Translation(s) : English - Français - Italiano - Brasileiro - 简体中文

The Console is commonly the well known black window in which the user can write in the command line. It is actually a very powerful tool which can complement the graphic utilities on the system.

The Console is often also known as the "Terminal" or "Shell". Technically, the Console is a combination of a "Terminal" and a "Shell". Usually the two terms are used as synonyms.

Inhaltsverzeichnis

How to access the Console

In Debian, there are already six default virtual Consoles ready to be used. They all can be accessed using the key combination `Ctrl + Alt + FN#Console`. For example, the Console #3 is accessed by pressing `Ctrl + Alt + F3`.

Note The Console #7 is usually allocated to the graphical environment (Xorg, etc.).

Another method is to use a graphic display terminal within your desktop environment.

- Under GNOME: `Applications> System Tools> Terminal`
  or the keyboard shortcut `Alt + F2` for "Run Application" and type "gnome-terminal"
- Under KDE K> `System> Terminal (Konsole)`

How to survive on the Linux Console

The usual shell commands are listed in coreutils and ShellCommands.

This section lists a selection of useful and popular programs that run from the shell.

Generic tools

- DebianPkg: screen -- virtual tty that allows disconnection (for ssh or X-terminal)
- DebianPkg: script -- for logging of a console session
- DebianPkg: mlocate -- assists in finding files
- File manager
  - DebianPkg: mc
- Editors
  - DebianPkg: nano -- very small, very simple, very easy to use text editor
  - DebianPkg: vim and DebPkg: vim-tiny -- *The* Vi like editor.
  - DebianPkg: emacs
  - DebianPkg: joe -- can emulate WordStar keybindings (`jstar`)
- Shells

  - DebianPkg: bash
  - DebianPkg: tcsh
  - DebianPkg: zsh
- Locking the console
  - DebianPkg: vlock
- Misc
  - DebianPkg: dict to look-up dictionaries
  - DebianPkg: linuxvnc to export console (VNC)

Communication / Internet

- Download
  - DebianPkg: wget
  - DebianPkg: curl
- Mail
  - DebianPkg: mutt -- all mail clients suck - this one sucks less
- WWW
  - DebianPkg: w3m
  - DebianPkg: lynx
  - DebianPkg: links
  - DebianPkg: elinks
- news
  - DebianPkg: slrn --
  - DebianPkg: tin --
  - DebianPkg: etpan-ng --
- IRC
  - DebianPkg: irssi
  - DebianPkg: weechat
- ICQ
  - DebianPkg: licq
  - DebianPkg: bitlbee -- ICQ to IRC gateway
- RSS
  - DebianPkg: rsstail -- *tail* RSS feeds
  - DebianPkg: rss2email -- RSS/RDF to mail converter
  - DebianPkg: newsbeuter -- text mode RSS feed reader with podcast support

Multimedia

- Mixer
- Sound
  - DebianPkg: mpg321
  - DebianPkg: cplay
  - DebianPkg: mp3blaster
  - DebianPkg: cdcd
  - DebianPkg: mpc, DebianPkg: ncmpc (DebianPkg: mpd)
- Graphic conversion and manipulation
  - DebianPkg: aview
  - DebianPkg: imagemagick
  - DebianPkg: netpbm
- Graphic viewers
  - DebianPkg: zgv which requires svgalib, so it only runs on some arches
  - DebianPkg: fbi which doesn't require svgalib and includes fbgs (a ghostscript frontend)

- Video
  - DebianPkg: mplayer (`mplayer -vo caca MyFile.mpg` *or* `mplayer -vo aa MyFile.mpg`)

PIM

- Todo list
  - DebianPkg: tdl
  - DebianPkg: hnb -- hierarchical notebook
- Calendar tools
  - DebianPkg: pal
  - DebianPkg: ccal
  - DebianPkg: gcal
- Address books
  - DebianPkg: lbdb
  - DebianPkg: bbdb
  - DebianPkg: abook

Office

- Spreadsheet
  - DebianPkg: sc
- Word processing
  - DebianPkg: odt2txt (view openoffice document, see mc above)

"Graphic" editors

- DebianPkg: aewan
- DebianPkg: tetradraw

System Administration

- top in the DebianPkg: procps package -- list what's running and resource usage
- DebianPkg: ngrep -- Show network connections
- DebianPkg: apachetop -- Show active Apache details.
- DebianPkg: aptitude -- manage Debian packages.
- DebianPkg: ssh -- Remote system interaction (replaces deprecated "r" commands, telnet, ftp).

Fun

- DebianPkg: fortunes
- DebianPkg: sl
- DebianPkg: bb
- DebianPkg: filters -- B1FF, Swedish Chef, ...
- DebianPkg: cmatrix

- CleanMe : This page needs some cleanup, and needs to be improved (hint: focus on most useful tools). For example, how can a console session be recorded in a file?

CategoryCommandLineInterface

Translation(s): English - Italiano

GNU --- The GNU Core Utilities are the basic file, shell and text manipulation utilities of the GNU operating system. These are the core utilities which are expected to exist on every operating system.

Previously these utilities were offered as three individual sets of GNU utilities, fileutils, shellutils, and textutils. Those three have been combined into a single set of utilities called the coreutils.

- http://www.gnu.org/software/coreutils/

Debian Woody shipped with the fileutils, shellutils, and textutils packages. Sarge shipped with coreutils. In Sarge and Etch the fileutils, shellutils, and textutils were dummy transition packages to facilitate uggrades. In Etch and later they may be safely removed.

File utilities

GNU file utilities

The tools supplied with this package are:

- chgrp - Changes file group ownership.
- ?chown - Changes file ownership.
- ?chmod - Changes file permissions.
- ?cp - Copies files.
- ?dd - Copies and converts a file.
- ?df - Shows disk free space on filesystems.
- ?dir - Gives a brief directory listing.
- ?dircolors - Setup program for the color output of GNU ls.
- ?du - Shows disk usage on filesystems.
- ?install - Copies file and sets its permissions.
- ?link - Creates a single file hardlink
- ln - Creates file links.
- ?ls - Lists directory contents.
- ?mkdir - Creates directories.
- ?mkfifo - Creates FIFOs (named pipes).
- ?mknod - Creates special files.
- ?mv - Moves files.
- ?rm - Removes (deletes) files.
- ?rmdir - Removes empty directories.
- ?shred - Destroy data in files.
- ?sync - Synchronizes filesystem buffers and disk.
- ?touch - Changes file timestamps.
- ?unlink - Removes a single file or a hardlink
- ?vdir - Long directory listing.

Shell utilities

The tools supplied with this package are:

- [- Check file types and compare values
- ?basename - Removes the path prefix from a given pathname.
- chroot - Changes the root directory.
- date - Prints/sets the system date and time.

- dirname - Removes the last level or filename from a given pathname.
- echo - Prints a line of text.
- env - Displays/modifies the environment.
- expr - Evaluates expressions.
- factor - Prints prime factors.
- false - Returns an unsuccessful exit status.
- groups - Print the groups that the user is a member of.
- hostid - Print the numeric identifier for the current host
- hostname - Print or set the machine name.
- id - Print real/effective ?uid/?gid.
- logname - Print current login name.
- nice - Modify scheduling priority.
- nohup - Allows a command to continue running after logging out.
- pathchk - Check file name portability.
- pinky - Lightweight finger
- printenv - Prints environment variables.
- printf - Formats and prints data.
- pwd - Print the current working directory.
- seq - Print numeric sequences.
- sleep - Suspends execution for a specified time.
- stty - Print/change terminal settings.
- su - Allows you to adopt the id of another user or superuser.
- tee - Sends output to multiple files.
- test - Evaluates an expression.
- true - Returns a successful exit status.
- tty - Print terminal name.
- uname - Print system information.
- users - Print current user names.
- who - Print a list of all users currently logged in.
- whoami - Print effective user id.
- yes - Print a string repeatedly.

