

Process Management	
<b>PS</b>	Show process information
Show running processes	ps -ef
Show running processes hide threads	ps tree -Tp
Show detailed information about a process	pgrep -a process_name
<b>KILL</b>	Sends a signal to a process usually to stopping a process
Terminate a program using SIGTERM	kill pid
List available signal names	kill -l
Terminate a program using SIGHUP	kill -1 pid
Terminate a program using SIGINT	kill -2 pid
Signal the operating system to immediately terminate a program	kill -9 pid
Pause a program until it resumes with the SIGCONT signal	kill -17 pid
Cancel a running process	Ctrl + c
Pause a running process	Ctrl + z
Move process to background	bg %job_id
Move process to foreground	fg %job_id
Remove job from the shell	command & disown
Show status of all jobs	jobs
Show status of a particular job	jobs job_id
Show status and process id's of all jobs	jobs -l
Show process id's of all jobs	jobs -p

Permission	
<b>CHOWN</b>	Change user and group ownership of files and folders
Change the owner user of a file or folder	chown username path/to/file
Change the owner user and group of a file or folder	chown user:group path/to/file
Recursively change the owner of a folder and its contents	chown -R user path/to/folder
Change the owner of a symbolic link	chown -h user path/to/symlink
Change the owner of a file or folder to match a reference file	chown --reference=path/to/reference_file path/to/file
<b>CHGRP</b>	Change group ownership of files and folders.
Change the owner of a file or folder	chgrp group path/to/file
Recursively change the owner of a folder and its contents	chgrp -R group path/to/folder
Change the owner of a symbolic link	chgrp -h user path/to/symlink
Change the owner of a file/folder to match a reference file	chgrp --reference=path/to/reference_file path/to/file
<b>CHMOD</b>	Change the access permissions of a file or directory
Give the user who owns a file the right to e[x]ecute it	chmod u+x file
Remove executable rights from the group	chmod g-x file
Give the user rights to read and write to a file or directory	chmod u+rw file



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## Permission (cont)

Give all users rights to read and execute

`chmod a+rx file`

Give others (not in the file owner's group) the same rights as the group

`chmod o=g file`

User, Group, Other

'u' | 'g' | 'o'

Read, Write, Execute

'r' | 'w' | 'x'

'+' | '-' | '='

Add, Revoke, Set

### Octal

0 = None, 1 = execute only, 2 = write only, 3 = write and execute, 4 = read only, 5 = read and execute, 6 = read and write, 7 = read, write and execute (full permission)

## Archive

**TAR** Create, Compress, Extract files

Create new archive from files `tar -cf name file1 file2 file3`

Append files to an existing archive `tar -rf archive_name files/to/add archive`

List archived files `tar -tvf archive_name`

Extract all files `tar -xf archive_name`

Extract an archive to specified directory `tar -xf archive_name -C path/to/dir`

Create a gzipped archive `tar -czf name file1 file2 file3`

Create a bzipipped archive `tar -cjf archive_name`

Extract gzipped archive `tar -xzf archive_name`

Extract bzipipped archive `tar -xjf archive_name`

Create a compressed archive, using archive suffix to determine the compression `tar -caf archive_name.tar.xz, archive_name.gz, archive_name.bz file1 file2 file3`

## Storage Media

Show all mounted filesystems `mount`

Mount a device to a directory `mount path/to/dev path/to/dir`

Mount all the filesystems defined in /etc/fstab `mount -a`

Unmount a filesystem `umount path/to/device`

Fsck (Dry Run) `fsck -N /path/to/dev`

Check for filesystem errors `fsck path/to/dev`

Fix detected errors `fsck -y /path/to/dev`

Show partitions `fdisk -l`

Run fdisk `fdisk /dev/target/device`

Create filesystem `mkfs.ext2 /path/to/dev [ext3, ext4, btrfs, ntfs]`

Create filesystem with a volume-label `mkfs.ntfs -L name /path/to/dev`

Create filesystem with specific UUID `mkfs.ntfs -U UUID /path/to/dev`

Mkfs (Dry Run) `mkfs.ext4 -vv`

Create a bootable usb media from a iso `dd bs=8M if=/path/to/iso of=/dev/usb_drive conv=fsync oflag=direct status=progress image`

## Secure Shell Host (SSH)

**SSH** Secure Shell is a protocol used to securely log onto remote systems. It can be used for logging or executing commands on a remote server.

