

## Key Linux Commands

### Documentation:

-----  
man - Format and display the on-line manual pages  
help - Display help info about Bash builtin commands  
info - Read/display Info documents  
manpath - Determine user's search path for man pages  
apropos - Search the whatis database for strings  
whatis - Search the whatis database for complete words

### Command/File Information:

-----  
which - Shows the full path of a (shell) command  
whereis - Locate the binary, source, and manual page files for a command  
locate, slocate - Find file paths containing string using slocate database  
find - Search for files in a directory hierarchy  
type - Show if command is alias, etc.  
file - Determine type of file

### File Operations:

-----  
cat - Concatenate files and print on the standard output  
tac - Concatenate and print files in reverse  
more, less - Output file page by page  
tail - Output the last part of files  
head - Output the first part of files  
rm - Remove files (or directories)  
mv - Move (rename) files  
cp - Copy files and directories  
dd - Convert and copy a file  
grep, egrep, fgrep - Print lines matching a pattern  
ln - Make a hard/soft link to a file  
od - Dump files in octal and other formats  
source - Read and execute commands in a file [Bash builtin]

### File Properties:

-----  
chmod - Change file access permissions  
chown - Change file owner (and group)  
chgrp - Change group ownership  
stat - Display file or filesystem status  
touch - Change file timestamps (or create empty file)  
wc - Print the number of newlines, words, and bytes in files

### Directories:

-----  
ls - List directory contents  
pwd - Print name of current working directory  
cd - Change directory  
mkdir - Make directories  
rmdir - Remove empty directories  
du - Estimate file space usage  
pushd - cd and add directory to the directory stack [Bash builtin]  
popd - Remove directory from directory stack and cd [Bash builtin]  
dirs - Display the currently remembered directories [Bash builtin]

### File Comparison:

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diff - Compare 2 files line by line  
cmp - Compare 2 files byte by byte  
comm - Compare sorted files by line  
diff3 - Compare 3 files line by line  
sdiff - Merge 2 files side-by-side  
patch - apply a diff file to an original

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### Environment Variables, Aliases, and Functions:

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printenv - Print (select or all) environment variable values  
export - Move shell variable to environment (so inherited by children) [Bash builtin]  
set - Print values of all shell/environment variables and functions  
unset - Remove/undefine a variable [Bash builtin]  
declare - Show (or set) shell variables/functions [Bash builtin]  
env - Run a program in a modified environment  
setenv, unsetenv - Set/remove environment variable value [C shell]  
alias - Show (or set) alias value for command  
unalias - Remove/unset alias

### System Information:

-----  
hostname - Show or set the system's host name  
uname - Print system (kernel, etc.) information  
uptime - Tell how long the system has been running  
free - Display amount of free and used memory in the system  
vmstat - Report virtual memory statistics  
dmesg - Print or control the kernel ring buffer (e.g., boot messages)  
id - Print UID and GID info for current user or specified username  
last, lastb - Display list of recent logins/failed logins  
finger - Display information about system users (often disable now)  
who - Show who is logged in (often disabled now)

### Processes:

-----  
ps - Snapshot of the current processes  
pstree - Display a tree of processes  
top - Display current processes (realtime)  
kill - Terminate a process (send a signal)  
fuser, lsof - Identify processes using files or sockets  
id - Print UID and GID info for current process  
nice - Run a program with modified scheduling priority  
renice - Alter priority of running process(es)  
umask - Set process' file creation permissions mask [Bash builtin]  
ulimit - Control process resources limits [Bash builtin]

### Filesystems/devices:

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df - Report filesystem disk space usage  
mount - Mount a filesystem  
umount - Unmount filesystem  
fdisk, cfdisk, sfdisk - Manipulate disk partition table  
mkfs - Build a Linux file system  
fsck - Check and repair a Linux file system  
debugfs - Ext2/ext3 file system debugger  
mkswap - Set up a Linux swap area  
swapon, swapoff - Enable/disable devices and files for swapping  
mknod - Make block or character special files  
dd - Convert and copy a file