Text utilities

The tools supplied with this package are:

- cat - concatenate files and print to the standard output
- cksum - checksum and count the bytes in a file
- comm - compare two sorted files line by line
- csplit - split a file into sections determined by context lines
- cut - remove sections from each line of files
- expand - convert tabs to spaces
- fmt - simple optimal text formatter
- fold - wrap each input line to fit in specified width
- head - output the first part of files
- join - join lines of two files on a common field
- md5sum - compute and check MD5 message digest
- nl - number lines of files
- od - dump files in octal and other formats
- paste - merge lines of files
- pr - convert text files for printing
- ptx - produce a permuted index of file contents
- sort - sort lines of text files
- split - split a file into pieces
- sum - checksum and count the blocks in a file
- tac - concatenate and print files in reverse
- tail - output the last part of files
- tr - translate or delete characters
- tsort - perform topological sort
- unexpand - convert spaces to tabs

- uniq - remove duplicate lines from a sorted file
- wc - print the number of bytes, words, and lines in files

CategoryCommandLineInterface

Translation(s): English - Français - Italiano - Русский ?Discussion

Find default Debian commands based on shell built-in commands and DebPkg: coreutils packages

Remember to see man pages. It's your first help ! Don't recreate or import man or info pages here.

Good informations are:

- Simple description
- Some useful examples that are not in man pages

You don't find this shell command on your system, see next URL and replace **MY_COMMAND** by your command

http://packages.debian.org/search?suite=default&section=all&arch=any&searchon=contents&keywords=MY_COMMAND

ShellToolTricks, PrincipalCommands and coreutils should be merging here

Jump to : A B C D E F G H I J K L M N P Q R S T U V W X Y Z other

A

- **alias:** Create an alias
- **awk:** Find and Replace text within file(s)

B

- **basename:** Return just the file name alone
- **bzip2/bunzip2:** Compress or decompress named file(s)

C

- **cat:** Display the contents of a file
- `cat -n`: simple way to add line-numbers to the output of a command
- **cd:** Change Directory
- **chgrp:** Change group ownership
- **chmod:** Change access permissions
- **chown:** Change file owner and group
- **chroot:** Run a command with a different root directory
- **clear:** Clear terminal screen
- **cmp:** Compare two files
- **comm:** Compare two sorted files line by line
- **cp** Copy one or more files to another location
- **crontab:** Schedule a command to run at a later time

D

- **date:** Display or change the date & time
- **dc:** Desk Calculator
- **dd:** Data Dump - Convert and copy a file
- **df:** Display free disk space
- **diff:** Display the differences between two files
- **dir:** Briefly list directory contents

- **dircolors:** Colour setup for *ls*
- **dirname:** Convert a full pathname to just a path
- **dmesg:** Output is from the kernel booting, showing the devices it has found and if it has been able to configure them at all (aside from userland configuration).
- **du:** Estimate file space usage

E

- **echo:** Display message on screen
- **egrep:** Print lines matching a pattern (same as *grep -E*)
- **eject:** Eject CD-ROM
- **env:** Display, set, or remove environment variables
- **exit:** Exit the shell (or press Ctrl-D)
- **export:** Set an environment variable

F

- **fdisk:** Partition table manipulator for Linux
- **fgrep:** Print lines matching a pattern (same as *grep -F*)
- **file:** Tells what kind of files are those listed on command line
- **find:** Search for files that meet a desired criteria
- **for:** Expand words, and execute commands
- **format:** Format disks or tapes
- **free:** Display memory usage
- **fsck:** Filesystem consistency check and repair.
- **ftp:** Transfer/receive files from/to a remote host

G

- **grep:** Print lines matching a pattern
- **groups:** Print group names a user is in
- **gzip/gunzip:** Compress or decompress named file(s)

H

- **head:** Output the first part of file(s)
- **history:** Command History
- **hostname:** Print or set system name

I

- **id:** Print user and group id's
- **if/then/else/elif/fi** Conditionally perform a command
- **info:** Help info

J

- **join:** Joins lines on a common field

K

- **kill:** Stops a process from running
- **killall:** Stops matching process from running

L

- **less:** Display output one screen at a time

- **ln:** Make links between files
- **locate:** Find files using an indexed list.
- **logname:** Print current login name
- **logout:** Exit a login shell
- **lpc:** Line printer control program
- **lpr:** Off line print
- **lprint:** Print a file
- **lprintq:** List the print queue
- **ls:** List information about file(s)

M

- **man:** Help manual
- **mkdir:** Create new folder(s)
- **more:** Display output one screen at a time
- **mount:** Mount a file system
- **mv:** Move or rename files or directories

N

- **nice:** Set the priority of a command or job

P

- **passwd:** Modify a user password
- **printf:** Format and print data
- **ps:** *P*rocess *S*tatus. Lists running process
- **pwd:** *P*rint *W*orking *D*irectory

Q

R

- **rgrep:** Recursive grep
- **rm:** Remove file(s)
- **rmdir:** Remove folder(s)
- **rsync:** Remote file copy (Synchronize file trees) using its own protocol. It may be used over an *ssh* or *rsh* connection.

S

- **scp:** Copy files between two machines over an ssh connection
- **sdiff:** Merge two files interactively
- **sed:** Stream Editor
- **select:** Accept keyboard input
- **sftp:** Secure file transfer (FTP over SSH)
- **shutdown:** Shutdown or restart Linux
- **sleep:** Delay for a specified time
- **sort:** Sort text files
- **ssh:** Secure Shell
- **su:** Substitute user identity
- **sudo:** Execute a command as another user
- **sync:** Synchronize data on disk with memory

T

- **tail:** Output the last part of files
- **tar:** Tape Archiver
- **time:** Measure Program Resource Use
- **touch:** Change file timestamps or create an empty file
- **top:** List processes running on the system
- **traceroute:** Trace Route to Host
- **tr:** Translate, squeeze, and/or delete characters
- **true:** Do nothing, successfully

U

- **umask:** Users file creation mask
- **umount:** Unmount a device
- **uname:** Print system information
- **uniq:** Uniquify files
- **until:** Execute commands (until error)
- **useradd:** Create new user account
- **usermod:** Modify user account
- **users:** List users currently logged in

V

- **vdir:** Verbosely list directory contents (`ls -l -b`)

W

- **watch:** Execute/display a program periodically
- **wc:** Print byte, word and line counts
- **which:** Locate a program file in the user's path.
- **who:** Print all usernames currently logged in
- **whoami:** Print the current user id and name (`id -un')

X

- **xargs:** Execute utility, passing constructed argument list(s)

Y

Z

other

- **. :** See *source*
- **#:** Comment / Remark.

See also

- Shell

CategoryCommandLineInterface CategoryProposedDeletion : should link to a good Unix book

- Also, it duplicates PrincipalCommands
- some sample guides http://comptechdoc.org/os/linux/usersguide/ ; wikibooks.org has some

Bash

Alphabetical List of Principal Commands

In the following command list, the distinction between upper case and lower case letters is important. Most of the commands are utilities that are run by invoking their own executable files. In some cases, they are commands which are internal to a shell such as bash (shell builtins). The shell builtins are indicated. There are now many utilities that are included with either the DebianGnome or the KDE desktop environments, so many that it would be difficult to include them all here. In many cases, they duplicate the functionality of one or more of the programs listed below. I would suggest consulting the online documentation for these packages.

