Common administrative commands in Red Hat Enterprise Linux 5, 6, 7, and 8

System basics

TASK		RHEL
View subscription information	`/etc/sysconfig/rhn/systemid`	5 6
	`subscription-manager identity`	6 7 8
Configure subscription	`rhnreg_ks`	6
	`rhn_register` [1,3]	5 6 7 8
	`subscription-manager` [2]	6 7 8
View system profile	`hwbrowser`	5
	`sosreport` `dmidecode`	5 6 7 8
	`lstopo` `lscpu`	6 7 8
	`cat/proc/cpuinfo` `lshw`	8
View RHEL version information	`/etc/redhat-release`	5 6 7 8

1 Be aware of potential issues when using subscription-manager on Red Hat Enterprise Linux 5: https://access.redhat.com/solutions/129003.

2 Subscription-manager is used for Satellite 6, Satellite 5.6 with SAM and newer, and Red Hat's CDN.

3 RHN tools are deprecated on Red Hat Enterprise Linux 7. rhn_register should be used for Satellite server 5.6 and newer only. For details, see: What subscription management services are offered by RHSM?, Transition of Red Hat Network Classic Hosted to Red Hat Subscription Management, and Satellite 5.6 unable to register RHEL 7 client system due to rhn-setup package not included in Minimal installation.

Software management

TASK		RHEL
Install software	`yum groupinstall`	5 6
	`yum group install`	7 8
	`yum install`	5 6 7 8
View software info	`yum groupinfo`	5 6
	`yum group info`	7 8
	`yum info`	5 6 7 8
Update software	`yum update`	5 6 7 8
Upgrade software	`yum upgrade`	5 6 7 8
Configure software repository	`subscription-manager repos` `/etc/yum.repos.d/*.repo`	5 6 7 8
Find package owning file	`rpm -qf` *filename* `yum provides` *filename-glob*	5 6 7 8
View software version	`rpm -q` *packagename*	5 6
	`yum list installed packagename` `rpm -q packagename`	7 8
View installed software	`rpm -qa` `yum list installed`	5 6 7 8
Install a module	`yum module install module_name`	8
View info on a module	`yum module info module_name`	8
View a module's streams	`yum module info module_name`	8

Change module streams	`yum module remove module_name:stream`
	`yum module reset module:stream`
	`yum module install module:new_stream`
		8

List available modules	`yum module list`	8

File systems, volumes, and disks

TASK		RHEL
Default file system	`ext3`	5
	`ext4`	6
	`xfs`	7 8
Create/ modify disk partitions	`ssm create`	7
	`gdisk`	7 8
	`ssm_create`	8
	`fdisk` `parted`	5 6 7 8
Format disk partition	`ssm create`	7 8
	`mkfs.filesystem_type (ext4, xfs)` `mkswap`	5 6 7 8
Defragment disk space	`xfs_fsr`	6 7 8
	`copy data to new file system` `fsck (look for 'non-con-tiguous inodes')`	5 6 7 8
Mount storage	`ssm mount`	7 8
	`mount` `/etc/fstab`	5 6 7 8
Mount and activate swap	`/etc/fstab` `swapon -a`	5 6 7 8
Configure static mounts	`/etc/fstab`	5 6 7 8
View free disk space	`df`	5 6 7 8

View logical volume info	`lvdisplay`
	`lvs`
	`vgdisplay`
	`vgs`
	`pvdisplay`
	`pvs`
		5 6 7 8

Create physical volume	`ssm create (if backend is lvm)`	8
	`pvcreate`	5 6 7 8
Create volume group	`ssm create (if backend is lvm)`	8
	`vgcreate`	5 6 7 8
Create logical volume	`ssm create (if backend is lvm)`	8
	`lvcreate`	5 6 7 8
Enlarge volumes formatted with default file system	`resize2fs`	5 6
	`xfs_growfs` `ssm resize`	7 8
	`vgextend` `lvextend`	5 6 7 8

Shrink volumes formatted with default file system	`resize2fs`
	`lvreduce`
	`vgreduce`
		5 6

