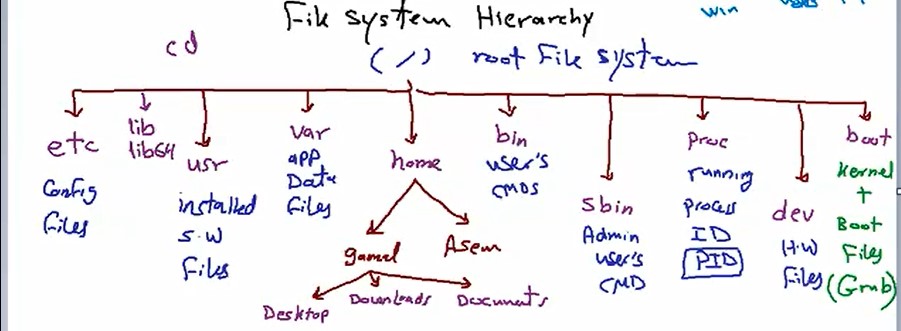
Linux file hierarchy



|  |  |
| --- | --- |
| Command | Description |
| whoami | Print the current logged in user |
| Ls or lsblk | List files / list block |
| Ls -a | List all files and hidden files |
| Ls -l | Long format for file list |
| pwd | Print working directory |
| touch file 1 | Create file 1 |
| top -p 2823 | Print process with pid 2823 details |
| Cd /home/dina | Change directory |
| Cd - | Back to the last place |
| Cd .. | One step back |
| Cd ../.. | Back two steps |
| Sudo mkdir /usr/dir1 | Super user do make directory dir1 as admin |
| Nano filepath | Open file and edit it if it exist , if not exist it will be created |
| Cat | Preview file عرض بس |
| Tac | Reverse view |
| vim , vi  ex) vim /etc/passwd | Enhanced text editors |
| Apt  Ex) sudo apt install vim | Linux installer |
| Wc -l file1  Wc -w file1  Wc -c file1 | Word count 🡪-l get num of lines in the file  🡪-w get number of words  🡪 -c get num of charecters |
| Head -n 7 | Preview first 10 lines , -n 7 get only 7 lines |
| Tail -n 3 | Preview last 10 lines , -n 3 get only 3 lines |
| Less file | Scroll up and down after that Q or ctr c to exit this scroll |
| Useradd 🡪Redhat  Adduser 🡪Ubuntu(debian) | Add user |
| Usermod  Ex) usermod ahmed -aG sales | Modify user ex) sudo usermod hamza -aG cdrom add hamza to group  Add ahmed to sales group |
| User del  Ex) sudo userdel ali  Ex) sudo userdel -r ahmed | Delete user  Delete ali and keep his files  Delete Ahmed and delete all files related to ahmed |
| Groubadd sales | Add logical groub |
| Groupmems -g sales -l | Check if sales groub is exist or not -l list and list uses in this groub |
| Groupmemes -g sales -d ahmed | -d delete ahmed from group sales or (edit in etc/group) |
| Groubdel  Ex) groupdel sales | Delete group (group delete don’t delete it’s users only leave from groub) |
| Chown ahmed file1 | Change owner of file |
| Chgrp senior file1 | Change group of file |
| Sudo nano /etc/sudoers | Add user or group in this file to be admin and take all admin priv. |
| Id ahmed | Check if there is user called ahmed ? |
| Passwd ahmed | Change ahmed password |
| Su ahmed | Switch user to ahmed |
|  |  |
| Top | Print all running processes |
| Pstree | Print all process tree |
| Pstree -p | Print all process tree with pid s |
| Pidof firefox | Display pids for all firefox functions |
| Pgrep firefox | Display parent pid |
| Top -p 53900 -p 54145 | Display all processes details  PID user …… .. command ……  53900 dina 20 0 3373828 273364 80508 S 0.0 5.5  54145 dina 20 0 3373828 273364 80508 S 0.0 5.5 |
| Ps -aux | Get all processes one shot not updated |
| Top | Get all processes updated |
| Man 7 signal | display all signals that deals with processes from 1 to 31 |
| Kill -signal pid  ex) kill -9 5212 | Send signal to specific pid |
| Pkill -signal pattern  Ex)pkill -9 fir | Send signal to pattern(جزء من اسم ال app) |
| Killall  Ex)killall -15 firefox | Send signal to appName but for all users |
| Systemctl action servicesName  Ex)systemctl start ssh  Ex) systemctl status cron  sudo killall -15 cron  sudo systemctl status cron  sudo systemctl start  sudo systemctl start cron  sudo systemctl mask cron | Control services  Status,start,stop,restart,enable(add service in startup),disable,mask(don’t work this service),unmask |
| sudo systemctl list-dependencies cron | Get all services dependencies |
| Systemctl double tab | Print all systemctl actions |
| Systemctl status NetworkManager | Get nm status ,nic name (ens33),configuration (ipv4 /dhcp4) |
| Ip addr show ens33 | Display nicايه الاعدادات الى تم منحها لكارت ال |
| Route -n (or) ip route show | Display Gateway info |
| hostname | Display hostname for the machine |
| nmtui | Open tui(text user interface) to change network config |
| Sudo cat etc/NetworkManager/system-connection/wired/connection/1.nmconnection | Display dns |
| apt update (ubuntu) / apt upgrade  dnf repolist (RH) | Download latest index for all apps repositories |
| Ping -c 2 | to check the machine is connected to the internet or not |
| Apt dist-upgrade(ubuntu)  Dnf update (RH) | Install OS updates and kernel virgin |
| Apt install appname  Ex:) apt install zsh | Install app |
| Dnf list installed | Get all installed apps |

