

## General Linux Commands

<b>&lt; filename</b>	<i>Uses a files content as input for another command.</i>
<b>&gt; filename</b>	<i>Uses a commands output as content to be placed into a file.</i>
<b>2&gt; filename</b>	<i>Redirects only standard error stream messages to a file.</i>
<b>&amp;&gt; filename</b>	<i>Redirects both standard output and standard error to a file.</i>
<b>ls</b>	
<b>-a</b>	<i>Lists all files, including hidden ones.</i>
<b>-l</b>	<i>Lists inode numbers as part of the file listing.</i>
<b>-r</b>	<i>Reverses the listing.</i>
<b>-t</b>	<i>Sorts list by files/folders modified most recently.</i>
<b>-Z</b>	<i>Displays SELinux attributes along with the file listing.</i>
<b>uname</b>	
<b>-a</b>	<i>Prints all available information uname has on the local system.</i>
<b>-p</b>	<i>Prints the processor type.</i>
<b>touch filename</b>	<i>Creates the filename in question if it doesn't already exist, or changes the last modified timestamp of it if it already existed.</i>
<b>cp</b>	<i>Copy command.</i>
<b>-R</b>	<i>Recursive copy.</i>
<b>-a</b>	<i>Copy that preserves file attributes in the process.</i>
<b>ln <i>linkedfile linkname</i></b>	<i>Link command.</i>
<b>-s</b>	<i>Symbolic link command.</i>
<b>rm</b>	<i>File/directory removal command.</i>
<b>-r</b>	<i>Recursive removal.</i>
<b>-f</b>	<i>Forced removal, as long as you have correct permissions.</i>
<b>alias</b>	<i>Displays all current command aliases used by the Linux user.</i>
<b>find <i>filepath</i></b>	<i>Can find a variety of things at the file path specified. Recursive by default.</i>
<b>-name <i>filename</i></b>	<i>Searches for the filename specified.</i>
<b>-user <i>username</i></b>	<i>Searches for files owned by the user specified.</i>
<b>-group <i>groupname</i></b>	<i>Searches file files owned by the group specified.</i>
<b>locate <i>filename</i></b>	<i>Searches the system for any filenames that contain the mentioned character string.</i>
<b>sort <i>filename</i></b>	<i>By default, sorts the named file alphabetically.</i>
<b>-m</b>	<i>Merges two files specified, and assumes that their contents are already sorted.</i>
<b>-f</b>	<i>Case-insensitive sort.</i>
<b>-r</b>	<i>Reverse sort.</i>
<b>-t <i>fieldseparator</i></b>	<i>Specifies a separator character or string to sort columns by.</i>
<b>grep <i>criteria filepath</i></b>	<i>Incredibly complex search command that looks for specified criteria at the given file path.</i>
<b>-i</b>	<i>Case insensitive search.</i>
<b>-v</b>	<i>Reverse search; returns the opposite of the criteria you list.</i>
<b>-r</b>	<i>Recursive search.</i>
<b>diff <i>firstfile secondfile</i></b>	<i>Examines the line differences in each of the files, and allows you to merge changes.</i>
<b>sha256sum</b>	
<b><i>filename</i></b>	<i>Displays the SHA256-hashed checksum value of the file in question.</i>
<b>wc</b>	<i>Word count; can count words, lines, and characters.</i>
<b>-m</b>	<i>Character count.</i>
<b>-l</b>	<i>Line count.</i>
<b>-w</b>	<i>Word count.</i>

