

# Ubuntu Linux Command Line Cheat Sheet

## Essential Commands

<code>sudo</code>	"Super User Do" gives you root access (administrative) access. It will be used at the beginning of most commands.
<code>man <i>command</i></code>	Detailed manual for a command
<code>nano</code>	Open the Nano text editor
<code>nano <i>file</i></code>	Open a file with Nano
<code>vi</code>	Open the Vi text editor
<code>vi <i>file</i></code>	Open a file with Vi
<code><i>command</i> -help</code> or <code>--help</code>	Display basic help about a command
<code>CTRL+c</code>	End or stop a command
<code> </code>	Pipe used to combine command together
<code>clear</code>	Remove previous text and clear the screen

## System Information

<code>uname -a</code>	Display Linux system information
<code>uname -r</code>	Display kernel release information
<code>cat /etc/os-release</code>	Show which version of Linux is installed
<code>uptime</code>	Show how long the system has been running + load
<code>hostname</code>	Show system host name
<code>hostname -I</code>	Display all local IP addresses of the host
<code>last reboot</code>	Show system reboot history
<code>date</code>	Show the current date and time
<code>cal</code>	Show this month's calendar
<code>echo "<i>information</i>"</code>	Print information to the screen
<code>shutdown now</code>	Gracefully shutdown the system immediately
<code>shutdown -r now</code>	Gracefully shutdown and reboot the system
<code>reboot</code>	Force a system restart
<code>systemctl [restart reload status] <i>program</i></code>	Restart, reload, or get the status of an application
<code><i>program</i> --version</code>	Show version information about an application
<code>pip3 freeze</code>	Show all packages install under PIP3
<code>alias</code>	Creates a shortcut <code>alias update="sudo apt update &amp;&amp; sudo apt upgrade -y &amp;&amp; sudo apt autoremove"</code>

## Directory Navigation

<code>cd ..</code>	To go up one level of the directory tree. (Change into the parent directory.)
<code>cd</code>	Go to the \$HOME directory
<code>cd ~</code>	Go to the \$HOME directory
<code>cd /</code>	Go to the \$ROOT directory
<code>cd <i>/path</i></code>	Change to the directory in the path

## File and Directory Commands

<code>ls</code>	List file names in a block
<code>ls -la</code>	List all files in a long listing (detailed) format and permissions
<code>pwd</code>	Display the present working directory
<code>mkdir <i>directory</i></code>	Create a directory
<code>touch <i>file</i></code>	Create an empty file or update the access and modification times of file.
<code>rm -f <i>file</i></code>	Force removal of file without prompting for confirmation
<code>rm -rf <i>directory</i></code>	Forcefully remove directory recursively (plus all files and folders contained in that directory)
<code>cp <i>file1 file2</i></code>	Copy file1 to file2
<code>cp -r <i>source_directory destination_directory</i></code>	Copy source_directory recursively to destination. If destination exists, copy source_directory into destination, otherwise create destination with the contents of source_directory.
<code>mv <i>file1 file2</i></code>	Rename or move file1 to file2. If file2 is an existing directory, move file1 into directory file2
<code>ln -s <i>/path/to/file linkname</i></code>	Create symbolic link to linkname
<code>cat <i>file</i></code>	View the contents of file
<code>less <i>file</i></code>	Browse through a text file
<code>head <i>file</i></code>	Display the first 10 lines of file
<code>tail <i>file</i></code>	Display the last 10 lines of file

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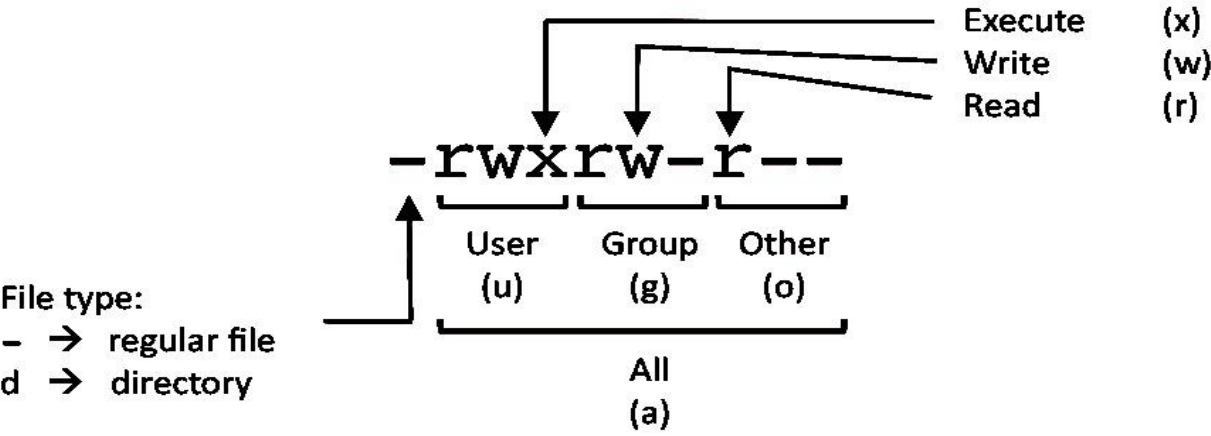
## Performance and Process Monitoring

