

# 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
```

## Neuer User anlegen

Benutzer anlegen und setzen von Passwort.

```
# adduser michael  
# passwd michael
```

### Root Privilegien für User:

As root, run this command to add your new user to the wheel group (substitute the highlighted word with your new user):

```
# usermod -aG wheel michael
```

Now your user can run commands with super user privileges!

### Root Privilegien für User & without PW:

```
# echo "michael ALL=NOPASSWD: ALL" > /etc/sudoers.d/michael
```

## SSH Login auf Server mit DNS oder User-Hash Problemen

Das normale Login auf einen Linux Server via SSH:

```
# ssh vrh7f
```

```
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@          WARNING: POSSIBLE DNS SPOOFING DETECTED!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
The RSA host key for vb7gl9 has changed,
and the key for the corresponding IP address 172.18.13.12
is unknown. This could either mean that
DNS SPOOFING is happening or the IP address for the host
and its host key have changed at the same time.
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@          WARNING: REMOTE HOST IDENTIFICATION HAS CHANGED!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
IT IS POSSIBLE THAT SOMEONE IS DOING SOMETHING NASTY!
Someone could be eavesdropping on you right now (man-in-the-middle attack)!
It is also possible that a host key has just been changed.
The fingerprint for the RSA key sent by the remote host is
SHA256:o7win3mceJwnnehEyiVa0M6ePdiK0WivbtUMhxHVR58.
Please contact your system administrator.
Add correct host key in /home/rebermi/.ssh/known_hosts to get rid of this
messag
e.
Offending RSA key in /etc/ssh/ssh_known_hosts:778
RSA host key for vb7gl9 has changed and you have requested strict checking.
Host key verification failed.
```

### Trotz Error auf Server einloggen:

```
# ssh -o stricthostkeychecking=no vrh7f
```

## 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
```

3. 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

1. 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
```

2. 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
PID/Program name
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
Path
```

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-factor-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-vsphere-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  
..
```

# Redhat Dokumentation zum Thema

red\_hat\_enterprise\_linux-7-system\_administrators\_guide-en-us.pdf

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