<b>sed filename</b>	<i>The “Stream Editor” command. Used primarily to find and replace strings in files.</i>
<code>'s/firstword/secondword/g'</code>	<i>Search a file for all instances of the first word, then replace them with the second word.</i>
<b>dd</b>	
<code>if=iso_name.iso</code>	<i>Specifies the input file for the command.</i>
<code>of=/dev/sde</code>	<i>Specifies the output file, or in this case, the export media, for the command.</i>
<code>bs=512k</code>	<i>Sets the block size for writing this .iso file to disk as 512k.</i>
<b>vipw</b>	<i>Shortcut to open the /etc/passwd file in vi.</i>
<code>-s</code>	<i>Opens the /etc/shadow file instead.</i>
<b>vigr</b>	<i>Shortcut to open the /etc/group file in vi.</i>
<code>-s</code>	<i>Opens the /etc/gshadow file instead.</i>
<b>visudo</b>	<i>Shortcut to open the /etc/sudoers file in vi.</i>
<b>CTRL-ALT-F1</b>	<i>Out of the six available command terminal windows, changes to the first (default) one.</i>
<b>CTRL-ALT-F2</b>	<i>Changes to the second available command terminal window.</i>
<b>sestatus</b>	<i>Displays the current status of SELinux.</i>
<b>sysctl</b>	
<code>-p filename</code>	<i>Immediately loads the settings from either a specified file, or from /etc/sysctl.conf if no file is otherwise listed.</i>
<b>lsmod</b>	<i>Lists the status of all the modules loaded by the Linux kernel.</i>
<b>modprobe</b>	
<code>-a modulename(s)</code>	<i>Inserts all of the specified module names into the Linux kernel, if possible.</i>
<code>-c</code>	<i>Displays a list of all Linux module load statuses for a typical boot.</i>
<code>-f</code>	<i>Attempts to strip any information out of the module, such as versioning requirements, that would otherwise prevent it from loading. Use with caution.</i>
<b>ssh</b>	
<code>-X</code>	<i>Initiates an SSH session that allows X11-based GUI applications to remote run.</i>
<code>hostname</code>	<i>Specifies the hostname or IP address to attempt to connect into.</i>
<b>nmap</b>	
<code>localhost</code>	<i>Opens an NMAP port scan of the local system against itself.</i>
<b>mail</b>	
<code>username</code>	<i>Begins typing a local email message to the username specified.</i>
<code>CTRL-D</code>	<i>Ends the email message that you’re typing.</i>
<b>chroot directoryname</b>	<i>Changes the root system directory; usually attempted from rescue mode.</i>
<code>/sysroot</code>	<i>The typical folder that’s mounted as root in rescue mode.</i>
<b>dmesg</b>	<i>Displays the contents of the dmesg log, which contains a number of system boot log messages as well as recorded hardware errors.</i>
<b>journalctl</b>	<i>The SystemD log message journaling command.</i>
<code>--boot</code>	<i>Only displays entries since the last boot.</i>
<code>-u service.name -f</code>	<i>Tails the log entries just for the service named.</i>
<code>-p messagelevel</code>	<i>Filters messages based on the syslog level of the message, such as ‘warning’.</i>
<code>-n number</code>	<i>Displays the last ‘x’ number of entries in the log.</i>
<b>systemctl</b>	<i>SystemD daemon control process command.</i>
<code>restart servicename</code>	<i>Restarts the service mentioned.</i>
<code>start servicename</code>	<i>Starts the service mentioned.</i>
<code>stop servicename</code>	<i>Stops the service mentioned.</i>
<code>reload servicename</code>	<i>If supported, reloads the configuration file without stopping the named service.</i>
<code>status servicename</code>	<i>Displays the current run status of the mentioned service.</i>
<code>enable/disable servicename</code>	<i>Turns the named service on or off upon boot in the current SystemD target.</i>
<code>mask servicename</code>	<i>Prevents any users besides root from making changes to the named service.</i>

<code>list-units --type=service --all</code>	<i>Lists all service type units.</i>
<code>list-units --type=target --all</code>	<i>Lists all target type units.</i>
<code>list-unit-files</code>	<i>Lists all units relative to their startup status (enabled, disabled).</i>
<code>list-dependencies targetname</code>	<i>Lists all dependencies for the unit target mentioned.</i>
<code>get-default</code>	<i>Gets the default target mode.</i>
<code>set-default targetname</code>	<i>Sets the system to use the target name specified as the default.</i>
<code>isolate targetname</code>	<i>Changes to the given target, if possible.</i>
<b>system-cgls</b>	<i>Displays the cGroup hierarchy in tree format; helpful for tracking down process parents.</i>
<b>timedatectl</b>	<i>Displays the local NTP and time options configured on the system.</i>
<code>set-timezone timezone</code>	<i>Used to change the system timezone to the timezone mentioned.</i>
<b>chronyc sources -v</b>	<i>Displays the time details currently configured through ChronyD.</i>
<b>ntpq -p</b>	<i>Displays NTP daemon information about sources.</i>

## Virtual Machine Commands

<b>virt-manager</b>	<i>Launches the GUI Virtual Machine Manager application.</i>
<b>virsh destroy vmname</b>	<i>Initiates a hard (forcible) shutdown of the named virtual machine.</i>
<b>virsh list -all</b>	<i>Lists details of all installed virtual machines.</i>
<b>virsh autostart vmname</b>	<i>Sets the specified virtual machine to automatically start upon host boot.</i>
<b>virsh capabilities</b>	<i>Lists the hosts abilities as a hypervisor.</i>
<b>virsh start vmname</b>	<i>Turns the named virtual machine on.</i>
<b>virsh shutdown vmname</b>	<i>Gracefully attempts to turn the named virtual machine off.</i>
<b>virt-install</b>	
<code>-n vmname</code>	<i>Specifies the name for the created virtual machine.</i>
<code>--vcpus 2</code>	<i>Sets the amount of vCPUs for the virtual machine to '2'.</i>
<code>-r 1024</code>	<i>Sets the amount of RAM for the virtual machine to 1024MB.</i>
<code>--disk path=/virt/virt.img,size=20GB</code>	<i>Creates the primary 20GB hard drive for the virtual machine.</i>
<code>-l directoryname</code>	<i>Tells the installer to look in the specified folder for the installation files.</i>
<code>--graphics vnc</code>	<i>Installs VNC for remote graphics management.</i>
<code>-x ks=kickstartfile</code>	<i>Extended option for declaring a Kickstart auto file.</i>
<b>virt-clone --original=vmname \</b>	<i>Full command to clone a virtual machine, specify the name for the clone,</i>
<b>--name=newvmname \</b>	<i>and where to put the resulting disk files (would have multiple files if the</i>
<b>--file=/var/lib/libvirt/images/vmname.img</b>	<i>virtual machine in question had multiple disks.</i>

