

# Grundlagen für Redhat / CentOS7



## Basis Know-How Redhat Systems

### System Aktualisieren / Warten

Grundlegende Systemwartung, durch Installation, von aktuellen Paketen und Upgraden des Kernels.

#### Upgrade System and Packages:

```
# yum -y update
```

### Autocomplete in Shell aktivieren

Will man die automatische Syntax Erweiterung durch drücken von "Tab, Tab" einrichten, so müssen lediglich folgende zwei Pakete auf dem System installiert werden; und ein **relogin** nach der erfolgreichen Installation durchgeführt werden.

```
# yum install bash-completion.noarch  
# yum install bash-completion-extras.noarch
```

### motd - Message of the day

Eigene motd (Login-Nachricht), nach dem Aufbau einer neuen SSH-Verbindung

anzeigen lassen:

Add description and serial number to motd:

```
# echo '  
#####  
##  
#  
#  
#           This is the admin-server of Michael Reber.  
#  
#  
#           ATTENTION:  
#  
#  
#           Unauthorized access to this system is prohibited !  
#  
#  
#           This system is actively monitored and all connections may be logged.  
#  
#           By accessing this system, you consent to this monitoring.  
#  
#  
#####  
##  
  
' > /etc/motd
```

---

## Systemverwaltung

Wichtige Tools, zum konfigurieren, abändern der System Einstellungen.

### Wechseln der Zeitzone

1. Die aktuelle System-Zeitzone (Timezone) kann man sehr einfach anschauen:

```
# timedatectl
```

2. Wenn man nun auf eine neue Timezone zu wechseln möchte, macht es sinn, sich zuerst die verfügbaren Zeitzonen anzuzeigen lassen:

```
# timedatectl list-timezones
```

- Um nun die aktuelle Timezone (Zeitzone) zu wechseln, verwendet man set-timezone zusammen mit der gewünschten TIMEZONE. **Beispiel für die Schweiz:**

```
# timedatectl set-timezone Europe/Zurich
```

---

## System Information

Möglichkeiten, um das eigene System ein bisschen zu analysieren; Informationen abzurufen.

### Show Uptime

```
# uptime
```

```
11:09:46 up 81 days, 17:13, 1 user, load average: 0.04, 0.10, 0.08
```

### Show Kernel Version and Architecture

- Display the current Kernel Version:

```
# uname -a
```

```
Linux vstif2.pnet.ch 3.10.0-514.21.1.el7.x86_64 #1 SMP Sat Apr 22  
02:41:35 EDT 2017 x86_64 x86_64 x86_64 GNU/Linux
```

- Show System Server Release Version:

```
# cat /etc/redhat-release
```

```
Red Hat Enterprise Linux Server release 7.4 (Maipo)
```

### Show Disk Partitions details

```
# df -h
```

```
Filesystem                Size      Used Avail Use% Mounted on  
/dev/mapper/vgsys-root    8.0G    2.1G    6.0G   26% /  
devtmpfs                  910M          0   910M    0% /dev
```

tmpfs	920M	0	920M	0%	/dev/shm
tmpfs	920M	97M	824M	11%	/run
tmpfs	920M	0	920M	0%	/sys/fs/cgroup
/dev/mapper/vgsys-var	8.0G	2.1G	6.0G	26%	/var
/dev/mapper/vgsys-opt	9.5G	184M	9.3G	2%	/opt
/dev/mapper/vgsys-tmp	4.0G	33M	4.0G	1%	/tmp
/dev/mapper/vgsys-home	8.0G	7.1G	922M	89%	/home
/dev/vda1	509M	195M	315M	39%	/boot
tmpfs	184M	0	184M	0%	/run/user/37198

## Show all Disks and relation

Zeigt alle Disks an, auch welche die unpartitioniert sind, und nicht gemountet sind!

```
# lsblk
```

NAME	MAJ:MIN	RM	SIZE	RO	TYPE	MOUNTPOINT
sda	8:0	0	80G	0	disk	
├sda1	8:1	0	512M	0	part	/boot
└sda2	8:2	0	79.5G	0	part	
├vgsys-root	253:0	0	8G	0	lvm	/
├vgsys-swap	253:1	0	2G	0	lvm	[SWAP]
├vgsys-opt	253:2	0	49.5G	0	lvm	/opt
├vgsys-tmp	253:3	0	4G	0	lvm	/tmp
├vgsys-home	253:4	0	8G	0	lvm	/home
└vgsys-var	253:5	0	8G	0	lvm	/var
sdb	8:16	0	80G	0	disk	
└vg_data01-lv_data01	253:6	0	80G	0	lvm	/data01
sr0	11:0	1	1024M	0	rom	

