LINUX COMMAND LINE CHEAT SHEET

Version #1

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1 - SYSTEM INFORMATION

`uname -a`	# Display Linux system information
`uname -r`	# Display kernel release information
`cat /etc/redhat-release`	# Show which version of Red Hat installed
`lsb_release -a`	# Show which version of Ubuntu installed
`uptime`	# Show how long the system has been running + load
`hostname`	# Show system host name
`hostname -I`	# Display all local IP addresses of the host
`last reboot`	# Show system reboot history
`date`	# Show the current date and time
`cal`	# Show this month's calendar
`w`	# Display who is online
`whoami`	# Who you are logged in as

2 - HARDWARE INFORMATION

`dmesg`	# Display messages in kernel ring buffer
`cat /proc/cpuinfo`	# Display CPU information
`cat /proc/meminfo`	# Display memory information
`free -h`	# Display free and used memory (`-h` for human readable, `-m` for MB, `-g` for GB.)
`lspci -tv`	# Display PCI devices
`lsusb -tv`	# Display USB devices
`dmidecode`	# Display DMI/SMBIOS (hardware info) from the BIOS
`hdparm -i /dev/sda`	# Show info about disk sda
`hdparm -tT /dev/sda`	# Perform a read speed test on disk sda
`badblocks -s /dev/sda`	# Test for unreadable blocks on disk sda
`lshw`	# Display information about CPU, memory, storage, and network interfaces

`lsblk`	# Display information about all storage devices

3 - PERFORMANCE MONITORING AND STATISTICS

`top`	# Display and manage the top processes
`htop`	# Interactive process viewer (top alternative)
`mpstat 1`	# Display processor related statistics
`vmstat 1`	# Display virtual memory statistics
`iostat 1`	# Display I/O statistics
`tail -100 /var/log/messages`	# Display the last 100 syslog messages (Use `/var/log/syslog` for Debian based systems.)
`tcpdump -i eth0`	# Capture and display all packets on interface eth0
`tcpdump -i eth0 'port 80'`	# Monitor all traffic on port 80 (HTTP)
`lsof`	# List all open files on the system
`lsof -u user`	# List files opened by `user`
`free -h`	# Display free and used memory (-h for human readable, -m for MB, -g for GB.)
`watch df -h`	# Execute "df -h", showing periodic updates
`mpstat`	# Display statistics about CPU usage
`pidstat`	# Display statistics about processes running

4 - USER INFORMATION AND MANAGEMENT

`id`	# Display the user and group ids of your current user.
`last`	# Display the last users who have logged onto the system.
`who`	# Show who is logged into the system.
`w`	# Show who is logged in and what they are doing.
`groupadd test`	# Create a group named "test".
`useradd -c "John Smith" -m john`	# Create an account named john, with a

comment of "John Smith" and create the user's home directory.

`userdel john` # Delete the john account.

`usermod -aG sales john` # Add the john account to the sales group

5 - FILE AND DIRECTORY COMMANDS

`ls -al` # List all files in a long listing (detailed) format

`pwd` # Display the present working directory

`mkdir directory` # Create a directory

`rm file` # Remove (delete) file

`rm -r directory` # Remove the directory and its contents recursively

`rm -f file` # Force removal of file without prompting for confirmation

`rm -rf directory` # Forcefully remove directory recursively

`cp file1 file2` # Copy file1 to file2

`cp -r source_directory destination` # Copy `source_directory` recursively to `destination`. If destination exists, copy `source_directory` into `destination`, otherwise create `destination` with the contents of `source_directory`.

`mv file1 file2` # Rename or move `file1` to `file2`. If file2 is an existing directory, move file1 into directory file2

`ln -s /path/to/file linkname` # Create symbolic link to `linkname`

`touch file` # Create an empty file or update the access and modification times of file.