<code>top</code>	Display and manage the top processes
<code>htop</code>	Interactive process viewer (top alternative)
<code>tail -100 /var/log/syslog</code>	Display the last 100 syslog messages
<code>tcpdump -i eth0</code>	Capture and display all packets on interface eth0
<code>tcpdump -i eth0 'port 80'</code>	Monitor all traffic on port 80 ( HTTP )
<code>lsof</code>	List all open files on the system
<code>lsof -u user</code>	List files opened by user
<code>free -h</code>	Display free and used memory ( -h for human readable, -m for MB, -g for GB.)
<code>ps</code>	Display your currently running processes
<code>ps -ef</code>	Display all the currently running processes on the system.
<code>ps -ef   grep processname</code>	Display process information for processname
<code>kill pid</code>	Kill process with process ID of pid
<code>killall processname</code>	Kill all processes named processname

## User Information and Management

<code>id</code>	Display the user and group IDs of your current user.
<code>last</code>	Display the last users who have logged onto the system.
<code>who</code>	Show who is logged into the system.
<code>w</code>	Display who is online
<code>whoami</code>	Who you are logged in as
<code>groupadd test</code>	Create a group named "test".
<code>adduser cisco</code>	Create an account names cisco (answer questions about password, name, etc.
<code>useradd -c "User Name" -m cisco</code>	Create an account named cisco, with a comment of "Cisco User" and create the user's home directory.
<code>usermod -aG sudo cisco</code>	Add the cisco account to the sudo group
<code>sudo viduso</code>	Change account <code>cisco</code> ALL=(ALL) NOPASSWD:ALL
<code>su - cisco</code>	
<code>pkill -u cisco</code>	Stop all process running for this user
<code>userdel cisco sudo</code>	Delete the user account and group its associated with
<code>user del -remove-home cisco</code>	Delete the user account and its home directory
<code>passwd</code>	Change the password for the current user

## File and Directory Permissions



<code>chmod 777 filename</code>	<code>rwx rwx rwx</code> Allow all permissions - Use sparingly!!!
<code>chmod 775 filename</code>	<code>rwx rwx r-x</code>
<code>chmod 755 filename</code>	<code>rwx r-x r-x</code>
<code>chmod 770 filename</code>	<code>rwx rwx ---</code>
<code>chmod 664 filename</code>	<code>rw- rw- r--</code>
<code>chmod 644 filename</code>	<code>rw- r-- r--</code>
<code>chmod +r +w +x -r -w -x</code>	Turn On or Off a permission
<code>chown -R Owner Group /path/to/directory</code>	Change ownership of the file or directory

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## Networking

<code>ip address</code>	Display all network interfaces and IP address
<code>ip addr show dev <i>eth0</i></code>	Display <i>eth0</i> address and details
<code>ethtool <i>eth0</i></code>	Query or control network driver and hardware settings
<code>ping <i>host</i> or <i>ip_address</i></code>	Send ICMP echo request to host
<code>whois <i>domain</i></code>	Display whois information for domain. Can be installed with <code>sudo apt install whois</code>
<code>dig <i>domain</i></code>	Display DNS information for domain
<code>dig -x <i>ip_address</i></code>	Reverse lookup of IP_ADDRESS
<code>host <i>domain</i></code>	Display DNS IP address for domain
<code>hostname -i</code>	Display the network address of the host name.
<code>hostname -I</code>	Display all local IP addresses of the host.
<code>wget http://domain.com/file</code>	Download http://domain.com/file
<code>netstat -nutlp</code>	Display listening tcp and udp ports and corresponding programs. Can be installed with <code>sudo apt install net-tools</code>
<code>traceroute <i>host</i> or <i>ip-address</i></code>	Find the route to a host. Can be install with <code>sudo apt install traceroute</code>

## Installing Packages

<code>apt update</code>	Update the cache information about the packages
<code>apt upgrade</code>	Upgrade the system by installing/upgrading packages
<code>apt full-upgrade</code>	Upgrade the system by removing/installing/upgrading packages
<code>apt dist-upgrade</code>	Upgrade to the latest OS distribution
<code>apt search <i>keyword</i></code>	Search for a package by keyword.
<code>apt-cache search</code>	Displays available information about installed and installable packages
<code>apt install <i>package</i></code>	Install package.
<code>apt remove <i>package</i></code>	Remove/uninstall package.
<code>apt autoremove</code>	Remove packages no longer needed
<code>apt install python3</code>	Install or update to the latest version of Python
<code>apt install python3-pip</code>	Install or update to the latest PIP3 package
<code>pip3 install package</code>	Use PIP3 to install a package

## Search

<code>grep pattern file</code>	Search for pattern in file
<code>grep -r pattern directory</code>	Search recursively for pattern in directory
<code>locate name</code>	Find files and directories by name. It can be installed with <code>sudo apt install mlocate</code>
<code>find /home/cisco -name 'prefix*'</code>	Find files in /home/john that start with "prefix".
<code>find /home -size +100M</code>	Find files larger than 100MB in /home
<code>dmesg   grep tty</code>	Display only tty messages from the kernel

## SSH and Telnet Logins

<code>ssh <i>user@host</i></code>	Connect to host as user on the default port 22
<code>ssh <i>user@host</i> -p <i>port</i></code>	Connect to host using a different port
<code>telnet <i>host</i></code>	Connect to host using the default port 23. Telnet is not secure.
<code>telnet <i>host port</i></code>	connect to host using a different port

## Disk Usage

<code>df -h</code>	Show free and used space on mounted filesystems
<code>df -i</code>	Show free and used inodes on mounted filesystems
<code>fdisk -l</code>	Display disks partitions sizes and types
<code>du -ah</code>	Display disk usage for all files and directories in human readable format
<code>du -sh</code>	Display total disk usage off the current directory