	`XFS cannot currently be shrunk; copy desired data to a smaller file system.`	7 8
Check/repair file system	`ssm check`	8
	`fsck`	5 6 7 8
View NFS share	`showmount -e` `mount`	5 6 7 8
Configure NFS share	`service nfs reload`	5 6
	`systemctl reload nfs. service`	7 8
	`/etc/exports`	5 6 7 8
Configure on-demand auto-mounts	`/etc/auto.master.d/*. autofs` `/etc/auto.*`	8

Change file permissions	`chmod`
	`chown`
	`chgrp`
	`umask (future file creation)`
		8

Change file attributes	`chattr`	8
Change access control list	`setfacl`	8

Jobs and services

TASK		RHEL
List all services	`chkconfig --list` `ls /etc/init.d/`	5 6

	`systemctl -at service`
	`ls /etc/systemd/ system/*.service`
	`ls /usr/lib/systemd/ system/*.service`
		7

	`systemctl list-units -at service` `find /etc/systemd/ /usr/lib/systemd/ /run/systemd/ -name *.service"`	8
List running services	`service --status-all`	5 6
	`systemctl -t service --state=active`	7 8
Start/stop service	`service` *name* `start` `service` *name* `stop`	5 6
	`systemctl start` *name*`. service` `systemctl stop` *name*`. service`	7 8
Enable/ disable service	`chkconfig` *name* `on` `chkconfig` *name* `off`	5 6
	`systemctl enable` *name*`. service` `systemctl disable` *name*`. service`	7 8
View service status	`service` *name* `status`	5 6
	`systemctl status` *name*`. service`	7 8
Check if service is enabled	`chkconfig` *name* `--list`	5 6
	`systemctl is-enabled` *name*	7 8
Create new service file or modify configuration	`chkconfig --add`	5 6
	`systemctl daemon-reload` `/etc/systemd/system/*. service`	7 8
View run level/target	`runlevel`	5 6
	`systemctl get-default`	7 8
	`who -r`	5 6 7 8
Change run level/target	`/etc/inittab` `init` *run_level*	5 6
	`systemctl isolate` *name*`. target` `systemctl set-default`	7 8
Configure logging	`/etc/syslog.conf`	5
	`/etc/rsyslog.conf`	6 7 8

	`/etc/rsyslog.d/*.conf`
	`/var/log/journal`
	`systemd-journald. service`
		7 8

View logs	`journalctl`	7 8
	`/var/log`	5 6 7 8
Configure system audit	`pam_tty_audit kernel module`	5 6 7
	`tlog`	8

	`add` **`audit=1`** `to kernel cmdline`
	`auditctl`
	`/etc/audit/auditd.conf`
	`/etc/audit/audit.rules`
	`authconfig`
	`/etc/pam.d/system-auth`
		5 6 7 8

View audit output	`aureport` `/var/log/faillog`	5 6 7

Schedule/ batch tasks	`cron`
	`at`
	`batch`
		5 6 7 8

	`systemd-run --on-calendar`	8
Find file by name	`locate`	5 6 7 8
Find file by characteristic	`find`	5 6 7 8

Create archive	`tar`
	`cpio`
	`zip`
	`xz`
		5 6 7 8

Basic configuration

TASK		RHEL
Graphical configuration tools	system-config-*	5 6
	gnome-control-center	7 8
Text-based configuration tools	system-config-*-tui	5 6
Configure printer	system-config-printer	5 6 7
	gnome-control-center	8
Configure time and date	system-config-date	5 6
	timedatectl	7 8
	date	5 6 7 8
	gnome-control-center	8
Synchronize time and date	/etc/ntp.conf	5 6
	ntpdate	5 6 7
	timedatectl /etc/chrony.conf	7 8
	date chronyc	8
Configure keyboard	system-config-keyboard	5 6
	localectl	7 8
	gnome-control-center	8
Configure SSH	/etc/ssh/ssh_config /etc/ssh/sshd_config ~/.ssh/config ssh-keygen	5 6 7 8