## Show Open Ports

```
# netstat -napl
```

Active Internet connections (servers and established)						
Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State	
tcp	0	0	0.0.0.0:111	0.0.0.0:*	LISTEN	
1/systemd						
tcp	0	0	10.1.100.181:22	0.0.0.0:*	LISTEN	
900/sshd						
tcp	0	0	127.0.0.1:6010	0.0.0.0:*	LISTEN	
17361/sshd: rebermi						
tcp	0	64	10.1.100.181:22	10.224.204.222:31477		

```

ESTABLISHED 17358/sshd: rebermi
tcp        0      0 10.1.100.181:47656    172.27.130.12:61613
ESTABLISHED 17664/ruby
tcp        0      0 10.1.100.181:43540    172.27.49.65:9997
ESTABLISHED 15129/splunkd
tcp6       0      0 :::9000                :::*                    LISTEN
29798/nsrexecd
tcp6       0      0 :::111                  :::*                    LISTEN
1/systemd
tcp6       0      0 :::9269                 :::*                    LISTEN
29798/nsrexecd
tcp6       0      0 :::1:6010              :::*                    LISTEN
17361/sshd: rebermi
tcp6       0      0 :::7937                 :::*                    LISTEN
29798/nsrexecd
tcp6       0      0 :::7938                 :::*                    LISTEN
29798/nsrexecd
udp        0      0 0.0.0.0:111           0.0.0.0:*
6061/rpcbind
udp        0      0 10.1.100.181:123      0.0.0.0:*
26924/ntpd
udp        0      0 127.0.0.1:123         0.0.0.0:*
26924/ntpd
udp        0      0 0.0.0.0:123           0.0.0.0:*
26924/ntpd
udp        0      0 0.0.0.0:724           0.0.0.0:*
6061/rpcbind
udp6       0      0 :::111                  :::*
6061/rpcbind
udp6       0      0 :::1:123               :::*
26924/ntpd
udp6       0      0 :::123                  :::*
26924/ntpd
udp6       0      0 :::724                  :::*
6061/rpcbind
udp6       0      0 :::7938                 :::*
29798/nsrexecd

```

Active UNIX domain sockets (servers and established)

Proto	RefCnt	Flags	Type	State	I-Node	PID/Program name
unix	2	[ ACC ]	STREAM	LISTENING	11522	1/systemd
/run/lvm/lvmetad.socket						
unix	2	[ ACC ]	STREAM	LISTENING	11275	1/systemd
/run/systemd/private						
unix	2	[ ACC ]	STREAM	LISTENING	14389	649/gssproxy
/run/gssproxy.sock						
unix	2	[ ACC ]	STREAM	LISTENING	30777543	17361/sshd:
rebermi /tmp/ssh-v94wMvs2vd/agent.17361						
unix	2	[ ACC ]	STREAM	LISTENING	14191	1/systemd
/var/run/dbus/system_bus_socket						
unix	2	[ ACC ]	STREAM	LISTENING	14388	649/gssproxy