### Archiving and Compression:

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tar - Package/unpackage files (archive)  
gzip, gunzip - Compress or expand files  
zip, unzip - Package and compress (archive) files  
bzip2, bunzip2 - Compress or expand files  
bzip2 - decompresses files to stdout  
compress, uncompress - Compress or expand files (old)  
cpio - Copy files to and from archives  
dump - ext2/3 filesystem backup

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### Filters:

-----  
basename - Strip directory and suffix  
cat - Concatenate and write files  
csplit - Split by context  
cut - Print selected parts of lines  
dirname - Strip non-directory suffix  
envsubst - Convert shell vars to environment values  
expand - Convert tabs to spaces  
fmt - Reformat paragraph text  
fold - Wrap long input lines  
grep, egrep, fgrep - Print lines matching a pattern  
head - Output the first part of files  
join - Join lines on a common field  
nl - Number lines and write files  
paste - Merge lines of files  
pr - Paginate or columnate files  
sed - Stream editor  
seq - Print a sequence/list of numbers  
sort - Sort text files  
split - Split into fixed-size pieces  
tac - Reverse files  
tail - Output the last part of files  
tee - Redirect to multiple files  
tr - Translate characters  
tsort - Topological sort  
unexpand - Convert spaces to tabs  
uniq - Uniquify files  
wc - Print the number of newlines, words, and bytes in files  
xargs - Convert standard input to command argument(s)

### Login, Shell/Command, Logout:

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su - Run as a substitute user (e.g., root)  
sudo - Execute a command as another user (e.g., root)  
exit - Exit a shell  
logout - Logout/exit a login shell (e.g., SSH shell)  
chroot - Run command or interactive shell with special root directory

### Remote Login and File Transfer:

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ssh - Secure remote login/shell  
sftp - Secure file transfer program  
scp - Secure remote file copy  
rsh - Remote login/shell (insecure!)  
rlogin - Remote login (insecure!)  
ftp - File transfer program (insecure!)  
rcp - Remote file copy (insecure!)

### Users:

-----  
passwd - Update a user's password  
chsh - Change your login shell  
useradd - Create a new user or update default new user information  
userdel - Delete a user account and related files  
usermod - Modify a user account  
groupadd - Create a new group  
groupdel - Delete a group  
groupmod - Modify a group

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### Printing and Formatting:

-----  
lpr - Print files  
lpq - Show printer queue status  
lprm - Cancel print jobs  
lpstat - Print cups status information  
enscript - Convert text files to PostScript for printing, etc.  
a2ps - Format files for printing on a PostScript printer  
mpage - print multiple pages per sheet on PostScript printer  
psnup - Put multiple Postscript pages per sheet

### Bootling, Startup/Runlevel, Shutdown:

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grub - Run the GRUB (boot loader) shell  
lilo - Install LILO boot loader  
init, telinit - Change system runlevel  
halt, reboot, poweroff - Stop the system  
shutdown - Bring the system down  
mkrescue - Make rescue floppy (to boot disk from floppy/cd)

### Services:

-----  
service - Start/stop/restart/status a system service/daemon  
chkconfig - Update/query runlevel information for system services  
update-rc.d, sysv-rc-conf - Update/query runlevel information for system services

### Network:

-----  
ping, ping6 - Send ICMP ECHO\_REQUEST to network hosts  
ifconfig - Configure a network interface  
ifup, ifdown - Start/stop a network interface  
route - Show/manipulate the IP routing table  
netstat - Print network connections, routing tables, etc.  
traceroute - Print the route packets take to network host  
ethtool - Display or change ethernet card settings  
host, dig, nslookup - DNS lookup utilities  
whois - Client for the whois directory service (DNS)  
arp - Manipulate the system ARP cache  
arping - Send ARP REQUEST to a neighbour host  
iptables - Administration tool for IPv4 packet filtering and NAT  
iwconfig - Configure a wireless network interface  
iwlist - Get detailed wireless interface information  
iwpriv - Configure driver-specific parameters of a wireless network interface  
wspy - Get wireless statistics from specific nodes

