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.

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 network	`system-config-network`	5 6

	`nmcli`
	`nmtui`
	`nm-connection-editor`
		7 8

	`gnome-control-center`	8
Configure system language	`system-config-language`	5 6
	`localectl`	7 8
	`gnome-control-center`	8

Basic configuration (cont.)

TASK		RHEL
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

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

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

Jobs and services (cont.)

TASK		RHEL

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

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

File systems, volumes, and disks

TASK		RHEL 5	6	7	8
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-contiguous 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

File systems, volumes, and disks (cont.)

TASK		RHEL 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

Networking

TASK		RHEL 5	6	7	8
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

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

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

Kernel, boot, and hardware (cont.)

TASK		RHEL
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

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

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