/var/lib/gssproxy/default.sock	unix 2	[ ACC ]	STREAM	LISTENING	14194	1/systemd
/var/run/rpcbind.sock	unix 2	[ ]	DGRAM		6831	1/systemd
/run/systemd/notify	unix 2	[ ]	DGRAM		6833	1/systemd
/run/systemd/cgroups-agent	unix 2	[ ACC ]	STREAM	LISTENING	6842	1/systemd
/run/systemd/journal/stdout	unix 2	[ ACC ]	STREAM	LISTENING	11451	1/systemd
/run/lvm/lvmpolld.socket	unix 5	[ ]	DGRAM		6845	1/systemd
/run/systemd/journal/socket	unix 9	[ ]	DGRAM		6847	1/systemd
/dev/log	unix 2	[ ]	DGRAM		11466	1/systemd
/run/systemd/shutdown	unix 2	[ ACC ]	SEQPACKET	LISTENING	11518	1/systemd
/run/udev/control	unix 2	[ ]	DGRAM		14377	649/gssproxy
	unix 3	[ ]	DGRAM		12481	494/systemd-udev
	unix 3	[ ]	STREAM	CONNECTED	14366	459/systemd-
journal /run/systemd/journal/stdout	unix 3	[ ]	DGRAM		12480	494/systemd-udev
	unix 2	[ ]	DGRAM		12461	494/systemd-udev
	unix 3	[ ]	STREAM	CONNECTED	14365	647/dbus-daemon
	unix 2	[ ]	DGRAM		30777608	17397/sudo
	unix 3	[ ]	STREAM	CONNECTED	14402	647/dbus-daemon
	unix 3	[ ]	STREAM	CONNECTED	14102	626/auditd
	unix 3	[ ]	STREAM	CONNECTED	14258	459/systemd-
journal /run/systemd/journal/stdout	unix 2	[ ]	DGRAM		25345848	647/dbus-daemon
	unix 3	[ ]	STREAM	CONNECTED	12107	481/lvmetad
	unix 3	[ ]	STREAM	CONNECTED	2557415	459/systemd-
journal /run/systemd/journal/stdout	unix 3	[ ]	STREAM	CONNECTED	25694704	15129/splunkd
	unix 3	[ ]	STREAM	CONNECTED	2557414	29726/crond
	unix 2	[ ]	DGRAM		15260	662/polkitd
	unix 2	[ ]	DGRAM		27844357	26924/ntpd
	unix 3	[ ]	DGRAM		25694716	15134/[splunkd
pid=	unix 3	[ ]	STREAM	CONNECTED	14376	1/systemd
	unix 3	[ ]	STREAM	CONNECTED	14758	661/systemd-
logind	unix 3	[ ]	STREAM	CONNECTED	14393	-
	unix 3	[ ]	STREAM	CONNECTED	14759	459/systemd-
journal /run/systemd/journal/stdout	unix 3	[ ]	STREAM	CONNECTED	14404	647/dbus-daemon
/var/run/dbus/system_bus_socket	unix 3	[ ]	DGRAM		25694715	15129/splunkd

unix 3	[ ]	STREAM	CONNECTED	16427	459/systemd-
journal	/run/systemd/journal/stdout				
unix 2	[ ]	DGRAM		14793	661/systemd-
logind					
unix 3	[ ]	STREAM	CONNECTED	25694714	15134/[splunkd
pid=					
unix 2	[ ]	DGRAM		2557417	29726/crond
unix 3	[ ]	STREAM	CONNECTED	25694713	15129/splunkd
unix 3	[ ]	STREAM	CONNECTED	25694705	15129/splunkd
unix 3	[ ]	STREAM	CONNECTED	14395	649/gssproxy
/run/gssproxy.sock					
unix 3	[ ]	STREAM	CONNECTED	12108	459/systemd-
journal	/run/systemd/journal/stdout				
unix 3	[ ]	STREAM	CONNECTED	18263	893/python
unix 3	[ ]	STREAM	CONNECTED	30777525	17361/sshd:
rebermi					
unix 3	[ ]	STREAM	CONNECTED	18264	647/dbus-daemon
/var/run/dbus/system_bus_socket					
unix 3	[ ]	STREAM	CONNECTED	14812	661/systemd-
logind					
unix 2	[ ]	DGRAM		30777518	17358/sshd:
rebermi					
unix 3	[ ]	STREAM	CONNECTED	14101	626/auditd
unix 3	[ ]	STREAM	CONNECTED	30777526	17358/sshd:
rebermi					
unix 2	[ ]	DGRAM		14100	626/auditd
unix 3	[ ]	STREAM	CONNECTED	14403	647/dbus-daemon
unix 3	[ ]	STREAM	CONNECTED	14257	649/gssproxy
unix 3	[ ]	STREAM	CONNECTED	14813	647/dbus-daemon
/var/run/dbus/system_bus_socket					
unix 3	[ ]	STREAM	CONNECTED	16426	900/sshd
unix 3	[ ]	STREAM	CONNECTED	16106	893/python
unix 3	[ ]	STREAM	CONNECTED	12451	494/systemd-udev
unix 3	[ ]	STREAM	CONNECTED	15061	647/dbus-daemon
/var/run/dbus/system_bus_socket					
unix 3	[ ]	STREAM	CONNECTED	12452	459/systemd-
journal	/run/systemd/journal/stdout				
unix 2	[ ]	DGRAM		29758906	1/systemd
unix 3	[ ]	STREAM	CONNECTED	16107	459/systemd-
journal	/run/systemd/journal/stdout				
unix 3	[ ]	STREAM	CONNECTED	15060	662/polkitd

