LINUX COMMANDS CHEAT SHEET

System

- **uname** Displays Linux system information
- **uname -r** Displays kernel release information
- **uptime** Displays how long the system has been running including load average
- **hostname** Shows the system hostname
- **hostname** -i Displays the IP address of the system
- **last reboot** Shows system reboot history
- **date** Displays current system date and time
- **timedatectl** Query and change the System clock
- **cal** Displays the current calendar month and day
- **w** Displays currently logged in users in the system
- **whoami** Displays who you are logged in as

Hardware

- **dmesg** Displays bootup messages
- **cat /proc/cpuinfo** Displays more information about CPU e.g model, model name, cores, vendor id
- **cat /proc/meminfo** Displays more information about hardware memory e.g. Total and Free memory
- **lshw** Displays information about system's hardware configuration
- **lsblk** Displays block devices related information
- **free -m** Displays free and used memory in the system (-m flag indicates memory in MB)
- **lspci –tv** Displays PCI devices in a tree-like diagram
- **lsusb -tv** Displays USB devices in a tree-like diagram
- **dmidecode** Displays hardware information from the BIOS
- **hdparm -i /dev/xda** Displays information about disk data
- **badblocks -s /dev/xda** Tests for unreadable blocks on disk

Users

- **id** Displays the details of the active user e.g. uid, gid, and groups
- **last** Shows the last logins in the system
- **who** Shows who is logged in to the system
- **groupadd "admin"** Adds the group 'admin'
- **adduser "Sam"** Adds user Sam

- **userdel "Sam"** Deletes user Sam
- **usermod** Used for changing / modifying user information

File Commands

- **ls -al** Lists files - both regular & hidden files and their permissions as well.
- **pwd** Displays the current directory file path
- **mkdir 'directory_name'** Creates a new directory
- **rm file_name** Removes a file
- **rm -f filename** Forcefully removes a file
- **rm -r directory_name** Removes a directory recursively
- **rm -rf directory_name** Removes a directory forcefully and recursively
- **cp file1 file2** Copies the contents of file1 to file2
- **cp -r dir1 dir2** Recursively Copies dir1 to dir2. dir2 is created if it does not exist
- **mv file1 file2** Renames file1 to file2
- **touch file_name** Creates a new file
- **cat > file_name** Places standard input into a file
- **more file_name** Outputs the contents of a file
- **head file_name** Displays the first 10 lines of a file
- **tail file_name** Displays the last 10 lines of a file
- **gpg -c file_name** Encrypts a file
- **gpg file_name.gpg** Decrypts a file
- **wc** Prints the number of bytes, words and lines in a file
- **xargs** Executes commands from standard input

Process Related

- **ps** Display currently active processes
- **ps aux | grep 'telnet'** Searches for the id of the process 'telnet'
- **pmap** Displays memory map of processes
- **top** Displays all running processes
- **kill pid** Terminates process with a given pid
- **killall proc** Kills / Terminates all processes named proc
- **pkill process-name** Sends a signal to a process with its name
- **bg** Resumes suspended jobs in the background
- **fg** Brings suspended jobs to the foreground
- **fg n** job n to the foreground
- **lsof** Lists files that are open by processes
- **renice 19 PID** makes a process run with very low priority
- **pgrep firefox** find Firefox process ID
- **pstree** visualizing processes in tree model

File Permission

- **chmod octal filename** Change file permissions of the file to octal

Example

- **chmod 777 /data/test.c** Set rwx permissions to owner, group and everyone (everyone else who has access to the server)
- **chmod 755 /data/test.c** Set rwx to the owner and r_x to group and everyone
- **chmod 766 /data/test.c** Sets rwx for owner, rw for group and everyone
- **chown owner user-file** Change ownership of the file
- **chown owner-user:owner-group file_name** Change owner and group owner of the file
- **chown owner-user:owner-group directory** Change owner and group owner of the directory

Network

- **ip addr show** Displays IP addresses and all the network interfaces
- **ip address add 192.168.0.1/24 dev eth0** Assigns IP address 192.168.0.1 to interface eth0
- **ifconfig** Displays IP addresses of all network interfaces
- **ping host** ping command sends an ICMP echo request to establish a connection to server / PC
- **whois domain** Retrieves more information about a domain name
- **dig domain** Retrieves DNS information about the domain
- **dig -x host** Performs reverse lookup on a domain
- **host google.com** Performs an IP lookup for the domain name
- **hostname -i** Displays local IP address
- **wget file_name** Downloads a file from an online source
- **netstat -pnltu** Displays all active listening ports

Compression/Archives

- **tar -cf home.tar home<:code>** Creates archive file called 'home.tar' from file 'home'
- **tar -xf files.tar** Extract archive file 'files.tar'
- **gzip file** Compression a file with .gz extension

Install Packages

- **rpm -i pkg_name.rpm** Install an rpm package
- **rpm -e pkg_name** Removes an rpm package
- **dnf install pkg_name** Install package using dnf utility

Search

- **grep 'pattern' files** Search for a given pattern in files
- **grep -r pattern dir** Search recursively for a pattern in a given directory
- **locate file** Find all instances of the file
- **find /home/ -name "index"** Find file names that begin with 'index' in /home folder
- **find /home -size +10000k** Find files greater than 10000k in the home folder

Login

- **ssh user@host** Securely connect to host as user
- **ssh -p port_number user@host** Securely connect to host using a specified port
- **ssh host** Securely connect to the system via SSH default port 22
- **telnet host** Connect to host via telnet default port 23

File Transfer

- **scp file1.txt server2/tmp** Securely copy file1.txt to server2 in /tmp directory
- **rsync -a /home/apps /backup/** Synchronize contents in /home/apps directory with /backup directory

Disk Usage

- **df -h** Displays free space on mounted systems
- **df -i** Displays free inodes on filesystems
- **fdisk -l** Shows disk partitions, sizes, and types
- **du -sh** Displays disk usage in the current directory in a human-readable format
- **findmnt** Displays target mount point for all filesystems
- **mount device-path mount-point** Mount a device

Directory Traverse

- **cd ..** Move up one level in the directory tree structure
- **cd** Change directory to $HOME directory
- **cd /test** Change directory to /test directory