Connect to a remote server `ssh username@remote_host`

Connect to a remote server with a specific identity (private key) `ssh -i path/to/key_file username@remote_host`

Connect to a remote server using a specific port `ssh -p 23 username@remote_host`

Execute a command on a remote server `ssh remote_host "example_command"`

### Secure Shell Host (SSH) (cont)

Compress all data if the connection is slow	ssh -C username@remote_host
Print debug information	ssh -v username@remote_host
Enable X11 forwarding	ssh -X username@remote_host
Generate SSH keys	ssh-keygen
Copy public SSH key to a server	ssh-copy-id ip_address
<b>SCP</b>	Secure copy files over ssh
Copy a local file to a remote host	scp path/to/file username@remote_host:path/to/save
Copy a file from a remote host to your local directory	scp username@remote_host:path/to/remote_file path/local/dir
Recursively copy the contents of a directory on a remote host to a local directory	scp -r path/to/local_dir remote_host:path/to/save
Use a specific ssh private key for authentication with the remote host	scp -i ~/.ssh/private_key local_file remote_host:path/to/save
Use a specific port	scp -P 23 path/to/file username@remote_host:path/to/save
Copying multiple files to a remote host	scp file1 file2 username@remote_host:path/to/save
Copying multiple file from remote host	scp username@local_host:path/to/{file1, file2}

### Kernel module handling

Show active kernel modules	lsmod
Show information about a specific kernel module	modinfo modulename
Insert a module into the Linux Kernel	insmod modulename
Remove a module from the Linux Kernel	rmmod modulename

### Kernel module handling (cont)

Generate a list of dependency description of kernel modules	depmod
<b>MODPROBE</b>	Add and remove modules from the Linux Kernel
Insert kernel modules	modprobe -a modulename1 modulename2
Remove kernel module	modprobe -r modulename1 modulename2
Prints current configuration	modprobe -c
Modprobe (Dry Run)	modprobe --show
Print messages about what the program is doing	modprobe -v

### File Searching

<b>FIND</b>	It can be used to find files and directories and perform subsequent operations on them
Search by name case sensitive	find /dir -name "search_term"
Search by name case insensitive	find /dir -iname "search_term"
Search by file type d=dir, f=file	find /dir -type f
Search by wildcard	find /dir "search_term", "search_term"
Search and execute a command	find /dir -exec command {} \;
<b>PLOCATE</b>	find files by name
Search for files	plocate search_term

### Tmux

<b>TMUX</b>	Terminal Multiplexer (prefix ctrl + a)
Enter copy mode	prefix + pageup
Choose a session from a list	prefix + s



## Tmux (cont)

Choose a window from a list	prefix -w
Show a clock	prefix -t
Zoom active pane rather maximize	prefix - z
Resize the pane up by 5	prefix + alt + up (arrow keys)
Resize the pane down by 5	prefix + alt + down (arrow keys)
Resize the pane left by 5	prefix + alt + left (arrow keys)
Resize the pane right by 5	prefix + alt + right (arrow keys)
Break the pane out and maximize to fullscreen	prefix + shift + !
Create a new window	prefix + c
Switch the attached client to the next session	prefix + shift + )
Switch the attached client to the previous session	prefix + shift + (
Select window	prefix + 0 to 9

## Kitty

<b>KITTY</b>	Terminal emulator (prefix ctrl + shift)
New window	prefix + enter
Select window	prefix + 1
Open new tab	prefix + t
Close tab	prefix + t
Next tab	prefix + right (arrow key)
Previous tab	prefix + left (arrow key)
Set tab title	prefix + alt + t
Resize window or pane	prefix + r
Edit kitty config file	prefix + F2

## User account administration

Create a user account	useradd username
Modify a user account	usermod username
Delete a user account	deluser username
Change user password	passwd username

## Miscellaneous

<b>ALIAS</b>	Creates aliases words that are replaced by a command string
Create a generic alias	word="command"
Remove an aliased command	unalias word
List all aliased words	alias -p
View the command associated to a given alias	alias word
<b>CAL</b>	Prints calendar information
Display calendar for the current month	cal
Display calendar for a specific month	cal month_number
Display a 12 month calendar for the current year	cal -y
<b>ECHO</b>	Display a line of text
Print a text message	echo example_text
Redirect input to a file	echo example_text >> filename
Verify ISO files with sha1sum	echo "hash" isoname   sha1sum -c
<b>FILE</b>	Determine file type and give a description of the type of the specified file
Determine file type	file path/to/file
Determine the mime encoding type of a file	file -i path/to/file
Try to look inside compressed files	file -z path/to/file



### Miscellaneous (cont)

Try to look inside compressed files but report information about the contents	file -Z path/t-o/file
<b>MAN</b>	Display manual pages
Dsisplay man page for a command	man command

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