## Common Regular Expression Switches

<code>'</code>	<i>Singles quotes are used to denote the start and ending of a regular expression.</i>
<code>.</code>	<i>Matches any single character. Can be used with the * multiplier to match any number of characters.</i>
<code>[]</code>	<i>Match any singly character included within the square brackets.</i>
<code>&amp;</code>	<i>Match the preceding element zero or one time.</i>
<code>+</code>	<i>Match the preceding element one or more times.</i>
<code>*</code>	<i>Match the preceding element zero or more times.</i>
<code>^</code>	<i>Match the beginning of a line.</i>
<code>\$</code>	<i>Match the end of a line.</i>

## Networking Commands

<b>ip addr</b>	<i>Replaces the old 'ifconfig' command; shows IP interface information.</i>
<i>add ipaddress/subnet dev ens192</i>	<i>Adds the IP address specified to the ens192 interface.</i>
<b>ip link set dev ens192 up/down</b>	<i>Turns the ens192 interface on or off.</i>
<b>ip addr flush dev ens192</b>	<i>Removes all IP addresses from the ens192 interface.</i>
<b>ip neigh</b>	<i>Replaces the old 'arp -a' command; displays ARP neighbors.</i>
show	<i>Displays a more human-readable table of neighbor status.</i>
<b>ip route</b>	<i>Replaces the old 'netstat -r' command; displays the routing table.</i>
<b>ss</b>	<i>"Socket System" command, can give you socket information.</i>
-tupna	<i>Displays all listening or stale sockets.</i>
-tuna4	<i>Displays only IPv4 sockets, minus the process IDs.</i>
<b>dhclient ens192</b>	<i>Enables the DHCP client on the ens192 interface.</i>
<b>nmcli</b>	<i>Command line version of the Network Manager GUI tool.</i>
dev status	<i>Shows the line-level interface status of all network connections.</i>
<b>nmtui</b>	<i>Equivalent to the old-school 'setup' command section for the network; provides a text-based interface for configuring your network.</i>
<b>nm-connection-editor</b>	<i>GUI tool that opens the Network Manager interface.</i>

## IPTables Command Syntax

<b>iptables</b>	<i>The old Linux firewall system that's based on the concept of "chains".</i>
-A	<i>Appends a rule to the end of the chain.</i>
-D	<i>Deletes a rule from a chain. Specified by the rule number of the packet pattern.</i>
-L	<i>Lists the current configured rules in the chain.</i>
-F	<i>Flushes all the rules in the current iptables chain.</i>
INPUT	<i>All incoming packets are checked against the rules in this chain.</i>
OUTPUT	<i>All outgoing packets are checked against the rules in this chain.</i>
FORWARD	<i>All packets being forwarded (if this Linux machine is a router) will be checked against the rules in this chain.</i>
-s ipaddress	<i>Checks packets against the specified source IP address.</i>
-d ipaddress	<i>Checks packets against the specified destination IP address.</i>
-p tcp/udp --dport port	<i>Checks packets against the specified destination TCP/UDP port.</i>
-m state --state OPEN	<i>Checks packets that are in an open traffic state.</i>
-i ens192	<i>Checks packets that are coming in on interface 'ens192'.</i>
DROP	<i>Drops the packet.</i>
REJECT	<i>Drops the packet, and notifies the sending host.</i>
ACCEPT	<i>Processes the packet in the method the -A option specifies.</i>

## Kickstart Tools

<b>system-config-kickstart</b>	<i>Opens the graphical Kickstart editing utility.</i>
/root/anaconda.ks	<i>Specifies the Kickstart file to use.</i>

## Firewalld Commands

<b>firewall-config</b>	<i>Launches the GUI-based configuration tool for Firewalld.</i>
<b>firewall-cmd</b>	<i>The CLI-based configuration command for Firewalld.</i>
--get-default-zone	<i>Returns the default firewall zones that rules are applied to.</i>
--set-default-zone=internal	<i>Changes the default firewall zone to the internal zone.</i>
--list-all	<i>Lists all the configured interfaces and services that are allowed through a zone.</i>
--zone=dmz --add-service=http	<i>Adds the HTTP service for the DMZ zone.</i>
--permanent --add-service=ftp	<i>Adds the FTP service for the default zone, and makes the change persistent.</i>
--reload	<i>Applies the current pending changes to the Firewalld running configuration.</i>

