

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

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Lists common administrative commands for Red Hat Enterprise Linux 5, 6 and 7. Printable poster also available.

## System basics

| Task                          | RHEL5                                             | RHEL6                                                        | RHEL7                                                          |
|-------------------------------|---------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------|
| View subscription information | /etc/sysconfig/rhn/systemid                       | /etc/sysconfig/rhn/systemid<br>subscription-manager identity | subscription-manager identity                                  |
| Configure subscription        | rhn_register<br>subscription-manager <sup>1</sup> | rhn_register<br>rhnreg_ks<br>subscription-manager            | subscription-manager <sup>2</sup><br>rhn_register <sup>3</sup> |
| View RHEL version information | /etc/redhat-release                               |                                                              |                                                                |
| View system profile           | sosreport<br>dmidecode<br>hwbrowser               | sosreport<br>dmidecode<br>lstopo<br>lscpu                    |                                                                |

## Basic configuration

| Task                           | RHEL5 | RHEL6                                                                   | RHEL7                                      |
|--------------------------------|-------|-------------------------------------------------------------------------|--------------------------------------------|
| Graphical configuration tools  |       | system-config-*                                                         | gnome-control-center                       |
| Text-based configuration tools |       | system-config-*-tui                                                     |                                            |
| Configure printer              |       | system-config-printer                                                   |                                            |
| Configure network              |       | system-config-network                                                   | nmcli<br>nmtui<br>nm-connection-editor     |
| Configure system language      |       | system-config-language                                                  | localectl                                  |
| Configure time and date        |       | system-config-date<br>date                                              | timedatectl<br>date                        |
| Synchronize time and date      |       | ntpdate<br>/etc/ntp.conf                                                | timedatectl<br>/etc/chrony.conf<br>ntpdate |
| Configure keyboard             |       | system-config-keyboard                                                  | localectl                                  |
| Configure SSH                  |       | /etc/ssh/ssh_config<br>/etc/ssh/sshd_config<br>~/.ssh/config ssh-keygen |                                            |

## Jobs and services

| Task | RHEL5 | RHEL6 | RHEL7 |
|------|-------|-------|-------|
|------|-------|-------|-------|



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|                                                 |                                                                                                                                                                             |                                                                                                   |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| List all services                               | chkconfig --list<br>ls /etc/init.d/                                                                                                                                         | systemctl -at service<br>ls /etc/systemd/system/*.service<br>ls /usr/lib/systemd/system/*.service |
| List running services                           | service --status-all                                                                                                                                                        | systemctl -t service --state=active                                                               |
| Start/stop service                              | service <i>name</i> start<br>service <i>name</i> stop                                                                                                                       | systemctl start <i>name.service</i><br>systemctl stop <i>name.service</i>                         |
| Enable/disable service                          | chkconfig <i>name</i> on<br>chkconfig <i>name</i> off                                                                                                                       | systemctl enable <i>name.service</i><br>systemctl disable <i>name.service</i>                     |
| View service status                             | service <i>name</i> status                                                                                                                                                  | systemctl status <i>name.service</i>                                                              |
| Check if service is enabled                     | chkconfig <i>name</i> --list                                                                                                                                                | systemctl is-enabled <i>name</i>                                                                  |
| Create new service file or modify configuration | chkconfig --add                                                                                                                                                             | systemctl daemon-reload<br>/etc/systemd/system/*.service                                          |
| View run level/target                           | runlevel<br>who -r                                                                                                                                                          | systemctl get-default<br>who -r                                                                   |
| Change run level/target                         | /etc/inittab<br>init <i>run_level</i>                                                                                                                                       | systemctl isolate <i>name.target</i><br>systemctl set-default                                     |
| Configure logging                               | /etc/syslog.conf      /etc/rsyslog.conf                                                                                                                                     | /etc/rsyslog.conf<br>/etc/rsyslog.d/*.conf<br>/var/log/journal<br>systemd-journald.service        |
| View logs                                       | /var/log                                                                                                                                                                    | /var/log<br>journalctl                                                                            |
| Configure system audit                          | add <b>audit=1</b> to kernel cmdline<br>auditctl<br>/etc/audit/auditd.conf<br>/etc/audit/audit.rules<br>authconfig<br>/etc/pam.d/system-auth<br>pam_tty_audit kernel module |                                                                                                   |
| View audit output                               | aureport /var/log/faillog                                                                                                                                                   |                                                                                                   |
| Schedule/batch tasks                            | cron<br>at<br>batch                                                                                                                                                         |                                                                                                   |
| Find file by name                               | locate                                                                                                                                                                      |                                                                                                   |
| Find file by characteristic                     | find                                                                                                                                                                        |                                                                                                   |
| Create archive                                  | tar<br>cpio<br>zip                                                                                                                                                          |                                                                                                   |

