

| Command | Use | Description |
|-----------------------------------|-----------------------|---|
| File Commands | | |
| ls | List | Lists the current directory and files |
| ls -R | List sub directories | Lists files in sub directories also |
| ls -a | List hidden files | Lists the current directory including hidden files |
| ls -al | List details | Includes details: file size, permissions, owner |
| Cd <i>location</i> | Change directory | Changes directory to a specified location |
| cd .. | Move up one level | Navigates to the parent directory |
| cd ~ or cd | Home | Navigates to the home directory |
| cd / | Root directory | Navigates to the root directory |
| touch <i>filename</i> | Create file | Creates a file with the designated filename |
| cat <i>filename</i> | Display file contents | Displays the content of the designated file |
| cat <i>file1 file2 > file3</i> | Combine files | Combines two files (files 1 and 2) into one file (file 3) |
| mv <i>file "new file path</i> | Move file | Moves a file to the designated file path |
| mv <i>filename new_file_name</i> | Move and rename file | Moves a file and renames it |
| sudo | Superuser do | Execute any command with superuser privileges |
| rm <i>filename</i> | Delete file | Deletes the designated file |

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| man | Help | Shows the help text for a command |
| history | Command history | Displays previously used commands |
| clear | Clear terminal | Clears all inputs from the terminal |
| mkdir <i>directoryname</i> | Make directory | Creates a new directory |
| Rmdir <i>directoryname</i> | Delete directory | Deletes a directory |
| mv | Rename directory | Renames a directory |
| pr -x | Divide file | Divides the file into x columns |
| lpr <i>filename</i> | Print file | Prints a file |
| lp -# <i>filename</i> | Number of copies | Prints multiple copies of a file |
| lp -P <i>printename</i> | Specify printer | Prints to a specific printer |
| apt-get <i>filename</i> | Install | Installs the specified file using the advanced packaging tool (APT) |

Search Commands

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|-----------------------------------|---------------------------|---|
| locate <i>file</i> | Search | Searches the index for a specified file |
| grep <i>pattern files</i> | Pattern search | Searches for a specified pattern in designated files |
| grep -r | Recursive search | Searches the current directory and all subdirectories |
| grep -i | Case insensitive search | Finds files regardless of the case used to search |
| find <i>/directory/-name name</i> | Find files in a directory | Locates specified files in a specific directory |

File Permission Commands

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|---|------------------------|--|
| ls -l | List permissions | Lists current permissions r=read w=write x=execute -=no permissions |
| Chown <i>user</i> | Change owner | Changes ownership of the file or directory to the inputted user |
| Chown <i>user:group</i> <i>filename</i> | Change owner and group | Changes the user as well as the group for a file or directory |

Networking Commands

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| SSH <i>username@ip-address or hostname</i> | Perform remote login using SSH | Secure Shell (SSH) is an encrypted means of remotely accessing a device |
| put <i>file</i> | File upload | Uploads a file to a remote computer using SSH |
| get <i>file</i> | File download | Download a file from a remote computer using SSH |
| quit | Logout | Logs out of the SSH session |
| ping <i>hostname</i> or ping <i>ipaddress</i> | Ping a device | Uses Internet Control Messaging Protocol (ICMP) pings to assess network connectivity |
| ip a | List IP information | Lists current internet protocol information such as ipv4 and ipv6 address, ethernet adapter used, and MAC addresses. Color coded for fun! |
| ifconfig | List IP information | Traditional way to list IP address information |

Process Commands

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| bg | Background | Sends a current process to the background |
| fg | Foreground | Brings a background process to the foreground |
| top | List processes | List details on all active processes |
| ps | Process status | Lists the status of the current process including the process identification (PID), which is typically a five digit number. |
| kill <i>PID</i> | Kills a process | Kills a process by targeting the PID |
| nice <i>process</i> | Priority start | Starts a process with priority |
| renice <i>-n process</i> | Set priority | Changes the priority level of an already running process. Useful for running multiple applications. |
| df | List free disk space | Lists the amount of free disk space on your machine |
| free | List RAM usage | Shows the amount of RAM in-use and available |

Visual Display Editor (VI) Editing Commands

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|-----|---------------------|--|
| i | Insert | Insert characters at the cursor's location |
| a | Insert after cursor | Write characters after the cursor's location |
| A | Insert at end | Inserts characters at the end of the line |
| ESC | Exit inset mode | Terminates insert mode |
| u | Undo | Undos the last change. Very useful! |
| U | Undo all | Undo all changes to the entire line |
| o | Open new line | Opens a new line and enters insert mode |
| dd | Delete line | Deletes an entire line |

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| 3dd | Delete 3 lines | Deletes the 3 previous lines |
| D | Delete after cursor | Delete contents of the line after the cursor |
| C | Delete and insert | Similar to D but also enters insert mode |
| dw | Delete word | Delete a word at the cursor's location |
| 4dw | Delete 4 words | Deletes four words. Why 4? Why not! |
| cw | Change word | Changes a word |
| x | Delete character | Deletes a character at the cursor |
| r | Replace character | Replaces a single character at the cursor |
| R | Overwrite | Overwrite characters from cursor onward |
| s | Substitute character | Substitutes one character under the cursor then enters insert mode |
| S | Substitute line | Substitutes an entire line and begins to insert at the beginning of the next line |
| ~ | Change case | Changes the case of a single character |