`cat file` # View the contents of `file`

`less file` # Browse through a text file

`head file` # Display the first 10 lines of `file`

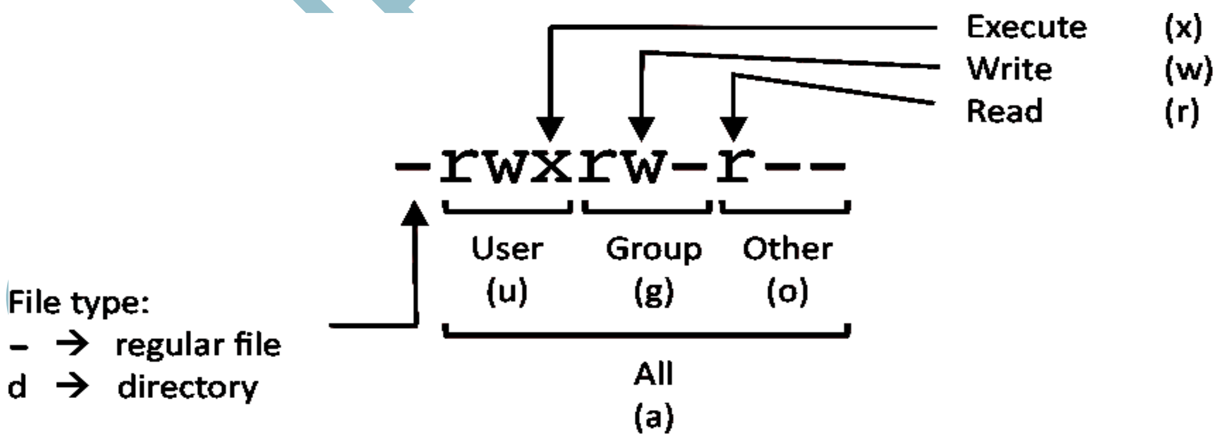
`tail file` # Display the last 10 lines of `file`

`tail -f file` # Display the last 10 lines of `file` and "follow" the file as it grows.

6 - PROCESS MANAGEMENT

`ps`	# Display your currently running processes
`ps -ef`	# Display all the currently running processes on the system.
`ps -ef | grep processname`	# Display process information for `processname`
`top`	# Display and manage the top processes
`htop`	# Interactive process viewer (top alternative)
`kill pid`	# Kill process with process ID of `pid`
`killall processname`	# Kill all processes named `processname`
`program &`	# Start `program` in the background
`bg`	# Display stopped or background jobs
`fg`	# Brings the most recent background job to foreground
`fg n`	# Brings job `n` to the foreground
`nohup processname`	# Runs a process even after user logs out

7 - FILE PERMISSIONS



PERMISSION			EXAMPLE	
U	G	W		
rwx	rwx	rwx	chmod 777 filename	# Use sparingly!
rwx	rwx	r-x	chmod 775 filename	
rwx	r-x	r-x	chmod 755 filename	
rw-	rw-	r--	chmod 664 filename	

```
rw- r-- r--      chmod 644 filename

LEGEND

U = User
G = Group
W = World

r = Read
w = write
x = execute
- = no access
```

```
chown john /path/to/file              # Change ownership of /path/to/file to
                                      john

chgrp sales /path/to/file             # Change group ownership of
                                       /path/to/file to group sales
```

8 - NETWORKING

```
ip a                          # Display all network interfaces and IP address

ip addr show dev eth0         # Display eth0 address and details

ethtool eth0                  # Query or control network driver and hardware settings

ping host                     # Send ICMP echo request to host

whois domain                  # Display whois information for domain

dig domain                    # Display DNS information for domain

dig -x IP_ADDRESS             # Reverse lookup of IP_ADDRESS

host domain                   # Display DNS IP address for domain

hostname -i                   # Display the network address of the host name.

hostname -I                   # Display all local IP addresses of the host.

 wget http://domain.com/file   # Download http://domain.com/file

netstat -nutlp                # Display listening tcp and udp ports and corresponding
                              programs
```

`ifconfig`	# Display information about network interfaces
`traceroute host`	# Display the path that packets take to host
`tcpdump`	# Capture and analyze network traffic

9 - ARCHIVES (TAR FILES)

`tar cf archive.tar directory`	# Create tar named `archive.tar` containing `directory`.
`tar xf archive.tar`	# Extract the contents from `archive.tar`.
`tar czf archive.tar.gz directory`	# Create a gzip compressed tar file name `archive.tar.gz`.
`tar xzf archive.tar.gz`	# Extract a gzip compressed tar file.
`tar cjf archive.tar.bz2 directory`	# Create a tar file with bzip2 compression
`tar xjf archive.tar.bz2`	# Extract a bzip2 compressed tar file.

