

1 Basic Linux commands

Most commands have many parameters. Use “commandname - -help” to see these. E.g “chmod --help”. Note that Linux expands wildcards (“*”) as argument for shell programs in a much better way than Windows.

Command	Comment
apt-get cmd packet	Debian Packet manager – for installs. “cmd” can be e.g. “install”
cat file1 file2	Concatenate one or more files together to output stream. Used often with single file and a “pipe”.
cd path	Change Directory to Path. With no path you end in your home dir (/home/kelk in my case)
chmod file	Change mode of file – e.g. to make it executable. See “ls -l”
chown file	Change the ownership of a file
cp path1 path2	Copy path 1 to path 2. May copy folders recursively.
date	Show date and time
df	Disk free. Show the disk usage. Use ‘-h’ for human readable format.
find path -name file	Search for file based on name – start from path. E.g. “sudo find / -name rc.c”
grep string	Look in the stream for string. E.g. “cat myfile grep -i beagle”. Use “” if there are spaces in the string.
ifconfig	Interface Config. Shows connections. “-a” also shows whats configured – but not up.
ifup interface	Interface Up. Interface is eg eth0, eth1, wlan0, usb0. There is also an “ifdown”
kill -9 n	Stop process number ‘n’ (use after ps -a or ps -e).
ls path	List - “Dir” on linux. “-a” shows all – including those with “.” first. “-l” is long version
lsmod	Show (driver-)modules
lsusb	Show USB devices. As in many other cases “-v” is verbose (detailed).
mkdir path	Make Directory
man cmd	Manual. Extensive description of any command.
more file	Show the file a page at a time. Same as cat file more.
mv path1 path2	Moves path1 to path2 name
nano path	Basic text editor. Installed from start, works over a text ssh.
netstat	Show network processes (as on windows)
nmap	Network Scanner
ps	Show processes. Typical options are ‘-e’ or ‘-a’
pwd	Print Working Directory
rm path	Removes a path. Take care when using “-r” (recursive)!
rmdir path	Delete Directory
shutdown	Typically “sudo shutdown -h now” – for halt now.
source file	Run a script or binary file in current directory. Similar to ./file
ssh user@address	Secure Shell. Modern “telnet”. Address can be an IP-address. ‘-X’ for graphics. VNC is an alternative.
sudo cmd	Run cmd as superuser. You will be asked for password. sudo!! → latest sudo repeated
tail -n file	Show the last n lines of a file. ‘-f’ will do this continuously, if the file is updated from another process
tmux	Terminal Multiplexer – have several open terminals in one window
top	List the top CPU-demanding processes – ongoing updates. Use CTRL-C to stop.
tree	Show semi-graphical view of directory structure (need to “apt-get install tree” first)
which cmd	Tells where on the path the given cmd is found
whoami	What is my current login name
Shell Tricks	Comment
cmd-a cmd-b	“Pipe” output from cmd-a into cmd-b as input. E.g. “netstat -an grep 5900” shows use of port 5900.
cmd &	Run in parallel in the background. Use “;” to run commands sequentially
cmd-a > dest	Output from cmd-a is input to dest (file or new cmd). “>>” appends. “>2” is errorout
CTRL-C	Stop foreground execution
CTRL-Z	Pause foreground execution. Type “bg” to continue in background
./file	Run a script/program in the current dir. Avoids mistakes due to spelling errors!
TAB	Commandline Completion. Use twice to see list of choices left.