## Standard/Extended ACL Commands

<b>chmod filename</b>	<i>Changes standard permissions on files and folders.</i>
u+t	<i>Sets the Sticky Bit for users on the specified file/folder.</i>
g+s	<i>Sets the SGID Bit for groups on the specified file/folder.</i>
o=rw	<i>Gives the 'other' users read and write access on the specified file/folder.</i>
<b>chown username filename</b>	<i>Changes the ownership of the specified file/folder to the username listed.</i>
<b>chgrp groupname filename</b>	<i>Changes the group ownership of the specified file/folder to the username listed.</i>
<b>getfacl filename</b>	<i>Prints the extended ACL details of a file or folder.</i>
<b>setfacl parameters filename</b>	<i>Can modify extended ACL details for files and folders.</i>
-b	<i>Removes all extended ACL entries, but leaves the standard ones.</i>
-d	<i>Specifies the 'default' option, which works similar to the Sticky Bit in filesystems.</i>
-k	<i>Deletes default ACL entries.</i>
-m	<i>Modifies an ACL for a file or folder.</i>
-R	<i>Recursive switch.</i>
-x	<i>Removes a specific ACL entry.</i>
u:username:r	<i>Adds read permissions for the username specified.</i>
g:groupname:-	<i>Removes all access for the specified group.</i>

## SSH Configuration Commands

<b>sshd</b>	<i>The daemon service for SSH; this command may need to be run to start the service.</i>
<b>ssh-agent</b>	<i>Holds private keys for a variety of key signature algorithms.</i>
<b>ssh-add</b>	<i>Adds private keys to the authentication agent, ssh-agent.</i>
<b>ssh-keygen</b>	<i>A utility that creates public/private key pairs for SSH.</i>
-b keysize	<i>Generates an RSA key with the bitsize specified; normal is 8192.</i>
-t dsa	<i>Generates a DSA key with a bitsize of 1024.</i>
<b>ssh-copy-id</b>	<i>A script that copies a public key to a target remote system.</i>
-i filepath username@servername	<i>Copies the local SSH key specified in the file path to the remote host.</i>

## SELinux Commands:

<b>getenforce</b>	<i>Displays the current SELinux level; can be enforcing, permissive, or disabled.</i>
<b>sestatus</b>	<i>Displays more detailed information about the current SELinux settings.</i>

<b>setenforce</b>	<i>Changes the current level of SELinux enforcement.</i>
enforcing	<i>Changes the current SELinux level to enforcing.</i>
permissive	<i>Changes the current SELinux level to permissive.</i>
disabled	<i>Changes the current SELinux level to disabled.</i>
<b>semanage</b>	<i>SELinux status management command.</i>
login -l	<i>Displays the SELinux user status screen, which shows user contexts.</i>
login -a -s user_u username	<i>(A)dds the (s)pecified user into the user_u SELinux context.</i>
boolean -l	<i>Lists the information on each available Boolean.</i>
fcontext -l	<i>Lists the file contexts that are currently the default.</i>
fcontext -a -t default_t foldername	<i>Adds the default type context for the specified foldername.</i>
<b>id -Z</b>	<i>Displays the SELinux content for the currently signed-on user.</i>
<b>getsebool</b>	<i>Can be used to retrieve SELinux Boolean variable information.</i>
-a	<i>Displays a full list of all SELinux Boolean variables.</i>
variablename	<i>Displays the status of the named Boolean variable.</i>
<b>setsebool</b>	<i>Used to change various SELinux Boolean variable settings.</i>
variablename status	<i>Used to persistently change the status of the named Boolean variable.</i>
<b>chcon filename</b>	<i>Used to change SELinux contexts for files and directories.</i>
-R	<i>Recursive switch.</i>
-u usercontextname	<i>User context switch.</i>
-t typecontextname	<i>Type context switch.</i>
--reference directoryname	<i>Uses the referenced directory as a template and applies its SELinux context to the directory you want.</i>
<b>restorecon directoryname</b>	<i>Can restore a directory to its original SELinux type context.</i>
-F	<i>Forces a restore on all context, not just the type context.</i>
-R	<i>Recursive switch.</i>
<b>ps -eZ</b>	<i>Displays a list of running Linux processes with their SELinux contexts.</i>
<b>ausearch</b>	<i>SELinux event audit tool command.</i>
-m avc	<i>Specifies the Access Vector Cache messages to be listed.</i>
-c sudo	<i>Specifies the common name to be searched for in the log; "sudo" in this case.</i>
<b>sealert</b>	<i>Used to display more readable SELinux log information.</i>
-a /var/log/audit/audit.log	<i>Uses the SELinux audit controls log specifically.</i>
-b	<i>Launches the GUI-based SELinux troubleshooting browser.</i>
<b>system-config-selinux</b>	<i>Launches the GUI SELinux configuration tool.</i>

