LINUX COMMAND LINECHEAT SHEET

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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

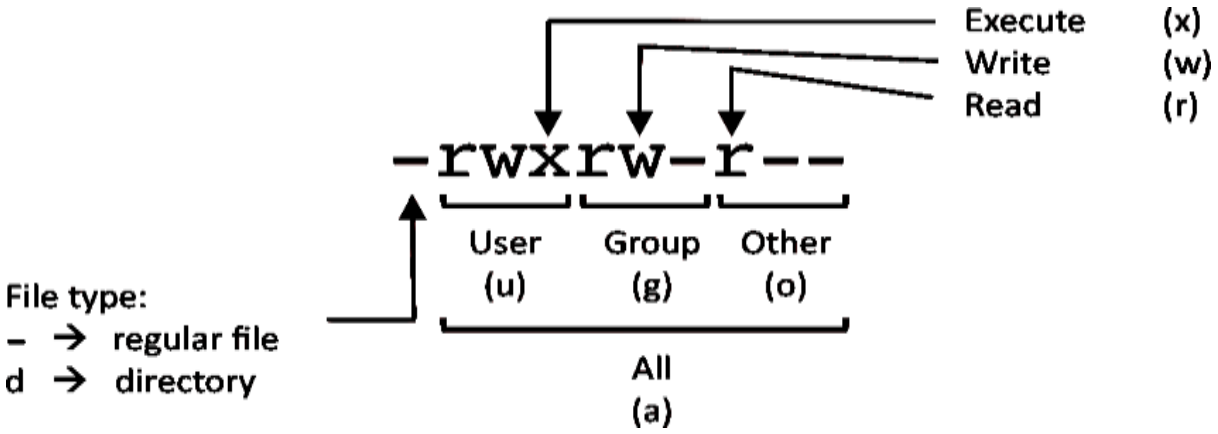
5 - FILE AND DIRECTORY COMMANDS

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

```
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).