Networking

TASK		RHEL
Configure name resolution	nmcli con mod	7 8
	/etc/hosts /etc/resolv.conf	5 6 7 8
Configure hostname	/etc/sysconfig/network	5 6
	hostnamectl /etc/hostname nmtui	7 8
View network interface info	ifconfig	5 6
	nmcli dev show teamdctl bridge	7 8
	ip addr brctl	5 6 7 8
Configure network interface	nmcli con [add|mod|edit] nmtui nm-connection-editor	7 8
	/etc/sysconfig/ network-scripts/ifcfg-*	5 6 7 8
View routes	ip route	5 6 7 8
Configure routes	system-config-network	5 6
	nmcli nmtui nm-connection-editor	7 8
	ip route add /etc/sysconfig/ route-*iface*	5 6 7 8
Configure firewall	iptables and ip6tables /etc/sysconfig/ip*tables	5 6
	system-config-firewall	6
	firewall-cmd firewall-config	7 8
	nftables	8
View ports/ sockets	pcp-dstat--socket	8
	ss lsof netstat	5 6 7 8

Kernel, boot, and hardware

TASK		RHEL
Single user/ rescue mode	append **1** or **s** or **init=/bin/bash** to kernel cmdline	5 6
	append **1** or **s** or **rd.break** or **init=/bin/bash** to kernel cmdline	7 8
Shut down system	shutdown	5 6 7 8
Power off system	systemctl poweroff	7 8
	poweroff	5 6 7 8
Halt system	systemctl halt	7 8
	halt	5 6 7 8
Reboot system	systemctl reboot	7 8
	reboot	5 6 7 8
Configure default run level/target	/etc/inittab	5 6
	systemctl set-default	7 8
Configure GRUB bootloader	/boot/grub/grub.conf	5 6
	/etc/default/grub grub2-mkconfig grub-set-default	7 8
View hardware configured	hwbrowser	5
	lshw (in EPEL)	6 7
	lshw	8
Configure kernel module	modprobe	5 6 7 8
Configure hardware device	udev	5 6 7 8
View kernel parameters	sysctl -a cat /proc/cmdline	5 6 7 8
Load kernel module	modprobe	5 6 7 8
Remove kernel module	modprobe -r	5 6 7 8
View kernel version	rpm -q kernel uname -r	5 6 7 8

Resource management

TASK		RHEL
Trace system calls	strace	5 6 7 8
Trace library calls	ltrace	5 6 7 8
Change process priority	nice renice	5 6 7 8
Change process run location	taskset	5 6 7 8
Kill a process	kill pkill killall	5 6 7 8
View system usage	netstat	5 6
	ss tuna	6 7 8
	pcp atop	8
	top ps sar iostat vmstat mpstat numastat	5 6 7 8
View disk usage	iostat	6 7 8
	pcp-dstat pmiostat	8
	df	5 6 7 8

Security and identity

TASK		RHEL
Configure system security	/etc/selinux/config chcon restorecon semanage setsebool system-config-selinux	5 6 7 8
Report on system security	sealert	5 6 7 8
LDAP, SSSD, Kerberos	authconfig authconfig-tui authconfig-gtk	5 6 7
	authselect	8
Network users	getent	5 6 7 8

User management

TASK		RHEL
Graphical user management	system-config-users	5 6 7
	gnome-control-center	8
Create user account	useradd	5 6 7
	gnome-control-center	8
Delete user account	userdel	5 6 7
	gnome-control-center	8
View/change user account details	usermod /etc/passwd vipw id	5 6 7
	gnome-control-center	8
Create user group	groupadd	5 6 7
	gnome-control-center	8
Delete user group	groupdel	5 6 7
	gnome-control-center	8
Change group details	groupmod /etc/group	5 6 7
	gnome-control-center	8
Change user password	passwd	5 6 7
	gnome-control-center	8
Change user permissions	usermod visudo	5 6 7
	gnome-control-center	8
Change password policy	chage	5 6 7
	gnome-control-center	8
View user sessions	w	5 6 7
	gnome-control-center	8

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