## Kernel, boot, and hardware

| Task                    | RHEL5                                                                  | RHEL6 | RHEL7                                                             |
|-------------------------|------------------------------------------------------------------------|-------|-------------------------------------------------------------------|
| Single user/rescue mode | append <b>1</b> or <b>s</b> or <b>init=/bin/bash</b> to kernel cmdline |       | append <b>rd.break</b> or <b>init=/bin/bash</b> to kernel cmdline |
| Shut down system        | shutdown                                                               |       |                                                                   |
| Power off system        | poweroff                                                               |       | poweroff<br>systemctl poweroff                                    |
| Halt system             | halt                                                                   |       | halt<br>systemctl halt                                            |

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Reboot system

reboot  
systemctl reboot



Configure default run level/target

/etc/inittab

systemctl set-default

Configure GRUB bootloader

/boot/grub/grub.conf

/etc/default/grub  
grub2-mkconfig  
grub-set-default

Configure kernel module

modprobe

View hardware configured

hwbrowser

lshw (in EPEL)

Configure hardware device

udev

View kernel parameters

sysctl -a  
cat /proc/cmdline

Load kernel module

modprobe

Remove kernel module

modprobe -r

View kernel version

rpm -q kernel  
uname -r

## Software management

| Task                          | RHEL5                                                        | RHEL6 | RHEL7                            |
|-------------------------------|--------------------------------------------------------------|-------|----------------------------------|
| Install software              | yum install<br>yum groupinstall                              |       | yum install<br>yum group install |
| View software info            | yum info<br>yum groupinfo                                    |       | yum info<br>yum group info       |
| Update software               | yum update                                                   |       |                                  |
| Upgrade software              | yum upgrade                                                  |       |                                  |
| Configure software repository | subscription-manager repos<br>/etc/yum.repos.d/*.repo        |       |                                  |
| Find package owning file      | rpm -qf <i>filename</i><br>yum provides <i>filename-glob</i> |       |                                  |
| View software version         | rpm -q <i>packagename</i>                                    |       |                                  |
| View installed software       | rpm -qa<br>yum list installed                                |       |                                  |

## User management

| Task                             | RHEL5                                | RHEL6 | RHEL7 |
|----------------------------------|--------------------------------------|-------|-------|
| Graphical user management        | system-config-users                  |       |       |
| Create user account              | useradd                              |       |       |
| Delete user account              | userdel                              |       |       |
| View/change user account details | usermod<br>/etc/passwd<br>vipw<br>id |       |       |
| Create user group                | groupadd                             |       |       |
| Delete user group                | groupdel                             |       |       |