## Important GRUB Boot Variables

<b>linux16 *</b>	<i>The line that begins with "linux16" is a boot statement line, and there may be multiple.</i>
<b>systemd.unit=emergency.target</b>	<i>Added onto the end of the linux16 line; no filesystem is mounted, apart from the root filesystem in read-only mode.</i>
<b>system.unit=multi-user.target</b>	<i>Added to the end of the linux16 line; boots the system to multi-user mode.</i>
<b>init=/sysroot/bin/sh</b>	<i>Added to the end of the linux16 line; starts a shell and mounts the root filesystem in read-only mode. Does not require a password.</i>
<b>rd.break</b>	<i>“ “</i>
<b>rhgb quiet</b>	<i>Disables verbose messages on boot; remove the 'quiet' option to enable them again.</i>

## GRUB Linux Commands

### **grub2-mkconfig**

`-o grub_filepath`

*GRUB v2 configuration compiler tool.*

*Regenerates the new GRUB file; normally, the `/boot/grub2/grub.cfg` file is the one that would be used.*

### **grub2-set-default**

`1`

*Changes the default bootloader entry number.*

*Changes to the **second** entry in the GRUB bootloader file; note that this is the second entry because the numeric system here starts at '0'.*

### **grub2-install**

*Installs the GRUB2 bootloader if it's not already installed.*

## GRUB Shell Commands

### **ls**

*Lists the available partition options for boot.*

### **cat filepath**

*Displays the contents of the file at the path named.*

### **search.file grubfilepath**

*Searches available partitions for the file path mentioned, and returns the results.*

### **insmod lvm**

*Initializes the module for LVM filesystems, so GRUB can read them.*

### **set root=filesystem/folder**

*Changes the root variable for the filesystem to the folder mentioned.*

### **linux filesystem/kernelimage**

*Command to specify the kernel for boot and the root directory.*

`root=/dev/mapper/rhel-root`

### **initrd filesystem/initramfilelocation**

*Specifies the INIT RAM file location for boot.*

### **boot**

*Assuming that you've configured the preceding kernel and INIT RAM file locations correctly, boots the Linux system.*

## Filesystem & Disk Commands

### **df**

`-h`

*"Disk Free" command. Used to view free space on filesystems.*

*Human-readable option. Presents information in a cleaner format.*

### **findmnt**

*Prints all mounted filesystems in a tree-style format.*

### **fdisk diskidentifier**

*Disk formatting utility.*

`-l`

*Lists all partitions that the fdisk utility can see.*

### **partprobe partitionname**

*Forces the Linux kernel to read a newly created partition, making it usable.*

### **mkswap partitionidentifier**

*Used on SWAP partitions made with parted to build the SWAP filesystem.*

### **swapon partitionidentifier**

*Used after the mkswap command to turn the SWAP feature on in the OS.*

### **mkfs.ext2 partitionidentifier**

*Creates an EXT2 filesystem on the selected partition.*

### **mkfs.ext3 partitionidentifier**

*Creates an EXT3 filesystem on the selected partition.*

### **mkfs.ext4 partitionidentifier**

*Creates an EXT4 filesystem on the selected partition.*

### **mkfs.xfs partitionidentifier**

*Actually formats an XFS partition after it's created in a partition tool.*

### **umount filepath**

*Unmounts the selection filesystem gracefully, if possible.*

### **mount partitionidentifier mountpath**

*Mounts the specified partition in the selected filesystem path.*

`-a`

*Mounts all filesystems as defined in the `/etc/fstab` file by default.*

`-r`

*Mounts the specified filesystem as read-only.*

`-L label`

*Mounts the filesystem that has the specified label.*

`-U uuid`

*Mounts the filesystem that has the defined disk UUID.*

`-o options`

*Allows you to manually specify the mount options used for mounting.*

`-t type`

*Used to manually specify mount format type; commonly used with CD-ROMs to manually specify the `iso9660` type. Is also seen with NFS shares.*