2 Sample Directory Structure (BeagleBone)

/			-- initramfs-tools	
-- bin	Binary low-level stuff - system & user		-- insserv	
-- boot	Home of zImage (kernel) and config files		-- insserv.conf.d	
-- uboot	uEnv.txt with kernel commandline. BBB HW		-- iproute2	
Docs			-- javascript-common	
-- dev	Special Device files		-- kbd	
-- block	Block based. Links to RAM etc		-- kernel	
-- bus	Bus devices - USB is here		-- ld.so.conf.d	
-- char	Character-based. Links to TTY		-- ldap	Lightweight Directory Access
-- disk	Links to disks by id, path etc		-- libnl-3	
-- dri			-- lightdm	
-- fd -> /proc/self/fd			-- logcheck	
-- input			-- logrotate.d	
-- mapper			-- menu-methods	
-- mqueue	Message Queue (empty)		-- modprobe.d	Drivers – e.g. ALSA sound conf
-- net			-- modules-load.d	
-- pts			-- network	
-- shm			-- openal	
-- snd	Sound		-- opt	
-- etc	System related configuration!		-- pam.d	
-- ConsoleKit			-- pcmcia	
-- UPower			-- perl	
-- Wireless	Default WiFi Configuration		-- php5	PHP – mainly used in Webserver
-- X11	Graphical User Interface		-- pkcs11	
-- acpi	Power-savings etc.		-- pm	
-- alternatives			-- polkit-1	
-- apache2	Apache Web-server		-- ppp	
-- apm			-- profile.d	
-- apparmor.d			-- pulse	
-- apt	Package Manager		-- python	
-- avahi	Bonjour		-- python2.6	
-- bash_completion.d			-- python2.7	
-- binfmt.d			-- rc0.d	Runlevel 0 (halt) – links to /etc/init.d
-- ca-certificates			-- rc1.d	Runlevel 1 (single-user) – links ...
-- calendar			-- rc2.d	Runlevel 2 (multi-user)
-- chatscripts			-- rc3.d	Runlevel 3 (multi-user with network)
-- chromium			-- rc4.d	Runlevel 4 (user-defined)
-- console-setup			-- rc5.d	Runlevel 5 (Normal)
-- cron.d	Scheduler Daemon		-- rc6.d	Runlevel 6 (Restart)
-- cron.daily			-- rcS.d	
-- cron.hourly			-- resolvconf	
-- cron.monthly			-- rsyslog.d	
-- cron.weekly			-- sane.d	
-- dbus-1			-- security	
-- default			-- selinux	
-- dhcp	DHCP client config		-- sgml	
-- dictionaries-common			-- skel	
-- dpkg	Base of Debian Package Manager		-- ssh	Secure Shell - Keys
-- emacs	Emacs Editor		-- ssl	Secure Sockets Layer – Certificates etc.
-- fonts			-- sudoers.d	Not really used
-- fstab.d			-- sysctl.d	
-- gconf			-- systemd	1'st Process. System and User Conf.
-- gdb	Gnu Debugger		-- terminfo	
-- groff	Text Formatter. Low-level Word.		-- timidity	
-- gtk-2.0			-- tmpfiles.d	
-- gtk-3.0			-- udev	
-- hostapd	Network config		-- ufw	
-- ifplugd			-- usb_modeswitch.d	
-- init	Configuration Files for init		-- vim	
-- init.d	Scripts/programs executed by the init daemon			
-- wicd			-- dbus	
-- wildmidi			-- initramfs	
-- wpa_supplicant			-- lightdm	
-- xdg			-- lock	

-- xml		-- log	
-- xrdp		-- mount	
-- home	Users home directories	-- network	
-- debian		-- pm-utils	
-- kelk	Users home-dir (here kelk)	-- screen	
-- lib	Libraries	-- sendsigs.omit.d	
-- arm-linux-gnueabi	Software Floating Point Library	-- sshd	SSH Daemon
-- arm-linux-gnueabihf	Hardware Floating Point Library	-- systemd	1'st process. Entries by sysadm
-- firmware	BB Overlays defining P8 & P9 etc.	-- udev	
-- hdparm		-- udisks	
-- init		-- user	
-- lsb		-- wicd	
-- modprobe.d	Daemon for Loadable Kernel Modules	-- wpa_supplicant	
-- modules	Drivers	-- xrdp	
-- security		-- sbin	Binary files for the system only
-- systemd	1'st process. Executables. Entries by distro	-- selinux	Empty
-- terminfo		-- srv	Empty
-- udev		-- sys	
-- xtables		-- block	MMC and RAM
-- lost+found	file-pieces from e.g. untimely powerdowns!	-- bus	IIC, SCSI, USB etc.
-- media	Removable Media Mount	-- class	Device classes (types)
-- mnt	Mount file-systems here	-- dev	Links to actual devices
-- opt	Software non-default installation	-- devices	BBB HW PinMUX, cape-definitions etc
-- cloud9	Port 80 web-server with BBB default	-- firmware	Empty
-- scripts		-- fs	File Systems
-- source		-- kernel	
-- proc	Process info pseudo-file system	-- module	Loadable Drivers and their parameters
-- 1		-- power	
-- 10		-- tmp	Temporary Files – May be deleted
-- 1012		-- ssh-iRhrkBa8DnRG	
.....	"files" for processes – cut out	-- usr	User usable programs and data
-- 949		-- bin	Most utility programs. Many as links
-- asound		-- games	
-- bus		-- include	Include-files for C/C++ programs
-- cpu		-- lib	Libraries for C/C++-programs
-- device-tree		-- local	Programs for all users (not part of distro)
-- dri		-- sbin	
-- driver		-- share	
-- fs		-- src	
-- irq		-- var	Variable data - logs, spooler etc
-- net -> self/net		-- backups	Apt, passwords
-- scsi		-- cache	Apache2, git, man etc.
-- self -> 1676		-- lib	Empty
-- sys	System Info. Edit's do not survive a boot	-- local	Empty
-- sysvipc		-- lock -> /run/lock	
-- tty		-- log	Log-files – e.g. dmesg from boot
-- root	Empty root folder	-- mail	Empty (Mails)
-- run	Program runtime storage – not to delete	-- opt	Empty
-- ConsoleKit		-- run -> /run	PID's of services
-- apache2		-- spool	Printer spooler
-- avahi-daemon		-- tmp	Empty
-- console		-- www	Web-pages (Apache)

Generated with: "sudo tree -d -L 2 /" Arrows are links.

Note that /boot/uboot is the folder that is shared with a windows PC connected via the USB. Take care here.

Sample: /usr/local/share/emacs
 Interpret: |----Scope---|Category|Application