comenzi

See config:
- nmcli -p device show
- ip a
- ip maddress
- ip link
- ifup [ens160] (configurare ip)
- dmidecode (info sistem)
- dmidecode -t1 system
- lsmem (info memorie)
- lscpu (info cpu)
- lsscsi
- uptime
- top
- vmstat
- free (memorie, swap)
- free -g
- last (ultimii conectati)
- date
- dmesg (kernel)
- uname, uname -a (sist. de op.)
- lshw
- cat /proc/meminfo
- cat /proc/cpuinfo
- cat /etc/redhat-release (pe ce lucram)

show:
- ls -al (files)
- ls -ld [dirname](directories)
- ls -lrt (sort by date)
- ls -R (continutul dir recursiv)
- df -TPh (filesystem)
- df -i (cate inoduri)
- pwd (where are u)
- cd (change directory)
- du -sh* (marime fisiere)
- tail -10 messages (ultimele 10)
- head -10 messages (primele 10)
- whoami (cine sunt ca user)
- id [name](detalii user)
- mount (overview of mounted devices)
- findmnt (shows mounts and the relations)
- cat (shows the content of the file)
- cut (filter columns or charact. from file)
- wc (numara linii, cuvinte si caract din fisier)
- wc -l (nr linii)
- wc -w (nr cuvinte)
- grep (analizeaza textul)
- which comanda (afla path-ul comenzii)

Repository:
setare -
- first make sure cd CentOS is activated in Vmware
- vi /etc/yum.repos.d/local.repo [local.repo = nume repo]
- add config:
  [local] (local = nume repo)
  name=local
  baseurl=file:///mnt/cdrom/BaseOS
  enabled=1
  gpgcheck=0
- mkdir cdrom in /mnt
- mount /dev/cdrom /mnt/cdrom
- ls (to see in /mnt the cdrom)

- lsblk - cdrom montat sau nu
- cat /etc/yum.repos.d/cd-ul (to see if its renabled)
- yum repolist

Steps:
- make sure CD is activated in Vmware
- add repository and config
- mount
- install packages (both servers)
- rpm -qa to see if its installed
- disable selinux & firewall (both servers)
- install nfs-utils (both servers)
- vi /etc/exports (adauga fisierele de exportat, ip-ul celuilalt server si permisiunile) (first server)
- start and enable the service (both servers) (systemctl start/enable nfs-server)
- showmount -e ip-ul primului server (second server)

- montare fisiere exportate prin mount si/sau vi /etc/fstab (second server)

Packages:
see packages: /mnt -> cdrom -> BaseOS -> Packages
ls
yum install [nume pachet] (instalare)
yum remove [nume]
yum update [nume]
yum downgrade [nume] (pt necompatibilitate)
yum search [nume]
yum whatprovides [nume]
yum list install|grep [nume]
yum repolist all (list all yum repositories)
yum clean all (clear yum cache)
yum install [nume] --downloadonly --downloaddir=/numedir
(doar downloadare pachet fara instalare)

rpm -ivh [numepachetintreg] (instalare pachet cu rpm-dar se foloseste tot path-ul)
-e stergere pachet
-qa to see packages

Dezactivare selinux
- getenforce
- setenforce 0
- getenforce

Dezactivare firewall
- systemctl stop firewalld

user & gr management:
- useradd [user]
- usermod [user]
- userdel [user] (sterge)
- usermod -G root [user] (make root privilege)
- usermod -u [nr] [user] (change UID)
- usermod -c [comment] [user] (add comment)
- usermod -s /sbin/nologin [user] (no login shell)
- usermod -d /home/dir (change home directory)
- usermod -aG [group] [user] (add user in group)
- usermod -aG wheel [user] (add user in wheel)
- usermod -g [group] [user] (primary group)
- chage [user] (schimba pass)
- passwd [user] (schimba pass)
- chage -l (see current pass settings)
- passwd -e [user] (forced to change at login)
- groupadd [group]
- groupmod [group]
- groupdel [group] (sterge)
- groupadd [group] -g [nr] (add with GID)

important files:
- cu: cat (view) sau vi (modify)
- /etc/passwd
- /etc/passwd | wc -l (cati useri)
- /etc/shadow (pass details, users)
- /etc/login.defs (change pass config)
- /etc/group (grupurile)
- /etc/fstab (make persistent lv)

files & directories:
- touch [file] (creeaza fisier)
- cp [file] (copiaza)
- mv [file] /dir (muta fisierul in dir)
- mv [file1] [file2] (redenumeste)
- mkdir /dir (creeaza director)
- rm [file] (sterge fisier)
- rm -r /dir (sterge dir)
- find /dir file (find all "file" files)

NFS:
- instalare nfs-utils
- vi /etc/exports
  - cu /dir ip: (permisiuni)
- start & enable server
- exportfs -rav
- montat cu mount -t nfs sau in /etc/fstab (pe al doilea server)

Start server:
- systemctl status
- systemctl start [nume service] (utils-service)
- systemctl enable [nume service] (utils-service)

Permissions, ownership:
Read=4; Write=2; Execute=1;
r - read; w - write; x - execute;

- chmod permisiuni /director
  (chmod 777 /dir)
  (chmod g+s /dir)
- chown user file
  (change ownership to user for file)
- setfacl -m u:user:r /dir (ACL)
- setfacl -m g:group:rw /dir (ACL)
- getfaclt /dir - vezi permisiunile

UMASK:
- vi /etc/profile
- default: umask 002 for normal user
- default: umask 022 for root user
- default pt fisiere: 666
- default pt directoare: 777
- din default se scade permisiunea ceruta si se inlocuieste val umask in /etc/profile