<b>pvcreate</b> <i>partitionidentifier</i>	<i>Creates a Physical Volume specification on the partition for use with LVM.</i>
<b>vgcreate</b> <i>groupname partitions</i>	<i>Creates a Volume Group of partitions for LVM.</i>
<b>vgextend</b> <i>groupname partitions</i>	<i>Adds partitions to an existing volume group, thus extending it.</i>
<b>lvcreate</b> <i>-l size groupname -n name</i>	<i>Creates a Logical Volume of a certain size for the specified Volume Group, then names it a name of your choice.</i>
<b>lvextend</b> <i>-L +size volumename</i>	<i>Increases of the named volume by the amount specified.</i>
<b>lv*</b>	<i>Refers to a set of commands located in the /usr/sbin/ directory for interacting with logical volumes.</i>
<b>pv*</b>	<i>Refers to a set of commands located in the /usr/sbin/ directory for interacting with physical volumes.</i>
<b>vg*</b>	<i>Refers to a set of commands located in the /usr/sbin/ directory for interacting with volume groups.</i>
<b>xfs_growfs</b> <i>volumename</i>	<i>Grows the XFS volume mentioned.</i>
<b>resize2fs</b> <i>volumename</i>	<i>Can grow an EXT2, EXT3, or EXT4 partition.</i>
<b>blkid</b> <i>pathtopartition</i>	<i>Used to find out the UUID of a partition, usually by pointing to it in /dev/sd*.</i>

## FDISK Commands

<b>a</b>	<i>Marks the boot flag on a disk partition, making it bootable by GRUB by default.</i>
<b>d</b>	<i>Deletes the currently marked partition.</i>
<b>l</b>	<i>Lists available partition types the command can handle.</i>
<b>n</b>	<i>Creates a new disk partition on the current disk.</i>
<b>p</b>	<i>Creates a Primary partition on the volume, as opposed to an extended.</i>
<b>p</b>	<i>Prints the current partition table, so you can see what's already on the disk.</i>
<b>q</b>	<i>Quits without saving changes.</i>
<b>t</b>	<i>Can change the partition code type; for example, code 82 makes the partition a SWAP partition.</i>
<b>w</b>	<i>Writes the changes you've made to disk and then exits.</i>

## GDISK Commands

<b>c</b>	<i>Changes a partition's name.</i>
<b>d</b>	<i>Deletes the currently marked partition.</i>
<b>i</b>	<i>Shows detailed information on a partition.</i>
<b>n</b>	<i>Creates a new partition.</i>
<b>q</b>	<i>Quits without saving any of the changes made.</i>
<b>t</b>	<i>Can change the partition code type; for example, code 82 makes the partition a SWAP partition.</i>
<b>v</b>	<i>Verifies the disk; good for confirming if there are errors on it.</i>
<b>w</b>	<i>Writes the changes you've made to disk and then exits.</i>

## PARTED Commands

<b>mkpart</b>	<i>Creates a new partition on the selected disk.</i>
<b>mklabel</b>	<i>Used to create a logical disk label, which also creates the partition table type.</i>
<b>msdos</b>	<i>Creates an MBR-style partition table.</i>
<b>gpt</b>	<i>Creates a GPT-style partition table.</i>
<b>rm</b> <i>partitionnumber</i>	<i>Removes the partition number that you've specified.</i>
<b>print</b>	<i>Prints the current flags, labels, and other information about the selected disk.</i>
<b>set</b>	<i>Used to set flags on partitions.</i>

## RPM/YUM Commands

<b>rpm packagefile</b>	<i>Red Hat Package Manager command.</i>
-e	<i>Displays error messages in detail; useful for fixing dependency issues.</i>
--force	<i>Can be used to force an installation; sometimes used for older packages.</i>
-F	<i>Only upgrades existing packages; doesn't install if package doesn't exist.</i>
-h	<i>Uses hash marks to indicate progress; commonly combined with -v.</i>
-i	<i>Install switch.</i>
-K	<i>Checks signature verification on a package.</i>
-q applicationname	<i>Query option; used to query if an application is currently installed. Can be combined with other switches to query aspects specific to those switches.</i>
-U	<i>Upgrade switch; installs a package if it doesn't exist, or upgrades it if it does.</i>
-v	<i>Verbose switch; shows progress and status of the change.</i>
-V packagename	<i>Version check; checks to see what files have changed in the package.</i>
<b>yum</b>	<i>The Yellowdog Update Manager tool; used for repository-based installations.</i>
install packagename	<i>Installs the package mentioned; can install multiples at once.</i>
update packagename	<i>Updates the package mentioned; can update multiples at once.</i>
remove packagename	<i>Removes the package mentioned; can remove multiples at once.</i>
list	<i>Can do a listing of various packages, installed or available.</i>
group operation groupname	<i>Can perform an operation on a named package group, such as "Virtualization Host", to install or remove everything in the group at once.</i>
group list hidden	<i>Lists all the available package groups from the current repositories.</i>
-y	<i>Added onto the end of a command, will automatically acknowledge any yes/no questions as part of the operation.</i>
whatprovides string	<i>Used in conjunction with a text string, can provide parent package information useful for resolving dependencies.</i>
clean all	<i>Flushes the YUM cache, and cleans up any outstanding residual information.</i>
repolist	<i>Lists all current YUM repos configured on the system, as well as their status.</i>
makecache	<i>Forces YUM to re-download and compile metadata information for repos.</i>
<b>yumdownloader packagename</b>	<i>Can be used to just download YUM-based packages; not install them.</i>
<b>createrepo folderpath</b>	<i>Can create a repository file based off the folder/network path mentioned.</i>
<b>gpk-update-viewer</b>	<i>Launches the GUI-based YUM Package Manager tool.</i>
<b>gpk-prefs</b>	<i>Launches the GUI-based YUM Update Preferences tool.</i>
<b>gpk-application</b>	<i>Launches the GUI-based YUM Software tool.</i>
<b>subscription-manager</b>	<i>Used for managing RH software subscription services.</i>
--username=username --password=password	<i>Credentials for the RH account the software subscription was registered under.</i>
attach --auto	<i>Used to register the subscription under the default subscription pool in the RH account.</i>
list --available	<i>Lists all available subscriptions for the RH account.</i>
attach --pool=poolid	<i>Attaches the subscription to the specified pool.</i>
repos	<i>Lists all available repos in the current subscription pool.</i>
--enable=repoid	<i>Enables the repo specified as an additional.</i>