Another good source of information on commands is the CTDP (2000b) document. There are different chapters which group commands in different categories.

a2p - translation utility from awk to Perl

a2ps - translation utility from any *to Postscript*

ac - print statistics concerning user connect time

access - determine whether a file can be accessed

acroread - Adobe utility for viewing pdf files

adduser - used by root to add user to system usage: adduser userid

afio - alternative to tar, a utility to copy or restore files to an archival medium. One of its selling points is it can ignore damaged files in the archive, skipping over it to get to the next. Purportedly, this is one of tar's failings.

agetty - enables login on terminals. See getty, mgetty, and uugetty.

ali - list mail aliases

alias - assign name to specified command list. This is actually a shell builtin. On my system, I have global alias commands in my /etc/bashrc file and in my /.bashrc file. On my other box, I have made the rm command a little bit safer with `alias rm='rm -i'` *so that you can't recursively delete your /dev directory without telling the system you're sure you want to do it.*

alien - utility to convert to and from different Linux package formats. Can handle Debian (deb), Stampede (stp), Red Hat (rpm) and Slackware (tgz) packages.

apropos - display command names based on keyword search usage: `apropos keyword`

apsfilter - printer filter called by lpd to deal with printing different types of files. This is a fairly sophisticated print filter.

ar - create, modify and extract from archives

arch - print machine architecture type

as - the portable GNU assembler

asapm - ?AfterStep laptop advanced power management utility (cf. acpid).

ash - a very simple shell program sometimes used on boot diskettes since it takes up much less space than bash, tcsh, zsh, etc.

asload - ?AfterStep cpu load monitor

asmail - ?AfterStep mail checking utility

asmodem - ?AfterStep utility to monitor modem status

aspell - a spell checking program along the lines of ispell

aspostit - X Window "Postit Note" utility

at - executes a shell command at the specified time. Use atq to show pending jobs, and atrm to remove jobs from the queue. usage: `at time` *or:* `at -f file time`

atq - shows pending jobs queued by at. If run by root, shows everybody's pending jobs.

atrm - removes pending jobs queued by at. Use atq to determine the identities of various jobs. usage: `atrm job`

awk - searches for and process patterns in a file

banner - print banner to standard output. Syntax is `banner ["option"] ["characters"]`

bash - Bourne Again Shell.

batch - queue, examine, or delete jobs for later execution. See at.

bc - a language (compiler) similar to C, with unlimited precision arithmetic

bg PID - send process with pid PID to the background. This is the same as executing ?Ctrlz while interacting with the running process. This is a shell builtin.

bh - puts a job in the background. This is a shell builtin.

biff - mail notification utility. Notifies user of mail arrival and sender's name.

bind - displays or redefines key bindings. This is a shell builtin.

bison - parser generator similar to yacc

bru - a commercial backup utility program. Demonstration versions are often included with Linux distributions.

bsh - equivalent to ash

bunzip2 - used to uncompress files compressed with bzip2

byacc - parser generator

bzip2 - compresses with algorithm different from gzip

bzless - view bzipped files

c++ - invokes GNU C and C++ compiler

cal - displays a 12-month calendar for the given year or a one-month calendar of the given month usage: `cal month year`

cat - "concatenate": copy standard input to standard output. Used to join or display files. Cf. less, more, most.

cd - change working directory. This is a shell builtin in bash, tcsh and zsh.

cdplay - command line utility for playing audio cds

cfdisk - similar to fdisk, but menu-driven

chat - used to interact with a modem via a chat script

chgrp - changes group associated with file. Can be used to change the group associated with subdirectories and files of a directory. Usage may be restricted to root, or even disabled, for security reasons. usage: `chgrp group files` or: `chgrp -R group files`

chmod - set permissions (modes) of files or directories. A value of 4 is used for read permission. A value of 2 is used for write permission. A value of 1 is used for execute permission. See umask for default file permissions upon file creation. Chmod can also be used to change the suid bit on files. The syntax for the symbolic version is chmod ?options who operation permission file-list The syntax for the absolute version is

```
chmod ["options"] mode file-list
```

To set the uid to the owner's permissions, use

```
chmod u +s file-name
```

To set the uid to the group's permissions, use

```
chmod g +s file-name
```

There are lots of security issues related to allowing a program to have root's permissions when run by an ordinary user. I don't pretend to understand all of these issues. If you don't know what you're doing here, at least don't do it as root or any other privileged user.

chown - changes ownership of a file. Can be used recursively. Usage may be restricted to root, or even disabled, for security reasons. usage: `chown userid files` or: `chown -R userid files`

chsh - change default shell

ci - "check in": creates or records changes in an RCS file

clear - clear screen command

cmp - compares two files for differences usage: `cmp file1 file2`

co - "check out": retrieves an unencoded version of an RCS file

comm - compares sorted files

configure - automatically configures software source code

color-xterm - color xterm program.

cp - copies on or more files. Recursive copying is one simple way of archiving part of a directory structure. Use the command as follows: `cp -r /sourcedirectory /targetdirectory`

cpio - direct copy of files to an output device. Allows creation of archive file spanning multiple diskettes. Allows one directory structure to be mirrored elsewhere on the partition or on another partition. In order to back up an entire directory structure on diskettes, cd to the directory and use the following command:

```
find . -depth -print || cpio -ov > /dev/fd0
```

To restore from diskettes, use:

```
cpio -iv < /dev/fd0
```

The cpio command will prompt the user to insert more diskettes as they are needed. The command for mirroring a directory structure is the following:

```
find . -depth -print || cpio -pv /destinationdirectory
```

This copies the working directory and its contents, including subdirectories, into /destinationdirectory. In order to copy an individual file which is larger than a floppy, use:

```
find . -name nameoffile -print || cpio -iv > /dev/fd0
```

cpp - GNU C-compatible compiler preprocessor

crontab - schedules command to run at regularly specified time

csh - run C shell

csplit - separate files into sections. See also split.

cvs - manages concurrent access to files in a hierarchy. Stands for concurrent version system. Is built on RCS. It stores successive revisions of files efficiently and ensures that access to files by multiple developers is done in a controlled manner. Useful when many developers are working on the same project.

cut - selects characters or TAB-separated fields from lines of input and writes them to standard output

date - displays or sets date and time usage: `date` or: `date date`

dd - direct copy of file from one file to another. Can be used to make copies of boot or root diskettes for installing Linux. It can be used, for example, to make and exact copy of a floppy disk, as follows. First, place the diskette to be copied in the floppy drive. Then:

```
dd if=/dev/fd0 ibs=512 > floppy.copy
```

Replace the diskette with a fresh diskette.

```
dd if=floppy.copy bs=512 of=/dev/fd0
```

The ibs and bs options specify the block sizes for input and for both input and output. A boot disk image can be directly copied to a floppy using the second of the two dd commands above.

declare - declares attributes for a variable (same as typeset). This is a shell builtin.

df - displays capacity and free capacity on different physical devices such as hard drive partitions and floppy drives that are mounted on the file system. Gives free space in blocks. With the (undocumented) option -h, the program gives free space in Mb or Gb. This is useful for those accustomed to thinking of the capacity of a high-density 3.5 inch diskette as 1440k.

diff - displays differences between two files. usage: `diff file1 file2`

diff3 - compares three files and reports on differences

dircolors - set colors for GNU ls command. In Slackware, this command is run by the /etc/profile script. Then, whenever xterm is run with the -ls (login shell) option, ls displays different colors for different types of files. Typical usage is `eval `dircolors -b``

