**Commands**:

ls -i = show index number of file

ls -Z = selinuxמראה גם קבצים של

ll = ls -l = show all information on internal files (permissions, modified etc...)

ls -ld = ll -d = show all information on the exact folder/file

ln -s = make new symbolic link ln = create hard link

date -d “127 hours ago” = what we the time before 127 hours (+%d%m%y)

%s = 1.1.1970

date +%H:%M:%S = 22:25:32

tail -n -8 = Show me the 8 last lines in a file (default is 10)

whereis “ “ = search into man where the file is located in the OS

head = how many lines I want to see from the beginning of the file

wc -l = how many lines I have in a file

faillock --user yoav –reset = unlock user yoav

grep menuentry /boot/grub2/grub.cfg = display all your grub entries

ctrl+r= חיפוש פקודות אחרונות ctrl+a/e/u=מחיקה אחורה או תחילת/סוף שורה

uname -r = kernel version

history = show me the history commands ctrl+r, echo $HISTSIZE or $HISTFILE

apropos = man -k =לכמה פקודות man אפשרות של

!22 = the 22 commands (follow the history)

!-3 = the command before 3 commands

!! = Repeat the last command

!$ = use the last argument !\* = use all args from last command

!COMMAND = use the last specific command

file *FILE* = the file type

mount = create mount *(mount /dev/sdb /mnt/media)*

*~ = home* folder ~ - = like back

Testdisk = can restore file with link count 0

touch file{1..5}.log = will create file.log, file2.log, file3.log etc...

> = overwrite set -o noclobber = can't overwrite

>> = append set +o noclobber = can overwrite

echo Hi >| file1 = add line to text with noclobber

more = shoe the input (space is down and b is up q is exit) with progress

less = shoe input without progress but with search option (/)

sed -n 2p = show the second line

rmdir = delete ONLY empty folder

cp = copy (I have to put -r to copy full folder)

rm -r = delete folders (with files), -f = force delete, -i = need to get approve

mkdir -p = /home/student/{1,2,3} create directory and subdirectory

lsb\_release = (Linux Standard Base) and distribution-specific information

echo $$ = current ps id echo $? = show failed exit status

alias 'NAME' = COMMAND

stat FILE = full information on a file (including blocks)

find /home/keren/ -name "\*string\*" -exec cp {} /home/nadav \;

locate = **חיפוש קבצים שמתעדכן פעם ביום**

updatedb& = **מעדכן את החיפוש**

lsmod/insmod/rmmod = show running driver, install driver, remove driver

modinfo/modprob = information about driver

lsblk = list block devices

lsof = list of open files

gzip = **כיווץ** gunzip = **חילוץ**

$0 = show current shell $SHELL = show default shell

bash = **הרצה** ./ = **הרצה רק מתוך התיקייה**

Id = show all user id

**useradd, usermod, userdel:**

-d - home folder

-s - shell

-u - uid

-g - primary gid

-G - sub gid - add user to group (usermod -G *user group*)

-p - password

-mk - take the תוכן from folder

-L - lock

-U - unlock

**user's configuration files:**

/etc/login.defs

/etc/skel/

/etc/sudoers - (can edited with visudo)

/etc/group

/etc/shadow /etc/passwd

/etc/gshadow

/etc/profile /etc/bashrc

1username:2password:3uid:4gid:5gecos:6/home/dir:7shell

**Users Permissions**:

1 field: user name

2: permission level

3: user (owner) ID

4: Groups ID

5: comment

6: home folder

7: default shell

WHO (WHERE) WHAT

**change password policy:**

chage -M = password expiration

chage -l = password information

chage -d = force user to reset password after *d* days

chage -E = expire account

**Files Permissions** (rwx-rwx-rwx)

The first three letters - user (owner) permissions

The second three letters - group permissions

The 3rd three letters - other, it means who is not owner and not under the group

4-r - read file / list folder

2-w -edit file / edit folder

1-x - execute, means run file or enter the folder

chmod - change permissions (chmod u=rwx, g=rx, o=r *file* == rwx-rx-r *file*) chmod 754

\* if I do (chmod *file*) it means remove all file permissions

u - user

g- group

o - other

a - all

+/- = add/remove

= over write

chmod numeric

chmod 1754 – s = --x, u =rwx, g=r-x, o=r--

אחדות - o

עשרות - g

מאות - user

אלפים - special

chmod 5 - means others equal xr

x - 1

w - 2

r - 4

**Default permissions:**

umask - show me the delta permissions - 775(folder), 664(files) means umask 0002 (work till the end of the session)

Ownership change (only root can)

Chown *user file* = change ownership to a file

Chown *user:group file* = change ownership to group or file

Chown *:group file* = chgrp *group file*

**Special permissions:**

|  |  |  |
| --- | --- | --- |
| **Permissions** | **file** | **Directory** |
| SUID  u+s = 4000 | Running file with the user ownership (the user that written in the file info) | ----- |
| SGID  g+s = 2000 | Running file with the group ownership  (The group that written in the file info) | New files will be under the folder group ownership |
| Sticky bit  o+t = 1000 | --- | User can delete files with hes ownership ONLY |
| When the "rwS" is small so you have executed behind if its big so you can't | | |

*suid* - when I'm running the process it's like I'm the process ownership - she can run on everyone who can run the file

***tar:***

*c -* create tar files

*x -* extract files

z - compress files with gzip

j - compress files with bzip2

p - extract to the path I'm in

f - **have** to be in the end because after it will be the tar file

**scp (secure copy):**

-r \_ what to copy {local machine} \_ where to copy (user@host:/path...)

**rsync**

-a - (keep attributes like owner's permissions etc...)

-n - *what where (*dry run - tell me how much time it will take)

-P - Show progress

**Time**

tzselect - show time zones for selections

TZ=\_\_ - enter the time zone selected

timedatectl - show present time+date

**DD**

*dd -if=/dev/zero of=large.log bs=1M count=32 status=progress*

dd - data duplicate, takes data from input file

if - input file of - output file (where to extract)

status=progress - show how match data move

bs - transfer size, means I moving 1M each time to the output file

count - how many times I want to transfer the data

**I'm taking data from /dev/zero and to large.log, each transfer is 1M and it transfer it 32 times - means that the file will be 32M**

**VIM:**

a - move from command to insert with one string right

A - move from command to insert and go to the end of the line

i - move from command to insert and stay in place

I - go to Start and go to from command to insert

O - line up and go to insert

o - line down and go to insert

G3 - go to line 3

G - last line

H - first line

/ - search

n - next result

N - last result

x - delete the string that signed

r + string - replace existing string with the one we insert

u - undo

ctrl+r - un undo

yy - copy line

5yy - copy 5 lines under the sign

dd - cut

p - paste under the sign

P - paste above the sign

ZZ - save and exit

v- go to visual mode

ctrl + v - visual block (to freeze and mark)

**Extended:**

To go to extended need to click:

Click number (10) - go to line ten

Set number - show me the line numbers

Shell commands:

![command] - !pwd = show me the place I'm in and then enter to go back

r![command] - r!pwd paste the place I'm in into the file

:1,5s/x/\*/ - change x to \* between 1 to 5 lines for first argument ($s for all file)

:1,$s/:/\t/g - change : to \t for all (\t=tab)

w - save

w! - force and save

1,10w [file] - write lines 1-10 to a file

wq! - save force quit = x!

ctrl+shift+c = copy

ctrl+shift+v = paste

middle mouse button - paste