## User/Group Management Commands:

<b>useradd <i>username</i></b>	<i>Command to add and modify default flags for user accounts.</i>
-c <i>comment</i>	<i>Adds a comment for the passwd file for the user.</i>
-d <i>homefolder</i>	<i>Manually specifies the home folder location for the user.</i>
-g <i>groupname</i>	<i>Adds the user to a group in the process of creating it.</i>
-m <i>foldername</i>	<i>Creates the user's home directory at the same time as the user.</i>
-p <i>password</i>	<i>Specifies the password for the newly-created user account.</i>
-s <i>shellname</i>	<i>Specifies a shell to use for the account if one apart from the default is needed.</i>
<b>groupadd <i>groupname</i></b>	<i>Command to add a group to the system.</i>
-g <i>groupid</i>	<i>Manually chooses a group ID value; the default next in line is otherwise used.</i>
-r	<i>Creates the group as a system group.</i>
<b>groupdel <i>groupname</i></b>	<i>Deletes the specified group from the system.</i>
<b>userdel <i>username</i></b>	<i>Deletes the specified user from the system.</i>
-r	<i>Recursive switch; deletes the user's home folder in the process.</i>
<b>system-config-users</b>	<i>Launches the GUI-based Red Hat User Administration tool.</i>
<b>usermod <i>username</i></b>	<i>Command to modify various aspects of currently existing users.</i>
-c <i>comment</i>	<i>Modifies the comment for the user stored in the passwd file.</i>
-d <i>homefolder</i>	<i>Changes the user's current home directory.</i>
-e <i>expiredate</i>	<i>In yyyy-mm-dd format, declares when this user account will expire.</i>
-g <i>groupname</i>	<i>Changes the user's default logon group. Can be name or GID.</i>
-s <i>shellname</i>	<i>Changes the user's default shell.</i>
<b>groupmod <i>groupname</i></b>	<i>Command to modify various aspects of a group.</i>
-g <i>groupid</i>	<i>Changes the group ID of the group.</i>
-n <i>newname</i>	<i>Allows you to change the name of the group in question.</i>
<b>sg <i>groupname</i></b>	<i>Allows you to switch to a special group for the span of a single command.</i>
-c <i>commandname</i>	<i>Specifies the command you're switching groups on.</i>

## Authentication Commands:

<b>authconfig</b>	<i>Used to generate a configuration file for the SSSD service, which is used to control a variety of different external authentication methods.</i>
<b>authconfig-tui</b>	<i>Provides a CLI-based interface for getting external authentication configured.</i>
<b>authconfig-gtk</b>	<i>Opens the GUI-based tool for configuring external authentication.</i>

## Process & Scheduling Commands:

<b>ps</b>	<i>Process management comment for viewing process details.</i>
-u <i>username</i>	<i>Shows all of the processes associated with the named user account.</i>
aux	<i>Displays a top-style view of running processes along with associated user.</i>
l	<i>Displays a long listing as opposed to a short one.</i>
-Z	<i>Shows the SELinux context of processes.</i>
<b>top</b>	<i>Similar to the Windows Task Manager, just in CLI Linux format.</i>
k	<i>Will prompt you for a process ID to kill – all within the top command itself!</i>
<b>iostat</b>	<i>Displays overall disk load-related information.</i>
<b>sar</b>	<i>Shows historical data related to CPU usage.</i>
-a	<i>Shows more detailed data than the standard sar command.</i>