DISPLAY - set display for output of programs under X Windows. Can be used to run a program on a remote machine while displaying the output on a local machine. The remote machine must have permission to send output to the local machine. This is actually an environment variable. See the more detailed discussion in connection with the xhost command below.

dmesg - displays messages from /var/log relative to the most recent boot

dos - invoke the DOSEMU DOS emulator

du - displays information on disk usage. The command `du / -bh || less` will display detailed disk usage for each subdirectory starting at root, giving files sizes in bytes.

dumpkeys - print information about the keyboard driver's translation tables to standard output

dvilj - send a dvi file to a Laserjet printer. There are specialized versions for individual models of Laserjet printer.

dvilj2p - specialized version of dvilj for the ?IIp series of printers. See above.

dvips - send a dvi file to a Postscript printer, to a Postscript capable Laserjet printer, or to a file (with the -o option). There is a switch to print only a subset of the pages, and another switch to print in landscape mode. Use -t landscape, which is one of the arguments to the paper type switch. If you have one page of a document that is a wide table, and you wish to print this in landscape mode, use
`dvips filename -pp pagenumber -t landscape`

e2fsck - check an ext2 filesystem. The syntax is `e2fsck /dev/devicename` where the filesystem is on `/dev/devicename`. The device should not be mounted, and this program must be run as root.

echo - write arguments to standard output. One use is to print out information about environment variables, as in `echo $PATH` - list paths to search and `echo $HOME` or `echo ~` - list name of home directory. This is often a shell builtin.

editres - a dynamic resource editor for X Toolkit applications. Allows the user to change X resources for individual applications.

efax - fax program

efix - convert between fax, text, bit-map and gray-scale formats

elm - an interactive mail system

elvis - a version of the vi text editor

emacs - screen oriented text editor

env - desplay the current environment or set a variable equal to a new value

eval - scans and evaluates the command line. See dircolors command. This is a shell builtin.

ex - interactive command-based editor. The man page lists it as being the same as vim, an improved version of vi.

exec - system call which replaces the current shell environment with that of a new, executed binary's or a script's environment. This is a shell builtin.

execve - a variation of the exec command.

exit - exit a shell, or logout. This is a shell builtin.

expand - convert tabs in files to spaces and write to standard output

expect - a program that *talks*, or simulates human interaction, to interactive programs according to a script. Used to automate the use of programs not originally designed to be automated. Following the script, Expect knows what can be expected from a program and what the correct response should be. An interpreted language provides branching and high-level control structures to direct the dialogue. In addition, the user can take control and interact directly when desired, afterward returning control to the script.

export - place the value of a variable in the calling environment (makes it global). This is a shell builtin.

expr - utility evaluates an expression and displays the result

f2c - FORTRAN to C translator

f77 - FORTRAN 77 compiler

false - null command that returns an unsuccessful exit status

fax - simple user interface to efax and efix programs

fc - views, edits, and executes commands for the history list. This is a shell builtin.

fdformat - low level format of a floppy device

fetchmail - retrieve mail from a remote mail server and pass it to local SMTP agents on the local machine

fdisk - used to partition hard drives usage: `fdisk device`

fg PID - bring a background or stopped process with pid *PID* to the foreground. This is a shell builtin. If only one process is running in background mode, fg with no argument is sufficient to bring it to the foreground

fgrep - search for patterns in files

file - displays classification of a file or files according to the type of data they contain

find - find files according to a large variety of search criteria. The find command that I use the most is `find . -name filename -print` to find files matching a particular name in the working directory and all subdirectories. Find is incredibly powerful, able to execute complex commands upon each result found:

```
find ~/Mail -type f -size 0 -ok rm {} \;
```

finger - display information about a specified userid or userids

fmt - simple text formatting utility. Tries to make all nonblank lines nearly the same length.

fold - break lines of specified files so they are no wider than a specified lengths

fortune - Put a call to fortune in `~/.bash_profile` and get something inspirational or amusing every time you fire up an xterm as a login shell.

free - gives used and free memory on system along with other useful information

fromdos - takes a DOS text file from stdin and sends a UNIX file to stdout.

fsck - file system check and repair

ftp - [deprecated] file transfer over network (cf. scp and sftp).

g++ - C++ compiler

g77 - GNU Fortran 77 compiler

gawk - GNU awk, mostly for processing delimited text files

gcc - invoke C, C++ compiler

getipts - parses arguments to a shell script. This is a shell builtin.

getkeycodes - print kernel's scancode-to-keycode mapping table

?gfortran - GNU Fortran 95 compiler

ghostscript - a free implementation of the ?Postscript language interpreter

ghostview - Aladdin ghostscript viewer

gimp - graphical image manipulation and paint program

grep - used to find a string within a file. The -i option returns matches without regard to case. The -n option means that each line of output is preceded by file name and line number. The -v option causes non-matched lines to be printed. usage: `grep pattern files` or: `grep -i pattern files` or: `grep -n pattern files` or: `grep -v pattern files`

groupadd - create a new group on the system

groups - shows which groups you are in

grub - Gnu grand unified bootloader. Can be used instead of lilo to boot multiple operating systems. The files necessary to run grub are normally located in /boot/grub. Once the file menu.lst has been edited and appropriate entries added to boot the different operating systems on one's hard disk(s), the following sequence of commands can be used to install grub in the master boot record (MBR) sector of the hard disk:

```
root (hd0,x)

setup (hd0)
```

Here, the x should be replaced by the partition where the /boot/grub directory is located, which is probably the root partition of the Linux system. Note that grub has its own conventions for naming devices and numbering partitions, so that for example a partition which is called hda6 under Linux will be called (hd0,5) by grub.

grub-install - command to install grub on the hard drive (or floppy drive).

gunzip - used to uncompress files compressed with gzip

gv - ?PostScript and PDF previewer, based on ghostview

gvim - X Window version of vim

gzexe - compresses executables

gzip - used to compress or decompress files

halt - shut down system as root, without reboot, immediately

hash - remembers the location of commands in the search path. This is a shell builtin.

head - displays first part of a file

history - command for viewing and manipulating the shell command history list

host - look up host names using domain server

hostname - used to get or set hostname. Typically, the host name is stored in the file `/etc/HOSTNAME`.

hwclock - used to query and set the hardware clock

id - display userid and groupid

inetd - daemon which starts up other daemons on demand. Configured in `/etc/inetd.conf`

ifconfig - display information on network interfaces that are currently active. First ethernet interface should be listed as eth0, second as eth1, etc. First modem ppp connection should be listed as ppp0, etc. The *lo* connection is

loopback only.

ifdown - shut down the network interface

`ifup [interface_name]` - start up the interface

info - display system information. This is the GNU hypertext reader.

init - the mother of all processes, run at bootup, executes commands in /etc/inittab. Can be used (with root privileges) to change the system run level. usage: `init run_level`

insmod - used (by root) to install modular device drivers

intr - interrupt key, usually [Ctrl-C]

ispell - checks files for spelling errors usage: `ispell files`

jed - programmer's file editor. Behaves like emacs. Has modes for TeX, Fortran, C, etc.

jobs - displays list of current jobs in the background. This is a shell builtin.

joe - simple ?WordStar-like text editor. It can be invoked in emacs emulation mode with jemacs and in ?WordStar emulation mode with jstar.

jove - Joseph's Own Version of Emacs. A simple emacs clone.

kbd_mode - print current keyboard mode

kerneld - kernel daemon, a process that stays in memory and does all sorts of useful stuff, like automatic loading of device driver modules

kikbd - a utility program that comes with KDE that allows users to switch on the fly among different international keyboards. It can be used under different window managers than kfm.

