Linux Troubleshooting Cheat Sheet

by Zappmax via cheatography.com/177608/cs/37062/

System Access Troubleshooting

Server not reachable

`#ping servername`

if no sucess search for IP for "servername" with

`#nslookup servername`

`#ping IP-Ser vername`

If IP-servername is pingable check:

`/etc/host`

`/etc/r eso lv.conf`

`/etc/n ssw itc h.conf`

If IP-servername is not pingable

ping another server with name and ip

Check if your machine has ip-adress `#ip -c -b a

get gateway-ip with `#netstat -rnv` and

check destination 0.0.0.0 to gateway-ip

ping gateway -ip

check local physics cable etc.

App or website not reachable

ping servername and server-ip

if success connect to service `#telnet ip p ort`

if not success login into server check services

eg. `#ps -ef |grep -i network`

or `#systemctl status <se rvi ce>` or `'systemctl --failed`

Cannot ssh as root/user

check if root is not permittet `#/etc/ ssh /s s hd_conf`

check `#less /var/l og/ secure`

no user or nologin shell

check `#id <us er>`

check `#less /etc/p asswd`

Firewall

check `#service iptables status`

or check `#systemctl status iptabl es .s ervice`

or check `#ps -ef|grep iptable`

or check `#systemctl status firewalld`

try to temp disable firewall `#systemctl dis able firewalld`

Terminal or Client is not working

check correct port user and password syntax

Filesystem Troubleshooting

If you cannot CD into Dir or cannot open file or run script

Dir/file not existing

check path relative or absolute

check permissions

check file type

check parent dir permissons

check for hidden dir

Trouble to find files or dir

---

command find or locate

correct syntax: `#find /path - type [d,f] -name 'my_file'`

file/dir exits?

Cannot create links

---

which type of link hard or symbolic

syntax source first then target

check permissions

source or target file/dir missing or not existing

Cannot write to a file

---

check if it exists

check abs or rel path

file type

check parent dir permissions

check for hidden file

check for file is open by an another user

run `#getfacl`

Cannot Move/Rename/Delete/Copy file

---

check if it exists

check abs or rel path

file type

check parent dir permissions

Filesystem Troubleshooting (cont)

check for hidden file

command syntax `#mv; cp; " Source then Target "`

Cannot change file permissions/ownership

---

check if file exists

check abs. or rel path

check file ownership (user and group)

check Permissions

check parent dir permissions

check for hidden file

command syntax: `#chown or chmod (u ser then file)`

command with recursive option -R

only root can change the file ownership

Cannot view others users files

---

check if file exists

check abs. or rel path

check file ownership (user and group)

check Permissions

check parent dir permissions

check for hidden file

command syntax

only root can view any files

Cannot change password

---

check if file exists

check abs. or rel path

check file ownership (user and group)

check Permissions

check parent dir permissions

check for hidden file

check command syntax: #passw <user>`

only root can change pw of any user

Disk space full

---

ckeck : `#df -h`

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Filesystem Troubleshooting (cont)

check HD status: `#badblocks -v /dev/DISK or /dev/sda`

check `#iostat`

Delete old files

---

command: `#rm`

syntax:

`find /path/ to/ files -type f -name '*.exa mples' -mtime +30 -exec rm {} \;`

Filesystem is corrupted

---

filesystem partitions: `/var`; `/etc`; `/root`; `/home`

check file system : `#df` , `#fdisk -l`

check logs in `/var/l og/ mes sages` or `/var/l og/ syslog`

run `#fsck` on block device (eg /dev/sda) not on mount point

unmount filesystem the run `#fsck`

Corrupted /etc/fstab

---

check filesystem: `#df`

cat or `#less /etc/fstab`

system not booting: incorrect entry in fstab or fstab deleted

Steps to do:

*boot in rescue mode mounting a cd or cd-iso image

*choose option 1 to mount root fs

*fix the `etc/fstab file`

*for deleted file run `#blkid`

System Administration Troubleshooting

Out of memory

```
#free -m -h
#top
#vmstat
#dmesg |grep -i "Out of memory "
```

(/var/log/messages or /var/log/syslog)

check `#/etc/ sys ctl.conf`

System Administration Troubleshooting (cont)

Add Swap Memory

```
$df -h
#dd if=/de v/zero of=/ne wswap bs=1M count=102
4
#free -m
#chmod 600 newswap
#mkswap /newswap
#swapon /newswap
```

change ftsab to: /newswap swap swap defaults 0 0

Delete Swap space

```
#swapoff /newswap
#rm /newswap
#free -m
```

change your fstab file

System rebooted or process is restarting

```
#systemctl status <pr oce ss>
#uptime
#top
#dmesg
#iostat -xz 1
#journ alctl
```

Check system logs: /var/log/messages /var/log/syslog /var/log/-boot.log

Check app logs

Unable to receive an IP Address

check DHCP Server

check network virtual setting

```
#check network hardware setting
lspci | egrep -i 'eth|wifi|wireless'
#nmcli -p dev
#ip  -h -c address
#ifup <in ter fac e>   ifconfig up <in ter fac
 e>
#systemctl restart network
```

check config files /etc/sysconfig/network-scripts/ifcfg-enp0s3 or ifcfg-eth0

IP assigned but no reachability

check to which network you are connected to use ifconfig or ip a

ping your gateway

```
#netstat -rnv
#ethtool or mii-tool
```

System Administration Troubleshooting (cont)

```
#ifup <in ter fac e>
#systemctl resart network
#ifconfig or ip  -4 <-6> -c add
```

try to turn off temporarely the firewall

What if can't run a specific command

check permission and ownership

check abs. and rel. path

```
#echo $PATH
```

check for missing or nit installed sw

```
#whereis <sw>
#yum provides <pa cke t>   or dnf
#yum seach telnet
```

Password not changeable

check file /etc/passwd

and /etc/shadow(pwconv will recreate file)

user exists correct written ?

be root

```
#passwd <us er>
```

after changes in /etc/shadow use pwconv (PW user has to set again)

User has no home dir

dir not existing

dir exists but no entry in /etc/passwd

check permission ,ownership and spelling of d

Change words in files

use vi: :1,$s/oldword/newword/

use sed:

```
#sed -i 's/old sri ng/ new str ing
en ame>
```

sed command

tbd

Kill Process, User, Terminal

Find process ID (PID) `#ps -ef`

```
#kill <PI D>
#kill -9 <pi d>
```

brutal kill

```
#pkill <pr ocess name>
#killall <pr ocess name>
```

root pw recovery

restart computer (physical console access nes

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System Administration Troubleshooting (cont)

edit grub, search for `ro` change to:

```
rw init=/ sys roo t/b in/sh
```

press <ctrl x>

system reboots in single user mode

```
`>passwd root'
>change pw
`>touch /.autorelable'
>exit
```

reboot

logged in users

```
#last
```

System running slow

Check disk space (df -h and du)

Check processing (top, free, lsmem, cat /proc/meminfo, vmstat,
pmap <PID>, dmidecode, lscpu, /proc/-cpuinf)

Check disk issues (iostat -y 5, lsof)

Check networking (tcpdump -i <interface> , lsof -i -P -n |grep -i listen,
netstat -plnt or ss -plnt, iftop)

Check uptime (uptime)

Check logs

check hw status log into system

Other external tools (htop, itop, iptraf, psacct)

Rollback updates and patches

Package or patch

```
#dnf history
#dnf history undo <id>
```

Update (upgrade does not workold obsolete packages are lost)

```
#dnf history undo <id>
```

System Recovery

Additional Knowledge and Tools

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