1_USER='\[$(tput setaf 75)\][ \[$(tput sgr0)\]\w \[$(tput setaf 75)\]
\[$(tput sgr0)\]\$\n'
PS1_HEAD='\[$(tput setaf 229)\]\u\[$(tput setaf 199)\]@\[$(tput setaf
215)\]\h '
if [ "$(awk '$5=="/" {print $1}' </proc/1/mountinfo)" != "$(awk '$5=="/"
{print $1}' </proc/$$/mountinfo)" ] ; then
    if [ $(id -u) -eq 0 ] ; then
        PS1="<Chroot>${PS1_HEAD}${PS1_ROOT}"
    else
        PS1="<Chroot>${PS1_HEAD}${PS1_USER}"
    fi
else
    if [ $(id -u) -eq 0 ] ; then
        PS1="${PS1_HEAD}${PS1_ROOT}"
    else
        PS1="${PS1_HEAD}${PS1_USER}"
    fi
fi

```

Debian 가

LFS

```

sudo apt install build-essentials bison gawk m4 texinfo texinfo ##
sudo apt install gettext libisl-dev ##
sudo ln -sf bash /usr/bin/sh && file /usr/bin/sh ##

```

```
/usr/bin/sh: symbolic link to bash
```

```
time { command 1 && ... && command N; } 2>&1 | tee <log-file>
```

Qemu 가

Qemu 가 가 .

```
mkswap -L <label> <partition>
e2label <device> <label>
```

/etc/fstab

```
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# systemd generates mount units based on this file, see systemd.mount(5).
# Please run 'systemctl daemon-reload' after making changes here.
#
# <file system>          <mount point>  <type>          <options>
<dump> <pass>
# / was on /dev/sda1 during installation
LABEL=ROOT_DISK          /                ext4             errors=remount-ro
0 1
# swap was on /dev/sda5 during installation
LABEL=SWAP_1G            none             swap             sw
0 0
LABEL=SWAP_5G            none             swap             sw
0 0
# /dev/sr0
0 0
LABEL=LFS_DISK           /mnt/lfs        ext4             defaults
1 1
```

UUID

Putty Ncurses <Home>,<End> Key

~/.profile or ~/.bashrc

```
TERM=putty-256color
export TERM
```

Glibc-2.35 Compile

가 가 -j1 make

```
make -j1
```

LFS Booting "su"

root

```
chmod 4755 /usr/bin/su
```

su setuid .

LFS

OpenSSH

[OpenSSH](#)

Wget

[Wget-1.24.5](#)

: Libunistring - Libidn2 - Libpsl - Libtasn1 - P11-kit - SQLite - NSPR - NSS -Make-ca - Wget

- [Libpsl-0.21.5](#) REQ
 - [Libunistring-1.2](#) REQ

- [Libidn2-2.3.7](#) REQ
 - [Libunistring-1.2](#) REQ
- [Make-ca-1.13](#) Runtime REQ
 - [Libtasn1-4.19.0](#) REQ
 - [P11-kit-0.25.3](#) REQ
 - [Libtasn1-4.19.0](#) REQ
 - [Make-ca-1.13](#) Runtime REQ
 - [NSS-3.99](#) Runtime REQ
 - [NSPR-4.35](#) REQ
 - [SQLite-3.45.3](#) REC
 - [P11-kit-0.25.3](#) Runtime REC

NFS-UTILS

[NFS-Utills-2.6.4](#)

- [libtirpc-1.3.4](#) REQ
- [libevent-2.1.12](#) REQ
- [rpcsvc-proto-1.4.4](#) REQ
- [SQLite-3.45.1](#) REQ
- [rpcbind-1.2.6](#) REQ

SSHFS (NFS)

N40L

[sshfs-3.7.3](#)

: [ICU](#) - [Libxml2](#) - [Sgml-common](#) - [UnZip](#) - [Docbook-xsl-nons](#) - [Docbook-xml](#) - [Libxslt](#) - [Docutil](#) - [Packing](#) - [PCRE2](#) - [Glib](#) - [OpenSSH](#) - [Fuse](#) - [SSHFS](#)

- [Fuse-3.16-1](#) REQ
- [Glib-2.80.0](#) REQ
 - [Packging \(Python module\)](#) REQ
 - [Docutils \(Python module\)](#) REC
 - [Libxslt-1.1.39](#) REC
 - [Libxml2-2.12.6](#) REQ
 - [ICU-75.1](#) REC
 - [Docbook-xml-4.5](#) Runtime REC
 - [Libxml2-2.12.6](#) REQ
 - [Sgml-common-0.6.3](#) REQ
 - [UnZip-6.0](#) REQ
 - [Docbook-xsl-nons-1.79.2](#) Runtime REC

- [Libxml2-2.12.6](#) REQ
- [Pcre2-10.43](#) REC
- [OpenSSH 9.6p1](#) REQ

Textinfo Dir File Rebuild