### X Server:

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Xorg - Configure X.org server  
xorgcfg - Graphical configuration tool for X.org server  
xorgconfig - Generate an xorg.conf file  
cvt - Calculate VESA CVT mode lines for xorg.conf  
gtf - Calculate VESA GTF mode lines for xorg.conf (older)  
xrandr - Get/set resolution, etc.  
xdpyinfo - X server settings/info  
xauth - X authorization utility  
xhost - X access control  
xmodmap - View/set key/mouse mappings  
setxkbmap - Set keyboard using the X Keyboard Extension (XKB)  
xkbcomp - Compile/writeout XKB keyboard description  
xev - Monitor X events (e.g., keymaps)  
xset - Sets user preferences for many things  
xsetroot - Change the "root window" appearance  
xprop - property displayer for X  
xdm, kdm, gdm - Display managers for X

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### Hardware:

-----  
hdparm - Get/set hard disk parameters  
lshw - List hardware  
lspci - List all PCI devices  
lsscsi - List all SCSI devices  
lsusb - List USB devices  
usbview - Display information on USB devices

### Kernel Modules and Configuration:

-----  
lsmod - Show the status of Linux kernel modules  
modprobe - Add and remove modules from the Linux kernel  
insmod - Insert a module into the Linux kernel  
rmmod - Remove a module from the Linux kernel  
modinfo - Show information about a Linux kernel module  
usbmodules - List kernel driver modules available for a USB device  
mkinitrd - Creates initial ramdisk images for preloading modules  
sysctl - Configure kernel parameters at runtime

### File Integrity Checking:

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md5sum - Compute and check MD5 message digest (checksum)  
shasum - Compute and check SHA1 message digest (checksum)

### RPM Software Package Management:

-----  
rpm - basic RPM package command  
urpmi - Mandriva RPM package command (understands dependencies)  
urpmi.addmedia, urpme, urpmf, urpmq - various urpmi-related commands  
rpm-drake - Mandriva GUI front end for urpmi  
yum - RH/Fedora RPM package command (understands dependencies)  
yumex - RH/Fedora GUI front end for yum

### Debian Software Package Management:

-----  
dpkg - basic Debian package command  
apt-get - Command line front end for APT (understands dependencies)  
aptitude - Advanced text and command line front end for APT  
synaptic - GUI front end for APT  
dselect - Menu-driven package manager

### Compiling and Libraries:

-----  
gcc -- Gnu Compiler Collection (C/C++ and more compiler)  
./configure - Standard command to use autoconf script to create makefile(s)  
make - Build program(s) from source (invoking compiler)  
ar - Create, modify, and extract from libraries (archives)  
ldconfig - Update link bindings info for shared libraries  
ldd - Print shared library dependencies for an executable  
size - List section sizes in object and library files  
nm - List symbols from object files  
objdump - Display information from object files  
strings - Display the printable strings in files  
readelf - Display information about ELF files

### Debugging

-----  
strace - Trace system calls and signals  
ltrace - Trace library calls  
gdb - GNU Debugger

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### Terminal:

-----  
stty - Change and print terminal line settings  
reset, tset - Terminal initialization  
clear - Clear the terminal screen  
screen - Terminal manager/multiplexer (multiple shells on a console)

### Job Control:

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jobs - List jobs (running in background)  
fg - Move job to foreground  
bg - Move job to background

### Time:

-----  
date - Print or set the system date and time  
hwclock - Query and set the hardware clock (RTC)  
ntpd, ntpdate - Set the system date and time via NTP  
time - Time a command/program and give resource usage

### Misc:

-----  
watch - Execute a program periodically, showing output fullscreen  
true, false - Do nothing, successfully, unsuccessfully  
mail, nail - Send and receive mail (command line)  
bc - An arbitrary precision calculator language (infix)  
dc - An arbitrary precision calculator language (RPN)