|  |  |  |
| --- | --- | --- |
| Action | File | Directory / folder |
| Create | * Touch fileName1 fileName 2 ……. * If hidden file 🡪 touch .fileName * If file name more than one word🡪Touch “file name “ * If create file in path 🡪 touch /path/filename | * Mkdir dirName 1dirName2 * If hidden dir -> mkdir .dirName * If dir name more than one word 🡪 mkdir “dir name” |
| Copy | Cp source destination | Cp -r source destination |
| Rename | Mv source destination | Mv source destination |
| Cut/move | Mv source destination | Mv source destination |
| Remove/delete | Rm -f | Rm -rf \* امسح أي حاجه ف المكان الى انا فيه |

Sudo mkdir dir1 ; sudo touch file 1 -🡪 more than one command can be done by ; delimiter

Sudo nano /etc/sudoers 🡪 all admins

Ex) Ahmed ALL=(ALL) ALL get all admin privileges

If no password

Ex) Ahmed ALL=(ALL) NOPASSWD: ALL get all admin privileges and no ask for password

If I want to make group of users in admin

Ex) %seniors ALL=(ALL) NOPASSWD any user in senior in senior group is admin

/etc/group 🡪 all groups

/etc/

Nano -> open file like notepad in windows

Black 🡪 file

Dark blue 🡪directory

Blue 🡪 hyperlink

Red🡪 archive file (compressed)

Processes (main parent process id 🡪 systemd) types:

🡪 running s=R

🡪sleep – loaded but not working s= S sleep

🡪Stopped –manually stopped process s= I ideal

🡪zompie child has no parent – connection lost with its parent. S=Z

* Virus غير معلومه الهويه
* Attack process
* Overload on server and hardware full utilizes cause child lost connection

Deal with process :

* I know app 🡪 pidof firefox/pgrep firefox

pidof firefox (parent 53900)

55022 55003 54754 54753 54415 54258 54239 54147 53900

pgrep firefox

53900 (parent)

* I know pid 🡪 top -p 2022

Top -p 51440

* I don’t know app or pid 🡪top / pstree -p / ps -aux

Signals :

Numbers from 1 -31 means messages to processes ex:)

Man 7 signal ---------🡪 display all signals that deals with processes

Signal 1 reload 🡪 if I want to send message to process to reload.

Signal 9 force terminate 🡪kill signal. (usually used with zombie processes)

Signal 15 clean terminate 🡪 send message to parent to stop the process and kill all child

Signal 18 pause process 🡪

Signal 19 continue process 🡪

How to send signals :

-kill -signal pid 🡪ex) kill -9 5212

send signal to pid 5212 to (-9) force terminate

-pkill -signal pattern 🡪 ex) pkill -9 fir

مصيبه سوده عشان بيدور على أي تطبيق فيه الجزء ده من الباترن و ينفذ عليهم ال سيجنال

-killall -signal appName 🡪 ex)killall -9 firefox

اهدى شويه عشان بيدور علي التطبيق بنفس الاسم بس عند كل ال مستخدمين

Systemclt parent -> kernel

Change network configuration using gui :

Network 🡪 wired settings🡪setting 🡪 ipv4🡪 manual🡪

Address🡪192.168.80.150 🡪 subnet 24 or 255.255.255.0🡪  
DNS static , 8.8.8.8 🡪apply🡪 disconnect & connect to load the new configurations

Linux distributions

Redhat/ centos Debian /ubuntu

|  |  |
| --- | --- |
| App.rpm(redhat package manager)  Install commands:  -rpm -i  -offline installation  -I downloaded the source  - I have the source link  First download the pkg  -curl “ pkg name ”  Or -  -dnf/yum  If the machine connected to the internet  we need to install updates  Dnf repolist  It ll download the latest index of SW repositories and install the updates in one step | App.dep  Install commands:  - dpkg -I packagenname  -offline installation  -I downloaded the source  - I have the source link  First download the pkg  -curl “ pkg name ”  -apt/apt-get install  If the machine connected to the internet  We need first to download the latest index of the repositories of the SW  -Sudo apt update  If repo is exist its ok if not you need to add repo  -add-repository “reponame”  After that install what you need   * Sudo apt install app |
| For update :  Rpm -U pkgname\_newV  Dnf update swname | For update :  dpkg -U pkgname\_newV  apt upgrade swname |
| For uninstall:  Dnf remove swname | For uninstall:  apt remove swname |
|  |  |

Note

Dnf update🡪 update sw and kernel   
apt update 🡪 update sw only , if we need to update repos 🡪dist-upgrade

Apt dist-upgrade(ubuntu) **==**Dnf update (RH)

To create file

1. Touch
2. Nano or vim
3. Redirect >

Example to install new SW didn’t exist in repo

Docker-ce

Sudo apt install docker-ce --🡪docker ce not available

So we need to add repo

Sudo apt add-repository docker-repo -🡪 no jpg found

So we need to download jpg key

sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/trusted.gpg.d/docker.gpg -🡪 curl not found

So we need to install curl

Sudo apt install curl

If I want to create archive 🡪 tar

Example tar -cvf backup-etc.tar /etc