```
pushd /usr/share/info
  rm -v dir
  for f in *
    do install-info $f dir 2>/dev/null
  done
popd
```

Swap file

```
export LFS=/mnt/lfs
export LFS_SWAP=$LFS/Swapfile_For_LFS_1G
sudo fallocate --length 1G $LFS_SWAP
sudo chmod 0600 $LFS_SWAP
sudo mkswap $LFS_SWAP
Setting up swap space version 1, size = 1024 MiB (1073737728 bytes)
no label, UUID=890ba9a5-da48-4374-84ce-b71b91863e00
sudo swapon $LFS_SWAP
sudo echo "$LFS_SWAP swap swap defaults 0 0" >> /etc/fstab
```

Binutils

ISL

GMP

```
./configure --prefix=/usr \
            --enable-cxx \
            --disable-static \
            --docdir=/usr/share/doc/gmp-6.2.0
make
make check 2>&1 | tee gmp-check.log
awk '/# PASS:/{total+=$3} ; END{print total}' gmp-check-log
```

[ISL Homepage](#)

```
./configure --prefix=/usr --disable-static --with-gmp=system
make
make install
```

\$LFS/sources

가

```
ls -d */
```

```
alias dirfind="find -mindepth 1 -maxdepth 1 -type d | sed 's@^./@@"
dirfind | wc -l    ##
rm -rf $(dirfind) ##
##
alias SearchAndDestroy='find -mindepth 1 -maxdepth 1 -type d -exec rm -rf {}
\;'
```

SBU

```
##          +          가
alias lfslog='tee ~/lfs-log/$(case $(basename $(pwd)) in build) echo
$(basename $(dirname $(pwd))); ;; *) echo $(basename $(pwd)); ;;
esac).$(date "+%Y%m%d_%H%M%S").log'
time { ./configure .... && make && make install; } | lfslog
```

```
<a href=""></a> ##
<a target="_blank" rel="noopener noreferrer" href=""></a> ##
```

```
./configure --prefix=/usr      \
            --bindir=/usr/bin  \
            --localstatedir=/var \
            --disable-logger   \
            --disable-whois    \
            --disable-rcp      \
```

```

--disable-rexec      \
--disable-rlogin    \
--disable-rsh       \
--disable-servers

## Same Command

./configure --prefix=/usr --bindir=/usr/bin --localstatedir=/var \
--disable-{logger,whois,r{cp,exec,login,sh},servers}

```

tar

```
tar -cf - . | tar -xvf - -C /target_directory
```

find example

```

##   가 50M           .deb, .vmdk   가
## Operator AND = -and, -a, OR= -or = -o, NOT = !
find /media/d/ -type f -size +50M -and ! -name "*deb" -and ! -name "*vmdk"

```

grep example

```

##   grep   가   .
$ grep 'printf' fileio.c
printf("FILE open Error\n");
printf("chi = %c\n", chi);
printf("cho = %c\n", cho);
printf("FILE open Error\n");
printf("chi = %c\n", chi);
printf("cho = %c\n", cho);