Change group details CUSTOMER (https://access.redhat.com/)  
PORTAL

groupmod  
/etc/group



Change user password

passwd

Change user permissions

usermod  
visudo

Change group permissions

groupmod  
visudo

Change password policy

chage

View user sessions

w

## File systems, volumes, and disks

| Task                                               | RHEL5                                                                   | RHEL6                                                                              | RHEL7                                                                       |
|----------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Default file system                                | ext3                                                                    | ext4                                                                               | xfs                                                                         |
| Create/modify disk partitions                      | fdisk<br>parted                                                         |                                                                                    | fdisk<br>gdisk<br>parted<br>ssm create                                      |
| Format disk partition                              | mkfs.filesystem_type (ext4, xfs)<br>mkswap                              |                                                                                    | mkfs.filesystem_type (ext4, xfs)<br>mkswap<br>ssm create                    |
| Defragment disk space                              | copy data to new file system<br>fsck (look for 'non-contiguous inodes') | copy data to new file system<br>fsck (look for 'non-contiguous inodes')<br>xfs_fsr |                                                                             |
| Mount storage                                      | mount<br>/etc/fstab                                                     |                                                                                    | mount<br>/etc/fstab<br>ssm mount                                            |
| Mount and activate swap                            | /etc/fstab<br>swapon -a                                                 |                                                                                    |                                                                             |
| Configure static mounts                            | /etc/fstab                                                              |                                                                                    |                                                                             |
| View free disk space                               | df                                                                      |                                                                                    |                                                                             |
| View logical volume info                           | lvdisplay<br>lvs<br>vgdisplay<br>vgs<br>pvdisplay<br>pvs                |                                                                                    |                                                                             |
| Create physical volume                             | pvcreate                                                                |                                                                                    | pvcreate<br>ssm create (if backend is lvm)                                  |
| Create volume group                                | vgcreate                                                                |                                                                                    | vgcreate<br>ssm create (if backend is lvm)                                  |
| Create logical volume                              | lvcreate                                                                |                                                                                    | lvcreate<br>ssm create (if backend is lvm)                                  |
| Enlarge volumes formatted with default file system | vgextend<br>lvextend<br>resize2fs                                       |                                                                                    | vgextend<br>lvextend<br>xfs_growfs<br>ssm resize                            |
| Shrink volumes formatted with default file system  | resize2fs<br>lvreduce<br>vgreduce                                       |                                                                                    | XFS cannot currently be shrunk; copy desired data to a smaller file system. |

Check/repair file system CUSTOMER (https://access.redhat.com/)  
PORTAL fsck

fsck  
ssm check



View NFS share

showmount -e  
mount

Configure NFS share

/etc/exports  
service nfs reload

/etc/exports  
systemctl reload nfs.service

Configure on-demand auto-mounts

/etc/auto.master.d/\*.autofs  
/etc/auto.\*

Change file permissions

chmod  
chown  
chgrp  
umask (future file creation)

Change file attributes

chattr

Change access control list

setfacl

## Networking

| Task                        | RHEL5                                                                       | RHEL6                                                                        | RHEL7                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Configure name resolution   | /etc/hosts<br>/etc/resolv.conf                                              |                                                                              | /etc/hosts<br>/etc/resolv.conf<br>nmcli con mod                                                     |
| Configure hostname          | /etc/sysconfig/network                                                      |                                                                              | hostnamectl<br>/etc/hostname<br>nmtui                                                               |
| View network interface info | ip addr<br>ifconfig<br>brctl                                                |                                                                              | ip addr<br>nmcli dev show<br>teamdctl<br>brctl<br>bridge                                            |
| Configure network interface | /etc/sysconfig/network-scripts/ifcfg-*                                      |                                                                              | /etc/sysconfig/network-scripts/ifcfg-*<br>nmcli con [add mod edit]<br>nmtui<br>nm-connection-editor |
| View routes                 | ip route                                                                    |                                                                              |                                                                                                     |
| Configure routes            | ip route add<br>system-config-network<br>/etc/sysconfig/route- <i>iface</i> |                                                                              | ip route add<br>nmcli<br>nmtui<br>nm-connection-editor<br>/etc/sysconfig/route- <i>iface</i>        |
| Configure firewall          | iptables and ip6tables<br>/etc/sysconfig/ip*tables                          | iptables and ip6tables<br>/etc/sysconfig/ip*tables<br>system-config-firewall | firewall-cmd<br>firewall-config                                                                     |
| View ports/sockets          | ss<br>lsof<br>netstat                                                       |                                                                              | ss<br>lsof                                                                                          |