kill - sends a signal to (especially to terminate) a job or process. This is a shell builtin in bash, tcsh and zsh.

killall - kill processes by name. Kill all processes which are instances of the specified program. Also used to send signals to processes or restart them.

killall5 - kill all processes except the ones on which it depends

last - generate a listing of user logins

lastlog - prints the last login times of all users

latex - compile a LATEX file

ldconfig - creates the necessary links and cache (for use by the run-time linker, ld.so) to the most recent shared libraries found in the directories specified on the command line, in the file `/etc/ld.so.conf`, and in the trusted directories (`/usr/lib` and `/lib`). ldconfig checks the header and file names of the libraries it encounters when determining which versions should have their links updated. Ldconfig ignores symbolic links when scanning for libraries.

ldd - list the shared libraries on which a given executable depends, and where they are located

leave - display reminder at specified time

less - Linux alternative to *more* command. Displays text files, one screenful at a time. When less pauses, there is a large number of available commands to tell it what to do next. One can scroll both forwards and backwards.

let - evaluates a numeric expression. This is a shell builtin.

lilo - installs boot loader on the boot sector of a hard drive, of a diskette, or in another location. My 486 has a hard drive that is too large for the machine's BIOS, so I have to boot from a floppy. To create a boot diskette, I do the following (as root):

```
/sbin/fdformat /dev/fd0H1440
/sbin/mkfs.ext2 /dev/fd0
mount -t ext2 /dev/fd0 /mnt/floppy
cp -dp ''boot''* /mnt/floppy
/sbin/lilo -C /etc/lilo.flop
```

The -C option to lilo has lilo use the lilo.flop file instead of the default lilo.conf.

ln - creates a link to a file. Used to create hard links and, with the -s option, symbolic links which can link files on different disk partitions. The syntax is `ln ["options"] ["source"] ["dest"]`

locate filename - find the file name which contains the string *filename*. The syntax is easier than the find command.

lock - temporarily lock terminal

lockfile - create semaphore file(s), used to limit access to a file

logname - consult `/etc/utmp` for user's login name

logout - execute logout as individual user and bring up login: prompt

look - look for strings in files

lpq - show print jobs that are waiting

lpr - send file to be printed

lprm - cancel a job from print queue

ls - list directory contents. To get colored directory listings under Red Hat, Mandrake, etc., use

```
ls -color
```

To get this all the time, add

```
alias ls='ls -color=auto'
```

to .bashrc. The following command

```
alias ls='ls -Fskb -color=auto'
```

will give directory listings in color, with file sizes in kilobytes, and append a character to the file to indicate its type.

lsattr - list attributes of files in ext2 file system

lsmod - used (by root) to show kernel modules currently loaded

lspci - utility to display information on pci buses and hardware devices attached to them. Part of the pciutils package that comes with many Linux distributions.

lspnp - utility to display information about pnp devices. Part of the pcmcia or kernel-pcmcia package, depending on the distribution.

m4 - an implementation of the traditional UNIX macro processor. It can be used with the sendmail configuration package in Red Hat (and Slackware) to generate a sendmail.conf configuration file without having to edit the configuration file directly.

magicfilter - general purpose printer filter. See apsfilter above. apsfilter is the printer filter that comes with the Red Hat and Slackware distributions.

mail - sends or reads electronic mail

make - keeps a set of programs current. This is a utility that helps when developing a set of programs. It works by executing a script called makefile, Makefile or ?GNUmakefile in the working directory. It is very often used in combination with configure when compiling and installing noncompiled software packages.

MAKEDEV - executable script to make device files on /dev

makeswap - configures swap space

man - displays information from online Unix reference manual

manpath - attempt to determine path to manual pages

mc - Midnight Commander file manager and visual shell

mesg - enables/disables reception of messages

minicom - terminal program

mkdir - create a directory

mkfs - create a file system (format) on a device or partition. Should be invoked after lowlevel formatting of the disk using fdformat. It has several versions which are all links to the basic program, such as mkfs.ext2 and mkfs.msdos.

mkswap - creates a Linux swap space on the specified hard disk parition (root privileges neede) usage: mkswap device

more - list file contents, stopping after each full screen

mount -t ?fstype ?device ?mountpoint - mount device using filesystem of type ?fstype with device name ?device at the location ?mountpoint in the filesystem directory tree

mount -a - mount all filesystems according to the specifications in /etc/fstab

mpage - print multiple pages per sheet on a Postscript printer. Can also be used to print a page in landscape mode.

Mtools - package of MS-DOS utilities. Includes the following commands.

mcd - changes working directory on DOS disk

mcopy - copies DOS files from one directory to another

mdel - deletes DOS files

mdir - lists contents of DOS directories

mformat - adds DOS formatting information to a disk

mtype - displays contents of a DOS file

The default device for execution of these commands is /dev/fd0 and can be referred to as *a:*

mv - moves (renames) files

newaliases - rebuilds the `/etc/aliases` database used by sendmail. Must be rerun every time `/etc/aliases` is modified for the changes to take effect.

newgrp - similar to login. Changes user's identification

nice program_name - sets the priority of the program *program_name*

nm - lists the symbols from object files objfile. If no object files are given as arguments, nm assumes `a.out'.

nohup - runs a command that keeps running after logout. The command is in principle immune to hangups, and must have output to a non tty. According to Linux in a Nutshell, this is necessary only in the Bourne shell, since modern shells preserve background processes by default.

nxterm - color xterm program. The man page for nxterm under Red Hat brings up the same page as xterm.

od - dumps contents of a file

passwd - change login password

paste - joins corresponding lines from files

patch - updates source code. Attempts to update a file from a file of change information, or pathces, created by diff.

pathchk - determine validity and portability of filenames

pdflatex - part of the pdftex program suite. Produces pdf output from a LATEX file.

pdftex - produces pdf output from a TeX file. See also pdflatex. This program is part of the tetex 0.9 distribution that is included with Red Hat 5.2 and above, and with Slackware 4.0 and above. It is also available as a separate program.

perl - practical extraction and report language

pg - display data one screenful at a time

pico - simple screen oriented text editor. It is included as part of the Pine program.

ping - check if Internet computer is responding. Can also measure the time it takes the queried computer to respond.

popclient - retrieve mail via the Post Office Protocol. Supports ?POP2 and ?POP3.

popd - pops the top directory of the directory stack and uses cd to change to that directory. This is a shell builtin.

pr - paginates files for printing

printenv - display list of environment variables

printtool - run (as root) in an X terminal to configure your printer(s)

ps - displays status of processes. Use the -a option for processes for all users. Use the -x option to include processes not attached to a terminal.

pstree - display processes in the form of a tree structure. Killing a parent process will also kill all the children and their descendants.

pushd - pushes the argument onto the top of the directory stack and uses cd to change to that directory. This is a shell builtin.

pwd - print absolute path of working directory. This is a shell builtin.

pwchk - checks the integrity of password and shadow files

pwconv - converts passwords to the shadow password format

pwunconv - unconverts passwords from the shadow password format. Generates a standard Unix password file.

python - interpreted, interactive, object-oriented programming language

rcp - [deprecated] copy one or more files to or from remote computer. The syntax is poorly explained in the documentation that I have, including the man pages. Usage is:

```
rcp filename username@remotehost:path
```

The user's home directory on the remote system must contain the file .rhosts with a list of users (preceded by the full domain name or exact IP address of their machine) with access privileges. Passwords are sent UNENCRYPTED (cf. scp).

