Free/Libre and Open Source software

Lecture 5

Oleg Sadov

ITMO University

sadov@mail.ifmo.ru

Free/Libre and Open Source software

Lecture 5

Files and directories

/ – root directory
. – current directory
.. – parent directory
~/ – home directory

Free/Libre and Open Source software

Lecture 5

Standard file system layout

FHS (Filesystem Hierarchy Standard)
https://refspecs.linuxfoundation.org/fhs.shtml

/bin – Essential command binaries
/boot – Static files of the boot loader
/dev – Device files
/etc – Host -specific system configuration
/lib<qual> – Essential shared libraries and <optional> kernel modules
/media – Mount point for removeable media

/mnt – Mount point for mounting a filesystem temporarily
/opt – Add-on application software packages
/sbin – Essential system binaries
/tmp – Temporary files
/usr – Secondary hierarchy
/var – Variable data

/root, /home – Root and user home directories (optional)

Free/Libre and Open Source software

Lecture 5

Standard file system layout

/usr and /local

bin – Most user commands
include – Header files included by C programs
lib – Libraries
local – Local hierarchy (empty after main installation)
sbin – Non-vital system binaries
share – Architecture-independent data

X11R6 – XWindow System, version 11 release 6 (optional)
games – Games and educational binaries (optional)
lib<qual> – Alternate Format Libraries <optional>
src – Source code (optional)

Free/Libre and Open Source software

Lecture 5

Special files and drivers

/dev/null -- write: discards all and reports that the write operation succeeded, read: return EOF
/dev/zero -- read: null characters (ASCII NUL, 0x00) generator, write: like /dev/null
/dev/mem -- RAM
/dev/tty* -- terminal lines
/dev/sd* -- SCSI HDD
/dev/hd* -- IDE HDD

Free/Libre and Open Source software

Lecture 5

Files and directories manipulation

ls - list directory contents
pwd - print name of current/working directory
cd – change directory
cp - copy files and directories
mv - move (rename) files and directories
rm - remove files or directories
mkdir - make directories
rmdir - remove empty directories

Free/Libre and Open Source software

Links

ln - make links between files

cat > a
ln -s a b
ln a c
cat b; cat c
rm a
cat b; cat c

Free/Libre and Open Source software
Lecture 5

Permissions

chmod - change file mode bits
chown - change file owner and group
chgrp - change group ownership