## Security and identity

| Task                      | RHEL5                                                                                        | RHEL6 | RHEL7 |
|---------------------------|----------------------------------------------------------------------------------------------|-------|-------|
| Configure system security | /etc/selinux/config<br>chcon<br>restorecon<br>semanage<br>setsebool<br>system-config-selinux |       |       |






|                                                                                                         |                                                |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Report on system security <small>CUSTOMER (https://access.redhat.com/)</small><br><small>PORTAL</small> | sealert                                        |
| LDAP, SSSD, Kerberos                                                                                    | authconfig<br>authconfig-tui<br>authconfig-gtk |
| Network users                                                                                           | getent                                         |

## Resource management

| Task                        | RHEL5                                                                 | RHEL6                                                                               | RHEL7                                                                    |
|-----------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Trace system calls          | strace                                                                |                                                                                     |                                                                          |
| Trace library calls         | ltrace                                                                |                                                                                     |                                                                          |
| Change process priority     | nice<br>renice                                                        |                                                                                     |                                                                          |
| Change process run location | taskset                                                               |                                                                                     |                                                                          |
| Kill a process              | kill<br>pkill<br>killall                                              |                                                                                     |                                                                          |
| View system usage           | top<br>ps<br>sar<br>iostat<br>netstat<br>vmstat<br>mpstat<br>numastat | top<br>ps<br>sar<br>iostat<br>netstat<br>ss<br>vmstat<br>mpstat<br>numastat<br>tuna | top<br>ps<br>sar<br>iostat<br>ss<br>vmstat<br>mpstat<br>numastat<br>tuna |
| View disk usage             | df                                                                    | df<br>iostat                                                                        |                                                                          |

1. Be aware of potential issues when using subscription-manager on Red Hat Enterprise Linux 5: <https://access.redhat.com/solutions/129003> (<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's the difference between management services provided by Red Hat Network (RHN) Classic and Red Hat Customer Portal Subscription Management/RHSM? (<https://access.redhat.com/articles/63269>), Transition of Red Hat Network Classic Hosted to Red Hat Subscription Management (<https://access.redhat.com/rhn-to-rhsm>), and Satellite 5.6 unable to register RHEL 7 client system due to rhn-setup package not included in Minimal installation (<https://access.redhat.com/solutions/737373>)↩

## Attachments

-  rhel\_5\_6\_7\_cheatsheet\_24x36\_0914\_jcs.pdf (/node/1189123/40/0)
-  rhel\_5\_6\_7\_cheatsheet\_a4\_1114\_jcs.pdf (/node/1189123/40/1)
-  rhel\_5\_6\_7\_cheatsheet\_8.5x11\_1114\_jcs.pdf (/node/1189123/40/2)
-  rhel\_5\_6\_7\_cheatsheet\_11x17\_1114\_jcs.pdf (/node/1189123/40/3)
-  rhel\_5\_6\_7\_cheatsheet\_a3\_1114\_jcs.pdf (/node/1189123/40/4)

**Product(s)** [Red Hat Enterprise Linux \(/taxonomy/products/red-hat-enterprise-linux\)](/taxonomy/products/red-hat-enterprise-linux)      **Category** [Migrate \(/category/migrate\)](/category/migrate)

**Tags** [rhel \(/tags/rhel\)](/tags/rhel)   [rhel\\_5 \(/tags/rhel\\_5\)](/tags/rhel_5)   [rhel\\_6 \(/tags/rhel\\_6\)](/tags/rhel_6)   [rhel\\_7 \(/taxonomy/tags/rhel7\)](/taxonomy/tags/rhel7)      **Article Type** [General \(/article-type/general\)](/article-type/general)