Export pe al doilea server:
- vi /etc/exports
  - add /director ip-ul celalalt (permisiuni)
- exportfs -rav

Montare fisiere exportate:
- showmount -e [ip]
- mkdir /newdir
- mount -t nfs ip:/direxportat /newdir

SAU
- vi /etc/fstab
- ip://direxportat /newdir nfs defaults 0 0
- mount -av

Partitionare:
- for i in /sys/class/scsi_host/host*/scan ;do echo "- - -" > $i ;done (scanare disk)
- fdisk /diskul
- a 4a partitie se face default la toate cerintele dupa care se fac cate partitii merg
- n - p/e - t (type) - w (save)
- pvcreate /disk (/dev/sdb)
- vgcreate numevg /disk (din pv)
- lvcreate -L +marime -n numelv numevg
- lvcreate -L 100%FREE -n numelv numevg (adauga de tot spatiul ramas)
- vgextend numevg /disk
- lvextend -L +marime -r /entirePATH (dev/mapper/numevg-numelv)
- pvs, vgs, lvs - show PV,VG,LV
- mkfs.ext4 /dev/mapper/vgname-lvname (ext4 filesystem)
- mkfs.xfs /dev/mapper/vgname-lvname (xfs filesystem)
- mkswap /dev/mapper/vgname-lvname (swap filesystem)
- swapon -av (mount pt swap)
- free -m (see the memory & swap memory)
- mount /dev/mapper/vgname-lvname /mounteddirectory
- mount -av (mount pt xfs & ext4)
- vi /etc/fstab (make mounts persistent)

Lists:
- daca o comanda se termina cu &, shell-ul
- daca comenzile se termina cu ; atunci shell-ul asteapta ca fiecare comanda sa se termine inainte sa inceapa alta
  ruleaza comanda in background intr-un subshell
- comanda1 && comanda2 (comanda2 se executa doar daca comanda1 returneaza 0)
- comanda1 | | comanda2 (comanda2 se executa doar daca comanda 1 returneaza alta val inafara de 0)

Redirect: > < >>
comanda > fisier (se adauga rezultatul comenzii in fisier, inlocuind ce este deja acolo)
comanda >> fisier (se adauga rezult. comenzii in fisier in continuare)
comanda 2> fisier (2 se pune in cazul in care comanda da eroare)
Pipe: |
comanda | comanda (ia output-ul primei comenzi si il pune ca input in a doua comanda)

Crontab: -schedule
- crontab -e (se deschide fisierul)
- in fisier: minutul ora zidinluna luna zidinsapt numeuser comanda
- crontab -l (display current jobs)
- crontab -r (delete all jobs)e

Script:
vi numescript.sh (se creeaza un fisier .sh si se deschide)
- #!/bin/bash (prima linie din fisier)
- primul argument e numele scriptului $0
- celelalte argumente: $1 $2 ...

chmod +x numescript.sh (se da permis. de execut. la script)

RAID:
- creare 2 disk-uri pt Raid 0 si 1; 3 disk-uri pt Raid 5; 4 disk-uri pt Raid5 & Spare
- setare tip disk in fdisk -> Linux raid autodetect
- fdisk -l | grep -i raid
- install pachet mdadm

Raid 0
- mdadm --create /dev/md/raid0 --level=0 --raid-devices=2 /dev/disk1 /dev/disk2

Raid 1
- mdadm --create /dev/md/raid1 --level=1 --raid-devices=2 /dev/disk1 /dev/disk2

Raid 5

vi numescript.sh (se creeaza un fisier .sh si se deschide)
- #!/bin/bash (prima linie din fisier)
- primul argument e numele scriptului $0
- celelalte argumente: $1 $2 ...

chmod +x numescript.sh (se da permis. de execut. la script)
./numescript.sh [argumente] (vezi output-ul scriptului)

echo $? (verif statusul comenzii anterioare; 0 - e ok)
echo $# (numarul total de argumente)
echo $$ (numarul procesului shell-ului curent)
- ps -efa | grep [nr de la echo$$] (vezi procesul shell)

sleep x (asteapta x secunde dupa care ruleaza)

-eq (equal to)
-ne (not equal to)
-lt (less than)
-le (less than or equal to)
-ge (greater than or equal to)

Link-uri:
- ln -s source_file target_file
  (face symbolic link intre cele 2 fisiere)
- ls -rlta /path
- unlink /absolutepath

NICE priority
- ps -efal | grep /dircautat
- renice x PID
- x = valoarea permisiunii
- PID = primul nr al directorului afisat

KEYs:
- se intra in userul la care vrei sa generezi cheia
- ssh-keygen -b 4096 (generate key)
- ls -alF /numeuser/.ssh/id_rsa* (show key)
- ssh-copy-id [ip-ul celuilalt server] (send key)
- ssh [ip] (verifica)

HOSTNAME
- hostname (see the hostname)
- hostnamectl set-hostname [name]
  (change hostname name)
- bash (refresh server's hostname)

- install pachet mdadm

Raid 0
- mdadm --create /dev/md/raid0 --level=0 --raid-devices=2 /dev/disk1 /dev/disk2

Raid 1
- mdadm --create /dev/md/raid1 --level=1 --raid-devices=2 /dev/disk1 /dev/disk2

Raid 5
- mdadm --create /dev/md/raid5_numeserver --level=5 --raid-devices=3 /dev/disk1 /dev/disk2 /dev/disk3

Spare
- mdadm --create /dev/md/raid5_numeserv --level=5 --raid-devices=3 /dev/disk1 /dev/disk2 --spare-devices=1
  /dev/disk4

- mdadm --detail /dev/md/raid{1,2 sau 5} (vezi raid-ul)
- mdadm --stop /dev/ms/raid{1,2 sau 5} (opreste raid-ul)