<b>nice -n -10 processorscriptname</b>	<i>Adjusts a process affinity to be -10; default is 0, and negative numbers indicate precedence.</i>
<b>renice -n 10 processid</b>	<i>Adjusts a currently-running process to have an affinity of 10, making it have a lower precedence.</i>
<b>kill processid</b>	<i>Attempts to gracefully shut down the process ID specified.</i>
-9	<i>Will forcibly kill the process immediately.</i>
<b>killall processid</b>	<i>Attempts to gracefully restart the process ID mentioned, as well as all the child processes under it.</i>
<b>crontab</b>	<i>Command for editing cron table entries.</i>
-e	<i>Edits an existing crontab table.</i>
-l	<i>Lists the entries in the current user's cron table.</i>
-r	<i>Removes cron tables and entries.</i>
-u username	<i>Allows the root user to edit another user's cron table.</i>
<b>at when + timemodifier</b>	<i>The Automated Task utility. Allows you to easily one-time schedule a task.</i>
now + 1 day	<i>As an example, sets the task window to launch tasks one day from now.</i>
Ctrl-D	<i>Used to close out of the 'at' scheduler window.</i>
<b>atq</b>	<i>Displays the current AT task queue.</i>
<b>atrm tasknumber</b>	<i>Removes the specified task from the AT queue.</i>

## Archive & Compression Commands:

<b>gzip filename</b>	<i>gZip utility command. Compresses the file specified.</i>
-d	<i>Decompress switch.</i>
<b>bzip2 filename</b>	<i>bZip utility command. Compresses the file specified.</i>
-d	<i>Decompress switch.</i>
<b>tar</b>	<i>Tape Archive utility. Must be used with switches to work.</i>
c	<i>Creation switch; creates an archive.</i>
f filename	<i>Use the filename specified for this action.</i>
v	<i>Verbose switch; more detailed output.</i>
x	<i>Extraction switch; used to decompress an archive.</i>
z	<i>Compression switch; compresses resulting file.</i>

## Key Exam Directories & Files

<b>/var/lib/libvirt/images</b>	<i>Default directory for KVM Hypervisor virtual machines.</i>
<b>/root/anaconda.ks</b>	<i>Default system Kickstart config file template.</i>
<b>/etc/nsswitch.conf</b>	<i>Specifies database priorities for namespace searching.</i>
<b>/etc/hosts</b>	<i>Equivalent to the HOSTS file in Windows.</i>
<b>/etc/resolv.conf</b>	<i>Contains the DNS server and lookup space information.</i>
<b>/etc/hostname</b>	<i>File to set the local hostname.</i>
<b>/etc/cron.daily/mlocate</b>	<i>Script to forcibly re-run the locate daemon script immediately.</i>
<b>/etc/cron.daily/man-db.cron</b>	<i>Script to manually run the MAN database sync, for programs you just installed and need documentation for.</i>
<b>/etc/selinux/config</b>	<i>The primary configuration file location for SELinux.</i>
<b>/etc/selinux/targeted/context/files</b>	<i>Contains all of the default SELinux context configuration files.</i>
<b>/etc/default/grub</b>	<i>The default GRUB template file; make changes to it instead of the .cfg file.</i>
<b>/boot/grub2/grub.cfg</b>	<i>The actual GRUB config file; don't make changes to it directly.</i>
<b>/usr/lib/systemd/system</b>	<i>Default SystemD target location directory.</i>

<b><i>/etc/chrony.conf</i></b>	<i>Default configuration file for ChronyD.</i>
<b><i>/proc/swaps</i></b>	<i>This file contains the currently-used SWAP filesystems list.</i>
<b><i>/etc/pki/rpm-gpg/RPM_GPG-redhat-release</i></b>	<i>Default Red Hat GPG key locations; used for RPM package signing and verification.</i>
<b><i>/etc/passwd</i></b>	<i>Conventional Linux password storage file.</i>
<b><i>/etc/shadow</i></b>	<i>Shadow password encrypted password file.</i>
<b><i>/etc/group</i></b>	<i>Conventional Linux group configuration file.</i>
<b><i>/etc/gshadow</i></b>	<i>Shadow group encrypted groups file.</i>
<b><i>/etc/login.defs</i></b>	<i>Contains system account information such as password age, length, etc.</i>
<b><i>/etc/security/access.conf</i></b>	<i>Allows you to configure a number of console security defaults.</i>
<b><i>/etc/skel</i></b>	<i>This folder contains the default “skeleton” configuration files for new user accounts.</i>
<b><i>/etc/bashrc</i></b>	<i>Contains the default variables for new users running BASH.</i>
<b><i>/etc/profile.d</i></b>	<i>Contains all the startup/login scripts run by BASH for BASH shell users.</i>
<b><i>/etc/nslcd.conf</i></b>	<i>Default config file for the LDAP authentication client service.</i>
<b><i>/etc/cron.deny</i></b>	<i>Specifies which users can’t use CRON tasks.</i>
<b><i>/etc/rsyslog.conf</i></b>	<i>Default config file for the RSYSLOG daemon for logging.</i>
<b><i>/etc/logrotate.conf</i></b>	<i>The system’s log rotation config file.</i>