rcs - creates or changes the attributes of an RCS file. Stands for Revision Control System.

rdev - query/set image root device, swap device, RAM disk size, or video mode in kernel

read - reads line from standard input. This is a shell builtin.

readonly - declares a variable to be read only. This is a shell builtin.

reboot - equivalent to shutdown -r now

renice program_name - resets the priority of process *program_name*.

reset - used to reset the screen characteristics. This is useful if the screen gets messed up from, for example, trying to display a binary file in an xterm.

return - exits from a function. This is a shell builtin.

rlog - prints a summary of the history of an RCS file

rlogin - [deprecated] log in to remote computer. The general syntax is as follows, using the UQAM Nobel machine as an example: rlogin -l userid nobel.si.uqam.ca The remote computer must recognize the local user and the local machine. See the rcp command for how to set up the .rhosts file on the remote machine. Passwords are transmitted UNENCRYPTED (cf. ssh).

rm - remove files or directories. With the -r (recursive) option (very dangerous!), can be used to remove the contents of a specified directory including all subdirectories.

rmail - interpret and handle remote mail received via uucp

rmdir - remove empty directories

rmmod - used to remove modular device drivers

route -n - show routing table. The n option returns numerical addresses rather than names.

rsh - [deprecated] execute shell command on a remote computer. See rcp and rlogin. Passwords are sent UNENCRYPTED (cf. ssh).

rxvt - a terminal program similar to xterm, but which uses less memory

sed - "stream editor": edits a file, non-interactively.

set - set or display value of shell variables. This is a shell builtin. The command

```
set || less
```

prints the current user environment, giving the values of currently defined variables.

setenv - set or display value of environment variables

setserial - used by root to configure a serial port

setterm - set terminal attributes for a virtual console

setuid - set the id of a program when it is run. Used, for example, to give root privileges to a program run by an ordinary user. This is actually done by running the chmod program as root. See the chmod command for the syntax.

sh - standard UNIX Bourne shell, as implemented by `bash` shell.

shift - promotes each command-line argument. This is a shell builtin.

showmount - show information about an nfs server

shutdown - reboot or shut down system as root, after specified amount of time. With the -r option, reboot. With the -h option, halt the system. usage: `shutdown -r minutes`

sleep - creates process that sleeps for specified interval

sliplogin - [deprecated] attaches a SLIP interface to standard input. Used to allow dialin SLIP connections.

sort - sorts and/or merge files

split - split file into specified number of segments

ssh - secure shell. Has many of the same functionalities as rlogin, telnet, ftp, rsh, etc., with security via encryption.

startx - front end to xinit in Linux. This is a script which starts up X Window.

startx -- :1 - start the next X window session on the display 1 (the default is opened on display 0). One can switch between different graphical displays using ?Ctrl?Alt?F7, ?Ctrl?Alt?F8, etc.

stty - sets or displays operating options for terminal

su - log in as another user, including root

sudo - allows individual users to have root permission to perform specified tasks

swapoff - disables swap disk

swapon - enables swap disk

symlinks - provide list of and information about symbolic links

sync - writes memory buffers to physical devices

systat - query host for system information

tac - print file in reverse

tail - displays the last part of a file

talk - visual communication program that copies lines from one terminal to that of another user

tar - file compression and archiving utility. I find the syntax of this command to be frustratingly opaque. The following

works for me. To use this command to unzip gzipped tarballs in verbose mode, use

```
tar -xvzf filename.tgz
```

To create a tarball from files in a given directory and its subdirectories, use

```
tar -cvzf filename.tgz sourcename
```

Sourcename can be the name of a single file, a wildcard such as *, or the name of a subdirectory. There seem to be two different conventions concerning gzipped tarballs. One often encounters `.tar.gz` The other popular choice is `.tgz`. Slackware packages use the latter convention. The command can also be used to archive a file, a group of files, or a directory (with its subdirectories) on tape or onto floppies. If the material to be archived exceeds the capacity of the backup medium, the program will prompt the user to insert a new tape or diskette. Use the following command to back up to floppies:

```
tar -cvf /dev/fd0 (filename(s) or directoryname(s))
```

The backup can be restored with

```
tar -xvf /dev/fd0
```

Tar can be used for other things. To mirror all the files and subdirectories in from-stuff to to-stuff, use the commands

```
cd from-stuff; tar cf - . || (cd ../to-stuff; tar xvf -)
```

No tar file is written to disk. The data is sent by pipe from one tar process to another (example taken from Running Linux, p.177). To list the table of contents of a tar archive, use

```
tar tvf tarfile
```

To extract individual files from a tar archive, use

```
tar xvf tarfile files
```

where files is the list of files to extract. When extracting files, tar creates missing subdirectories underneath the current directory in which the cammand is invoked.

tcl - scripting language

tcsh - extended version of the C shell

tee - copy standard input to standard output and one or more files

telinit - used to change run level. Exact run level that corresponds to single-user, multi-user, and X levels depends on distribution.

telnet - [deprecated] remote login over network. Passwords transmitted UNENCRYPTED (cf. ssh).

test - evaluates an expression or compares arguments. This is a shell builtin in bash, tcsh and zsh.

tftp - user interface to TFTP protocol

time - displays times for the current shell and its children. This is a shell builtin. Strange, because there is also a /usr/bin/time program on my Red Hat system.

tin - Netnews reader

tkdesk - graphical desktop file manager for X

tksysv - graphical runlevel editor under Red Hat. Allows root to configure the services that are started at each run

level.

tload - display system load average in graph format

top - dynamically displays process status

touch - update access and modification times of a file. If the file does not exist on disk, an empty file is created.

tr - translation utility that can be used, for example, to replace specified characters in a text file

trap - traps a signal. This is a shell builtin.

true - null command that returns a successful exit status

tset - initializes terminal

tty - shows special file that represents your terminal. Displays the terminal pathname.

type - displays how each argument would be interpreted as a command. This is a shell builtin.

typeset - declares attributes for a variaable (same as declare). This is a shell builtin.

ul - translate underscores to underlining

umask - establishes the file-creation permissions mask. Usage is

```
umask xyz
```

The system subtracts x, y and z from the owner, group and other file permissions that it would otherwise assign to new files. This is a shell builtin.

umount ?device - finish writing to the device and remove it from the active filesystem. The command umount -a will (re)mount all file systems listed in /etc/fstab.

unalias - remove name previously defined by alias. This is a shell builtin.

uname - displays information about the system. With no arguments, it displays the name of the operating system. With the -a option, it displays information about the operating system, the host name, and hardware.

uniq - displays lines of a file that are unique

unset - removes a variable or function. This is a shell builtin.

unzip - uncompress files compressed with the zip utility, compatible with DOS ?PKzip

updatedb - update file database used by locate command

uptime - shows the time, how long the system has been up, the number of users, and average load.

useradd - same as adduser

userdel - remove an account (as root). The user's home directory and undelivered mail must be dealt with separately.

users - prints list of users on the system

vi - traditional screen oriented Unix editor

view - vi in read-only mode

vim - "vi improved" editor

vrfy - query remote host to verify the accuracy of an email address

w - display info about userids and active processes

wait - waits for a background process to terminate. This is a shell builtin.

wc - displays number of lines, characters and words in a file

Wharf - the ?AfterStep application dock module

whatis - display one-line summary of specified command

whereis - use to find utilities in standard locations

which - used to find utilities in search path. Will return the absolute directory path of the named utility program.