## Show Installed Packages

```
# rpm -qa
```

```
pyserial-2.6-6.el7.noarch
libblkid-2.23.2-43.el7.x86_64
```

```
tfm-rubygem-rails-i18n-4.0.8-1.el7sat.noarch
basesystem-10.0-7.el7.noarch
pulp-selinux-2.8.7.14-1.el7sat.noarch
gawk-4.0.2-4.el7_3.1.x86_64
tfm-rubygem-sprockets-rails-2.3.3-1.el7sat.noarch
libsndfile-1.0.25-10.el7.x86_64
libsemanage-2.5-8.el7.x86_64
tfm-rubygem-highline-1.6.21-4.el7sat.noarch
rubygem-bundler_ext-0.3.0-7.el7sat.noarch
fuse-2.9.2-8.el7.x86_64
tfm-rubygem-will_paginate-3.0.7-1.el7sat.noarch
popt-1.13-16.el7.x86_64
cairo-1.14.8-2.el7.x86_64
libmspack-0.5-0.5.alpha.el7.x86_64
tfm-rubygem-trollop-2.0-5.el7sat.noarch
libcap-ng-0.7.5-4.el7.x86_64
geronimo-jms-1.1.1-19.el7.noarch
python-libs-2.7.5-58.el7.x86_64
tfm-rubygem-facter-2.4.0-3.el7sat.x86_64
findutils-4.5.11-5.el7.x86_64
apache-commons-logging-1.1.2-7.el7.noarch
openldap-2.4.44-5.el7.x86_64
tfm-rubygem-awesome_print-1.0.2-13.el7sat.noarch
tomcat-7.0.76-2.el7.noarch
ruby-2.0.0.648-30.el7.x86_64
tfm-rubygem-formatador-0.2.1-9.el7sat.noarch
unzip-6.0-16.el7.x86_64
fuse-libs-2.9.2-8.el7.x86_64
tfm-rubygem-fog-vmware-0.6.3-1.el7sat.noarch
qrencode-libs-3.4.1-3.el7.x86_64
openssl-1.0.2k-8.el7.x86_64
redhat-release-server-7.4-18.el7.x86_64
tfm-rubygem-activerecord-session_store-0.1.2-1.el7sat.noarch
cracklib-2.9.0-11.el7.x86_64
python-pulp-oid_validation-2.8.7.14-1.el7sat.noarch
libcgroup-0.41-13.el7.x86_64
tfm-rubygem-hammer_cli_katello-0.0.22.29-1.el7sat.noarch
libutempter-1.1.6-4.el7.x86_64
puppet-3.8.6-2.el7sat.noarch
setroubleshoot-plugins-3.0.65-1.el7.noarch
tfm-rubygem-ancestry-2.0.0-4.el7sat.noarch
..
```

## Show Contents of one Installed Package

```
rpm -ql PACKAGENAME
```

```
# rpm -ql httpd
```



```
/etc/httpd
/etc/httpd/conf
/etc/httpd/conf.d
/etc/httpd/conf.d/README
/etc/httpd/conf.d/autoindex.conf
/etc/httpd/conf.d/userdir.conf
/etc/httpd/conf.d/welcome.conf
/etc/httpd/conf.modules.d
/etc/httpd/conf.modules.d/00-base.conf
/etc/httpd/conf.modules.d/00-dav.conf
/etc/httpd/conf.modules.d/00-lua.conf
/etc/httpd/conf.modules.d/00-mpm.conf
/etc/httpd/conf.modules.d/00-proxy.conf
/etc/httpd/conf.modules.d/00-systemd.conf
/etc/httpd/conf.modules.d/01-cgi.conf
/etc/httpd/conf/httpd.conf
/etc/httpd/conf/magic
/etc/httpd/logs
/etc/httpd/modules
/etc/httpd/run
/etc/logrotate.d/httpd
/etc/sysconfig/htcacheclean
/etc/sysconfig/httpd
/run/httpd
/run/httpd/htcacheclean
/usr/lib/systemd/system/htcacheclean.service
/usr/lib/systemd/system/httpd.service
/usr/lib/tmpfiles.d/httpd.conf
/usr/lib64/httpd
/usr/lib64/httpd/modules
/usr/lib64/httpd/modules/mod_access_compat.so
/usr/lib64/httpd/modules/mod_actions.so
/usr/lib64/httpd/modules/mod_alias.so
/usr/lib64/httpd/modules/mod_allowmethods.so
/usr/lib64/httpd/modules/mod_asis.so
..
```

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## Redhat Dokumentation zum Thema

[red\\_hat\\_enterprise\\_linux-7-system\\_administrators\\_guide-en-us.pdf](#)

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