**RHCE**

**File system:**

The main different between Windows or Linux is that in Linux you have one root system that everything is installed under and in Windows we have C:\ or D:\.

* I cannot go straight to the disk - I have to create mount under /mnt

/usr (like program files)

/sbin - shortcut to /usr/sbin

/bin - shortcut to /usr/bin

/etc - all the configuration files are sitting here (not only 3rd parties)

/passwd

/vsftpd - configuration file

/lib - (system configuration files)

/var - files that located on the disk (like logs, DB etc...)

/logs

/home - home folders for all users

/boot- boot files

/dev - disk configuration

/dev/sda - local disk (sata) sda1/sda2 - partitions

/dev /sdb

/mnt - mount folder

/proc - RAM based kernel file system (shoes process and HW info) every change is live

/sys - RAM based kernel file system (HW info)

**Wildcard** - **file name generation:**

\* - all the strings between 0 (not . - not hidden files)

? - display every string - NOT EMPTY STRING AND NOT MORE THEN 1 STRING - A ITS OK, ABC IS NOT OK - NEED???

[ ] - means every string for the list ([ab\*] - or a or b or \* , [0-9] all the number between 0-9)

[!a-m] - every string that is not in the list ([!a-z].[!0-9]\* - every string that NOT between a-z.every string that is NOT between 0-9)

**Output redirection:**

2>/dev/null - 2 means errors of the output sent it to /dev/null

tee - put the output in file

**Pipes (|):**

By default, pipes do not write errors, if I want to add errors I need &

**Processes:** (running in /proc)

When I have **software** its mean that I have an idea, all my resources of the software are calling **processes,** part of the process called **thread**,

Set = outputs all defined bash vars / env = exported vars

**PS -** show me process I run

*Ps aux*

1. *all process from all terminals*

u- all users

x- not only from terminals

z- zombie process

*ps -ef* - show process list

*ps -al – show process without bash*

*Pstree -* show process tree

**Services:**

**Service = Daemon -** it's a kind of software that should run forever, not like software that if I close it it’s closed!

systemctl status/start/ stop/ restart/reload /mask/umask/enable/disable

systemctl list-unit-files

systemctl list-units

Identity progress -

systemctl set/get-default graphical.target/multi-user.target

**Logs:**

*/etc/rsyslog.conf -* is where the whole system log configuration process is running, there you can configure all the parameters you want for the logs process in the system (how log will look like, priorities, where it will be saved etc...)

*/var/log/* - is where the logs are located

logrotate - handle the log retention of all the logs in the system

**Top** - it the main application to control processes

Process is a software that running by some other unit

Process have

UID and PID (user and process ID) for identity

Also:

PPID - Parent Process ID

PR - priority number - if its low its first

NI - nice processes between -20 to 19, 0-19 means regular users the others are, root is the only user that can control the whole NI

Virtual 0 how much the software say she needs

RES - what we have on the RAM himself

SHR - what shared with other processes

%CPU

%MEM

TIME - for how long the process is running

COMMAND - what is the command that running the process

**Commands in TOP:**

f - show me the processes display manager

W - save the change

b - mark rows(x) and line(y)

shift < > - organize the top table

*bg - background running (like &)*

*fg – foreground running*

k - kill process (from the top command)

19/sigstop(if pause), 18/sigcont(resume)15/sigterm(soft), 9/sigkill(hard), 1/hup(restart)

*kill* *-sigstop* - kill process outside the top (need PID)

*kill* *-sigcont %1 -* continue the process with jobid 1

*killall -* stop all

*pkill -* also kill through users and UID and process names

*pgrep - show the specific processes*

r - change nice value

*nice - determine the nice value 10(default)*

*renice -n 9 pid - by root any value, by user only + from the current value*

*jobs* - show the processes status in my session (-l show pid)

& - after command means to run in background

*nohup* - Run a command that does not depend on another process and send the output to a new file (nohup.out)

disown %1 – if the jobs already ran (1=jobs id)

top -b -n2 -d5 | grep user - show top on the bash screen