who - display information about currently logged in userids

whoami - display information about userid that is currently logged in

wish - front end to tk, an X window extension of tcl

workbone - console based cd player

workman - graphical cd player program

write - send messages to another local user

X - starts up the X server. Can be invoked with `X -quiet -query remotemachineaddress` in order to get a graphical login screen on the remote machine. See the discussion in connection with xdm below.

xadm - display advanced power management BIOS information

xargs - converts standard output of one command into arguments for another. This is one of those powerful but obscure commands. Xargs reads arguments from the standard input, delimited by blanks (which can be protected with double or single quotes or a backslash) or newlines, and executes the command (default is /bin/echo) one or more times with any initial-arguments followed by arguments read from standard input. Blank lines on the standard input are ignored.

xbiff - graphical mail delivery notification utility

xcalc - simple calculator program

xclipboard - name says it all

xdm - used to start an X login session. This can be used to start a login session on a remote system. See http://www.menet.umn.edu/~kaszeta/unix/xterminal/index.html. See the man pages for X, xdm, and Xserver. As usual, the man pages are pretty obscure. The best single source seems to be the Xserver man pages. After X is configured, X needs to be started at bootup with the command (in /etc/rc.d/init.d/xterm):

```
X -quiet -query remotemachineaddress
```

If the address of a nameserver is not configured, then the numeric address of the remote machine rather than its name should be entered. If the machines are connected through ethernet cards and the net, then obviously basic networking has to be set up. Gnome and KDE come with their own versions of X display/login managers, called respectively gdm and kdm.

xdvi - view a dvi file compiled under LATEX

xedit - a simple text editor for X

xf86config - graphical configuration tool for X (instead use `dpkg-reconfigure xserver-xfree86` (or `xserver-xorg`).

?XF86Setup - graphical configuration tool for X (instead use `dpkg-reconfigure xserver-xfree86` (or `xserver-xorg`).

xfd - display an available font in X. Creates a grid in an x-term with one character per rectangle.

xfig - utility for interactive generation of figures

xfm - graphical file manager for X

xhost - [deprecated] tell X server that remote computer has access to your machine and that you will use the remote computer. This can be used to set up remote X sessions. To set up a remote X session on the UQAM Nobel machine, run the following command on the local machine (one doesn't have to be root to do this) xhost +nobel.si.uqam.ca Then, log onto the remote machine using rlogin (see above) or telnet. Once logged in, use the following command to get the remote X server to open an X terminal on the local machine:

```
setenv DISPLAY localhostname:0 ; xterm &
```

This is valid for csh, which is the default login shell on Nobel. For ksh, (and I think bash) replace with

```
DISPLAY=localhostname:0
export DISPLAY
xterm &
```

Other X-based programs such as Netscape or Gauss (graphical version) can also be run on a remote machine with display on the local machine with little trouble. The local X server is the program that has all of the information concerning the properties of the graphics card and terminal, so it must be necessary to have X running on the local machine. The following should also work. After using xhost to give permission to the remote machine to display on the local machine, use

```
netscape -display localhostname:0.0
```

Question: can one start the X session on the local machine and then run a remote copy of a window manager? Answer: An X program displayed on a machine must have an X server running on that machine. A running X program can display its output on any machine which is running an X server.

xinit - start X Window. The command startx is a front end to xinit in Linux.

xload - displays a graphic of the system load

xlpq - graphical interface to print manager. This is included on one of the XFCE menus.

xlsfonts - list fonts available under the X Window system.

xman - browsable command reference. Displays manual pages under X. Try `xman -notopbox -bothshown &`

xmh - graphical front end under X to the nmh mail handling system. This program is part of the XFree86 package.

xmodmap - utility for modifying keymaps and pointer button mappings in X. Can be used to install a French Canadian keyboard. Download the Xmodmap.cf file from www.linux-quebec.org, and insert the command `xmodmap /etc/X11/Xmodmap.cf` into the .xession (with xdm) or the .xinitrc (with startx) file.

xosview - displays bar graphs of system load, load average, memory usage, and swap usage

xpaint - simple paint program for X

xpdf - GPL'd utility for previewing dvi files. Doesn't seem to work too well on texts with a lot of math.

xplaycd - X Window audio cd player utility

xsetroot - utility to configure root window of an X terminal

xsysinfo - graphical display of load and memory usage

xterm - start an X Window terminal session

xterm-color - color version of xterm

xv - utility for viewing and manipulating many types of image files. This is a non-free program.

xvidtune - utility for fine tuning of monitor settings under X

yacc - parser generator

ytalk - multi-user program similar to talk

zcat - read one or more files that have been compressed with gzip or compress and write to standard output

zcmp - read compressed files and pass them to cmp

zdiff - read compressed files and pass them to diff

zgrep - read compressed files and pass them to grep

Zharf - ?AfterStep button panel module

zip - zip utility compatible with DOS ?PKzip

zless - view zipped files

zmore - print contents of compressed files one screen at a time

znew - uncompress Z files and recompress in .gz format

Eventually, we want to be able to distinguish between commands that are an intrinsic part of the ?Gnu system, commands that are executable binaries that come with every distribution of Linux, executable binaries that are not provided with all distributions of Linux, and executable shell scripts. We also want to point out the typical location of these commands on different Linux distributions. Finally, we want to distinguish between shell commands and Linux commands.

On the other hand, this being http://wiki.debian.org, why would we care about Redhat-isms and Slackware-isms? They can get their own wiki.

CategoryProposedDeletion : should link to a good Unix book

- Also, it duplicates ShellCommands
- some sample guides http://comptechdoc.org/os/linux/usersguide/ ; wikibooks.org has some

Translation(s): English - Italiano

The following is a list of non-interactive command-line utilities that are often forgotten. There are many situations where you can use them to simplify tedious tasks.

Inhaltsverzeichnis

List of commands

The list in **alphabetical order** follows:

aumix

```
for a in `seq 1 100`; do sleep 1; aumix -v-1; done; poweroff
```

Slowly lowers your sound card output volume during 100 seconds, then power off the system.

awk

Awk is an entire scripting language, intended to help process text, as in a UNIX shell pipeline command (where some command generates data, you perhaps filter it using some utilities, etc., and then pipe that resulting text to an awk command or script, to generate reports or summaries, etc. As an example of the intended usage for awk, note that by default, awk will split the text into columns, using whitespace to separate them, and will place each column's field into a variable called $1 (for the first field), $2, and so on. Note that the tenth column is $10, the eleventh is $11, and so on. This alone, makes the creation of a simple filter quicker using awk, than Perl, for example, as it eliminates the need to do the splitting on whitespace, and placing that data into an array or a list of variables, etc. Here's an example to show how to use awk to take a list of comma-separated values, 1) removing the commas, 2) using awk to select lines and columns of data in which to perform an arbitrary calculation, and 3) using sed to

remove the first line, which may be a don't-care value (just to show some sed usage.)

```
... | sed 's/,//g' | awk 'BEGIN { oldval = 0 } ($1 ~ /^data:/ && $2 < 1024) { val = $4 - $3; sum
```

basename

A very simple utility (not a shell built-in, just a utility bundled in the package "coreutils"), which, when given a string (filesystem path to a file) as an argument, will return just the file name alone. In other words, this utility strips off all the directory levels, leaving the filename alone. Where would you use this? I've found it to be helpful, for example, when creating a for-loop in a shell script, or when renaming files using some complex scheme, and I'm operating on a list of paths--this utility allows me to pull out just the actual filename, modify it somehow, and then recombine the new filename with the original path, using the "dirname" utility (mentioned below, and also provided by the "coreutils" package.)

