

Cumulative Cheat Sheet - Hands-On Introduction to Linux Commands and Shell Scripting

Introduction to Linux

| Command | Syntax | Description | Example |
|-------------------------|-------------------------------|---------------------------------------|-------------------------|
| List | ls [OPTIONS] [FILE/DIRECTORY] | List files and directories at path | ls /home/user/documents |
| Print Working Directory | pwd | Print present working directory | pwd |
| Change Directory | cd [DIRECTORY] | Change current directory | cd /home/user/documents |
| Super user do | sudo [COMMAND] | Run command with superuser privileges | sudo apt update |
| Text Editor | nano [FILE] | Open file with Nano text editor | nano myfile.txt |

Introduction to Linux Commands

Informational, Navigational, & Management Commands

| Command | Syntax | Description | Example |
|--------------------|-------------------------------------|--|------------------------------------|
| Who Am I | whoami | Return username | whoami |
| User ID | id | Return current user or group ID | id |
| System Information | uname [OPTIONS] | Display system information | uname -a |
| Manual Pages | man [COMMAND] | Display manual page for a command | man ls |
| Curl | curl [OPTIONS] [URL] | Transfer data from or to server | curl https://some_website.com |
| Date | date [OPTIONS] | Display current date and time | date |
| Find | find [DIRECTORY] [OPTIONS] | Find files and directories at specified path | find /home/user -name '*.txt' |
| Make Directory | mkdir [DIRECTORY] | Create new directory | mkdir myfolder |
| Remove Directory | rmdir [DIRECTORY] | Remove empty directory | rmdir myfolder |
| Process Status | ps [OPTIONS] | Display process status information | ps -ef |
| Table of Processes | top | Display live system resource usage | top |
| Disk Usage | df [OPTIONS] [FILESYSTEM] | Display disk space usage | df -h |
| Create Empty File | touch [FILE] | Create new file or update timestamp | touch myfile.txt |
| Copy | cp [OPTIONS] [SOURCE] [DESTINATION] | Copy files or directories from source to destination | cp myfile.txt /home/user/documents |
| Move | mv [OPTIONS] [SOURCE] [DESTINATION] | Move or rename files and directories | mv myfile.txt /home/user/documents |
| Remove | rm [OPTIONS] [FILE/DIRECTORY] | Remove files | rm my_scratch_file.txt |
| | | Remove nonempty directory | rm -r path_to_temp_directory |
| | rmdir [OPTIONS] [DIRECTORY] | Remove empty directory | rmdir path_to_my_directory |

| Command | Syntax | Description | Example |
|-------------|-------------------------------|--------------------------------------|----------------------|
| Change Mode | chmod [OPTIONS] [MODE] [FILE] | Change file or directory permissions | chmod u+x myfile.txt |

Working with Text Files, Networking & Archiving Commands

| Command | Syntax | Description | Example |
|-------------|---------------------------------|--|---|
| Concatenate | cat [FILE] | Display the contents of a file | cat myfile.txt |
| | | Concatenate and display contents of multiple files | cat file1 file2 |
| More | more [FILE] | Display file one screen at a time | more myfile.txt |
| Head | head [OPTIONS] [FILE] | Display first N lines of file | head -5 myfile.txt |
| Tail | tail [OPTIONS] [FILE] | Display last N lines of file | tail -5 myfile.txt |
| Echo | echo [ARGUMENTS] | Display arguments in console | echo Hello, World! |
| Sort | sort [OPTIONS] [FILE] | Alphanumerically sort file contents | sort file.txt |
| Unique | uniq [OPTIONS] [FILE] | Report or remove consecutively repeated lines in file | uniq file.txt |
| Word Count | wc [OPTIONS] [FILE] | Print the number of lines, words, and characters in a file | wc file.txt |
| Grep | grep [OPTIONS] PATTERN [FILE] | Search for a specified pattern in a file | grep "hello" file.txt |
| Paste | paste [OPTIONS] [FILE1] [FILE2] | Merge lines of files side by side | paste file1.txt file2.txt |
| Cut | cut [OPTIONS] [FILE] | Remove sections from each line of a file | cut -d":" -f1 /etc/passwd |
| Tar | tar [OPTIONS] [FILE] | Archive files together into a single file | tar -czvf archive.tar.gz /directory |
| Zip | zip [OPTIONS] [FILE] | Compress files into a zip archive | zip archive.zip file1.txt file2.txt |
| Unzip | unzip [OPTIONS] [FILE] | Uncompress files from a zip archive | unzip archive.zip |
| Hostname | hostname | Print the name of the current host system | hostname |
| Ping | ping [OPTIONS] HOSTNAME/IP | Send ICMP ECHO_REQUEST packets to a network host | ping google.com |
| ip | ip [INTERFACE] | Display or configure network interface parameters | ip addr |
| IP | ip [OPTIONS] | Show or manipulate routing, devices, policy routing, and tunnels | ip addr |
| Curl | curl [OPTIONS] URL | Transfer data from or to a server | curl https://some_website.com |
| Wget | wget [OPTIONS] URL | Download files from the web | wget https://some_website.com/some_file.txt |

Introduction to Shell Scripting

| Command | Syntax | Description | Example |
|-------------------|--------------------|-------------------------------------|--------------|
| Shebang | #!/bin/[shell] | First line of shell script | #!/bin/bash |
| Pipe | filter1 filter2 | Chain any number of filters | ls sort -r |
| Locate executable | which [EXECUTABLE] | Display location of bash executable | which bash |

| Command | Syntax | Description | Example |
|--|-------------------------|--|---|
| Bash | bash [SCRIPT] | Interpret and run script using Bash shell | bash script.txt |
| Set | set [OPTION] | List all shell variables | set |
| Define variable | [VARIABLE_NAME]=[VALUE] | Define shell variable by name and assign value | name="John" |
| Read | read [VARIABLE] | Read from standard input and store result in variable | read name |
| Env | env | Print all environment variables and their values | env |
| Export | export [VARIABLE] | Extend scope of local variable to all child processes | export name |
| Crontab | crontab [OPTIONS] | Open crontab default editor | crontab -e |
| | | List all cron jobs | crontab -l |
| Schedule tasks to run at specified times using cron daemon | m h dom mon dow command | Append date/time to file every Sunday at 6:15 pm | 15 18 * * 0 date >> sundays.txt |
| | | Back up home directory every Monday at 3:00 am | 0 3 * * 1 tar -cvf my_backup_path\my_archive.tar.gz \$HOME\ |
| | | Run shell script first minute of first day of each month | 1 0 1 * * ./My_Script.sh |

Authors

Jeff Grossman
Sam Propupchuk

Other Contributors

Rav Ahuja



Skills Network