## -n      line   .
$ grep -n 'printf' fileio.c
11: printf("FILE open Error\n");
18: printf("chi = %c\n", chi);
19: printf("cho = %c\n", cho);
25: printf("FILE open Error\n");
31: printf("chi = %c\n", chi);
32: printf("cho = %c\n", cho);

## -v      'chi'   print   .

```

```

$ grep -n 'printf' fileio.c | grep -v 'chi'
11:         printf("FILE open Error\n");
19:         printf("cho = %c\n", cho);
25:         printf("FILE open Error\n");
32:         printf("cho = %c\n", cho);

## grep                print      .
$ grep -n 'printf' fileio.c | grep -v 'chi' | grep -v 'cho'
11:         printf("FILE open Error\n");
25:         printf("FILE open Error\n");

## -Ev                grep      (|)      .
$ grep -n 'printf' fileio.c | grep -Ev 'chi|cho'
11:         printf("FILE open Error\n");
25:         printf("FILE open Error\n");

```

```

grep -rL '#!.*python' | xargs sed -i 's/python$/python3/'

//                1      #!                python                python
python3
#!/usr/bin/env python      #
#!/usr/bin/env python3      #

```

Gawk

```

df -ht ext4
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        40G   11G   27G   29% /
/dev/sde1        173M   95M   65M   60% /boot
/dev/sde2         19G   1.5G   16G    9% /mnt/debian
/dev/sda1         1.8T   9.7G   1.7T    1% /mnt/1st-bay
/dev/sdb1         1.8T   1.1G   1.7T    1% /mnt/2nd-bay
/dev/sdc1         1.8T    28K   1.7T    1% /mnt/3rd-bay
/dev/sdd1         1.8T    32K   1.7T    1% /mnt/4th-bay

```

```

#          NR          (          Filesystem  Size)      가 2          awk

#          sort
df -ht ext4 | awk 'NR<2{print $0;next}{print $0| "sort"}'
Filesystem      Size  Used Avail Use% Mounted on
/dev/root        40G   11G   27G   29% /
/dev/sda1         1.8T   9.7G   1.7T    1% /mnt/1st-bay

```

```

/dev/sdb1      1.8T  1.1G  1.7T   1% /mnt/2nd-bay
/dev/sdc1      1.8T   28K  1.7T   1% /mnt/3rd-bay
/dev/sdd1      1.8T   32K  1.7T   1% /mnt/4th-bay
/dev/sde1      173M   95M   65M  60% /boot
/dev/sde2       19G  1.5G   16G   9% /mnt/debian

```

```

# lq      sed      sort가
df -ht ext4 | { sed -u lq; sort; }

Filesystem      Size  Used Avail Use% Mounted on
/dev/root        40G   11G   27G  29% /
/dev/sda1        1.8T  9.7G  1.7T   1% /mnt/1st-bay
/dev/sdb1        1.8T  1.1G  1.7T   1% /mnt/2nd-bay
/dev/sdc1        1.8T   28K  1.7T   1% /mnt/3rd-bay
/dev/sdd1        1.8T   32K  1.7T   1% /mnt/4th-bay
/dev/sde1        173M   95M   65M  60% /boot
/dev/sde2        19G  1.5G   16G   9% /mnt/debian

```

wget

```

# -r / --recursive :
# -np / --no-parent :
# -R / --reject :
# -P / --directory-prefix=PREFIX : PREFIX/..
wget -r -np -R "index.html*" -P <DIR> lfs/
https://ftp.osuosl.org/pub/lfs/lfs-packages/12.1/

```

Firmware Blob Kernel config

```

echo CONFIG_EXTRA_FIRMWARE="' ${({ cd /lib/firmware; echo amd-ucode/*; echo
amdgpu/re*; echo rtl_nic/*; echo regulatory*; })}'" >> .config
make oldconfig

```

Man page count

```

find /usr/share/man/ -type f -name '*. [0-9]' | wc -l

```

From:

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