Here's an example (converting all FLAC files in a specified directory, to MP3 in /tmp) that assumes you're using Bash (or similar.)

```
for file in /path/to/flac/music/files/*.flac; do filename=$(basename "$file"); newname=${file//.
```

comm

A simple utility which provides quite a bit of power: given two text files whose contents are sorted (for example, by using `sort` and `uniq`), list the contents of both file sorted into three columns: the first column (zero indentation) shows those lines found only in the first command-line argument file, the second column shows those unique to the second file, and the third column shows those lines common (or found in) both. You can surpress any of the columns you'd like, so for example:

- to find the lines found only in the first file: `comm -23 file1 file2`
- to find the lines found only in the second file: `comm -13 file1 file2`
- to find the lines that are common to the two files: `comm -12 file1 file2`.

This utility makes it easy to manage lists of items.

dirname

Another simple utility bundled in the package "coreutils". Similar in nature to "basename" above, this utility simply extracts the directory hierarchy from a path. Useful in conjunction with "basename", within shell scripts, in simple one-line loops at the prompt, and so on. I use this sometimes, to help wrangle filenames and directories, for example, when converting FLAC files to MP3.

dd

```
dd if=/dev/fd0 of=floppy-backup.img
```

Backs up a floppy disk in a file called floppy-backup.img

fdupes

nice to get rid of double files

feh

A lightweight image viewer

```
feh -l *.jpg
```

file

File tells what kind of files are those listed on command line.

```
file -s /dev/hd*
file -i *
```

filters

Hehe, what's really funny, I meant the package filters which do funny things

A very powerful feature supported by almost every UNIX shell out there is the pipe. Which allows you to filter the output of commands with a large amount of flexibility. Here are some example ways in which you can filter `STDOUT` of a command (using a pipe not shown):

- `sort` Perform a simple dictionary-sort of the output.
- `sort -n -r` Sort the output numerically, but reverse the direction of the sort.
- `sort -n -b -k 3` Consider whitespace to isolate fields on the lines, and sort the third field numerically.
- `sed 's/foo/bar/'` Execute some `sed` commands such as a search-and-replace.
- `nslookup www.debian.org | sed -n -e "s/Address: //p"` same as above, search and replace (with null string). The `-n` option tell sed to print nothing by default.
- `perl -ne 's/foo\s+bar/bar foo/; print'` Or use a perl one-liner to filter the ouput.
- `tac` Or, reverse the order of the lines. One of the more frequently forgotten utilities, it is provided by the `coreutils` package.
- `cat -n` A simple way to add line-numbers to the output of a command.

find

The `find` utility (provided by the `findutils` package) is a veritable swiss-army knife for searching (and performing tasks upon) files and directories. Among the more powerful features are defining the search criterion, including such things as size of the file, group-ownership of a file or directory, and so on. You can then perform some action on the file or directory. As usual, consulte the man page for details (`man find`.) Some examples:

This example will search through all files (that the user running the command has access to see) greater than a MB in size, sending that output to the `sort` utility, which will sort that list numerically on the 7th field (delineated by whitespace.)

```
find /usr/src -type f -size +1024k -ls | sort -r -n -b -k 7
```

This example will remove all `core` files that are found in `/tmp/` (printing out each `core` file that's found.) Note the use of a pair of single curly-braces to denote where to substitute the found file name (and path), and how you need to "escape" the semicolon to end that `-exec` command:

```
find /tmp -type f -name core -exec rm -f {} \; -print
```

grep

Grep is a very useful utility too, to show which files contain the specified string or regular expression. You may find it useful to add the -E command line argument allowing you to use special regular-expression grammer like `[[:space:]]` to specify a whitespace character (tab or space), `[[:digit:]]` to match on a number, and

`[[:alnum:]]` to match on a character or digit (think "alpha-numeric".) This way, you can search for stuff like this:

```
grep -iE '^[[:space:]]*some text[[:space:]]+[[:digit:]]+' some_file
```

It's also helpful to search recursively like so (note that I'm instructing `grep` to only show me lines that don't match, and I'm then counting the number of lines that it finds):

```
grep -iErv '^[[:space:]]*#' /usr/src/linux | wc -l
```

Sometimes you may find it useful to `cat` a bunch of simple text files, to see what's inside, but you want to prefix the lines with the name of each file (which you can't do with `cat`.) You can use `grep` to do that, by providing an empty search string, like this:

```
grep '' some/path/to/a/bunch/of/simple/files/*
```

imagemagick

Imagemagick is a collection of command line tools capable of several image manipulations.

To convert .jpg files to .png use:

```
for i in *jpg;do convert $i ${i%jpg}png;done
```

lame

```
xmp --stereo -f 44100 -b 16 -d file -o - the.xm | lame -x -r -s 44.1 --bithwidth 16 -m s - the.m
```

links2

```
links2 -dump www.debian.org
```

lshw

Show detailed information on your hardware configuration

perl

The life-altering `perl` interpreter (and its language) (provided in the `perl-base` package) can be harnessed to perform wondrous tasks at the command line. For example, you can use a so-called Perl "one-liner" to utilize Perl's regular expression power, to filter the output of something. For example:

```
perl -ne 's/blah/foo/g; print' < some_file > modified_file
```

this command will use the shell to feed the contents of `some_file` to `STDIN` of Perl, which will execute the provided command, performing a search-and-replace to replace all instances of "blah" with "foo", placing the modified lines into `modified_file`. (Note how you could have used `cat` to output the file to a pipe to the Perl invocation, but you can avoid tat needless use of `cat` by asking the shell to perform that same task.)

Here's a command that let me change the names of some MP3 files (my car stereo doesn't support OGG, unfortunately) after I'd already ripped them:

```
perl -e 'opendir(DIR, ".") || die "error: could not open current directory: $!\n"; @files = grep
```

This command may look complex, and you could certainly put those commands into a text file and make it a Perl script, but this demonstrates how you can rapidly develop Perl code to solve a problem. Here, I'm reading in all the files in a directory (excluding "." and ".."), then splitting the file names up based on the hyphens embedded in the names, and then rearranging those fields between the hyphens. Finally, it performs a `mv` command to rename the files after the new name has been created.

nc

Netcat (or nc) is a nice piece of code that can transfer stdin and stdout on a TCP or UDP connection. It can open both server and client connections. For example:

```
nc -l -p 10000 # Open a listening (server) connection
nc 127.0.0.1 10000 # Connect to 127.0.0.1:10000
```

Home made http client:

```
echo -ne "GET / HTTP/1.1\r\nHost:www.debian.org\r\n\r\n" | nc www.debian.org 80 | sed -e "1,/^\r
```

`sed` is used to strip out HTTP response header. Note that `nc` will never close connection, unless you specifiy a timeout with `-w` option.

randomize-lines

```
madplay `find music -type f -name "*.mp3" | rl`
```

recode

rename

Rename is a perl script that can change filenames using regular expressions. It is part of the perl package. For example to rename all the files ending with .c in .cpp you can type:

```
rename s/.c$/.cpp/ *.c
```

rsync

copy files to and from remote machines. Rsync is able to greatly speed up

file transfers when some of the destination file already exists.

screen

```
EDITOR="emacs -nw" crontab -e
@reboot /usr/bin/screen -dmS irc irssi -c irc.gnu.org
```

setmixer

The ?setmixer tool is a non-interactive tool for reading or setting ?mixer volume levels

symlinks

nice for checking for dangling symlinks

telnet

Telnet is a client for text based internet protocols (such as HTTP, POP3 and many more). See also **ssh**

unison

Like rsync, but allows bidirectional updates. Useful to keep different copies of the same files on many systems.