10 - INSTALLING PACKAGES

`yum search keyword`	# Search for a package by `keyword`.
`yum install package`	# Install `package`.
`yum info package`	# Display description and summary information about `package` for RHEL based systems.
`rpm -i package.rpm`	# Install package from local file named `package.rpm`
`yum remove package`	# Remove/uninstall `package` for RHEL based systems.
`yum update package`	# Update package with name `package` for RHEL based systems.

`tar zxvf sourcecode.tar.gz`
`cd sourcecode`
`./configure`
`make`
`make install`
	# Install software from source code.

`apt-get update`	# Update package list for Debian based systems.
`apt-get upgrade`	# Upgrade all installed packages to their newest version for Debian based systems.
`apt-get install package`	# Install package with name `package` for Debian based systems.
`apt-remove package`	# Remove package with name package for Debian based systems.

11 - SEARCH

`grep pattern file`	# Search for `pattern` in `file`
`grep -r pattern directory`	# Search recursively for `pattern` in `directory`
`locate name`	# Find files and directories by name
`find /home/john -name 'prefix*'`	# Find files in `/home/john` that start with "prefix".
`find /home -size +100M`	# Find files larger than 100MB in /home
`whereis program`	# Display the location of the binary, source and manual page files of `program`.
`which program`	# Display the path of executable that would run if `program` is executed.

12 - SSH LOGINS

`ssh host`	# Connect to `host` as your local username.
`ssh user@host`	# Connect to `host` as `user`
`ssh -p port user@host`	# Connect to `host` using `port`
`ssh-keygen`	# Create a new SSH key pair.
`ssh-copy-id user@host`	# Copy SSH key to the `remote` host to enable passwordless logins for `user`.

13 - FILE TRANSFERS

`scp file.txt server:/tmp`	# Secure copy `file.txt` to the /tmp folder on `server`
`scp server:/var/www/*.html /tmp`	# Copy `*.html` files from `server` to the local /tmp folder.
`scp -r server:/var/www /tmp`	# Copy all files and directories recursively from `server` to the current system's /tmp folder.
`rsync -a /home /backups/`	# Synchronize `/home` to `/backups/home`
`rsync -avz /home server:/backups/`	# Synchronize files/directories between the local and remote system with compression enabled
`ftp host`	# Connect to FTP server on the remote `host`.

14 - DISK USAGE

`df -h`	# Show free and used space on mounted filesystems
`df -i`	# Show free and used inodes on mounted filesystems
`fdisk -l`	# Display disks partitions sizes and types
`du -ah`	# Display disk usage for all files and directories in human readable format
`du -sh`	# Display total disk usage off the current directory
`du -a directory`	# Display size of all files in `directory`.
`findmnt`	# List all mounted file systems with details.

15 - DIRECTORY NAVIGATION

`cd ..`	# To go up one level of the directory tree. (Change into the parent directory.)
`cd`	# Go to the $HOME directory
`cd /etc`	# Change to the /etc directory
`alias goto='cd /etc/'`	# Create `goto` alias for command `cd /etc/` .

16 - SECURITY

`passwd`	# Change the current user's password.
`sudo -i`	# Switch to the root account with root's environment. (Login shell.)
`sudo -s`	# Execute your current shell as root. (Non-login shell.)
`sudo -l`	# List sudo privileges for the current user.
`visudo`	# Edit the sudoers configuration file.
`getenforce`	# Display the current SELinux mode.
`sestatus`	# Display SELinux details such as the current SELinux mode, the configured mode, and the loaded policy.
`setenforce 0`	# Change the current SELinux mode to Permissive. (Does not survive a reboot.)
`setenforce 1`	# Change the current SELinux mode to Enforcing. (Does not survive a reboot.)
`SELINUX=enforcing`	# Set the SELinux mode to enforcing on boot by using this setting in the `/etc/selinux/config` file.
`SELINUX=permissive`	# Set the SELinux mode to permissive on boot by using this setting in the `/etc/selinux/config` file.
`SELINUX=disabled`	# Set the SELinux mode to disabled on boot by using this setting in the `/etc/selinux/config` file.

17 - LOGGING AND AUDITING

`dmesg`	# Display messages in kernel ring buffer.
`journalctl`	# Display logs stored in the systemd journal.
`journalctl -u servicename`	# Display logs for a specific unit (service).