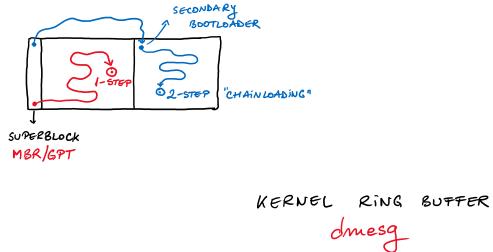


BOOT PROCESS

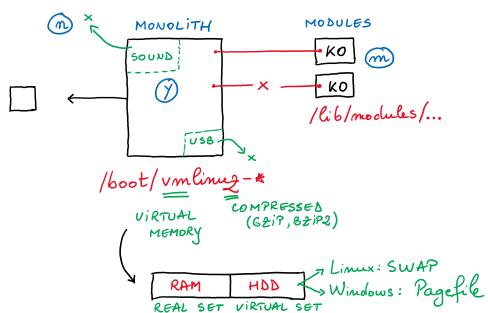
- POST ✓ CPU
✓ RAM
✓ I/O

2. BOOTLOADER

Lilo
GRUB ↗ v1 (Legacy)
↗ v2

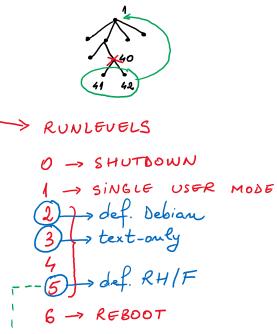


3. KERNEL



4. INIT pid=1 /sbin/init

- /etc/inittab id: 2-5: service: action
- Sys V
 - /etc/init.d/ S — START
 - /etc/rc?.d/ K — STOP
- Upstart
 - /etc/init/
 - /etc/event.d/ service



- Systemctl
 - systemctl
 - journaldctl
 - timedatectl
 - hostnamectl
 - ...

TARGETS	UNITS
"multi-user"	service
"graphical"	mount
...	device
	socket
	...

ps ↗ aux
-ef

$$VSZ = RSS + SWAP \\ (kB)$$

SIGNALS

1-30

- 1 SIGHUP ~ reload
- *9 SIGKILL
- 15 SIGTERM ~ graceful exit

kill { -s SIGHUP } [PID] ✓
killall { -s 15 } [NAME]
top → [K]

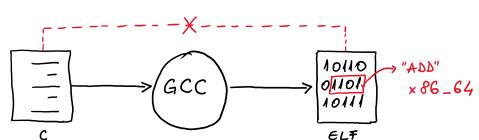
NICE

-20 ROOT 0 DEF. 19 USER

nice { -n -20,19 } [CMD] / -p [PID] / -u [USER]
remnicing top → [r]

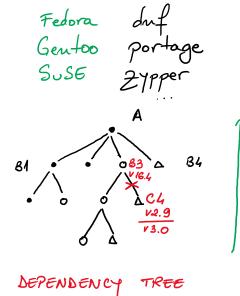
LANGUAGES

① COMPILED



② INTERPRETED





0. README [md]
1. ./configure => Makefile (targets)
2. make [target] ←
3. make install (sudo)

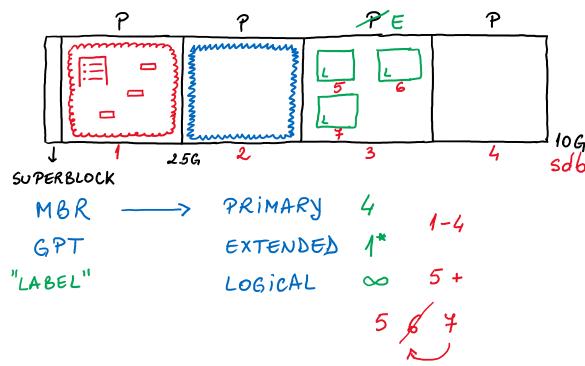
TAR	c CREATE	z GZIP	f FILE
	x EXTRACT	j BZIP2	
	t TEST	J XZIP	

STORAGE

/dev → VIRTUAL F.S. (UDEV)
 b → BLOCK DEVICE (i/o M(bs), bs=512B)
 c → CHARACTER DEVICE (i/o 1B)

PATA → /dev/hda, b, ...
 SATA } → /dev/sda, b, ...
 SCSI } → /dev/sdb, ...

VIRT } → /dev/xda, ...
 CLOUD } → vda, ...
 xvda, ...



S.I.
 $1K = 1000 = 10^3$ $1KB = 1024 = 2^{10}B$
 Kibibyte

0. CONNECT + VERIFY

ls -l /dev/sd[a-z] ; dmesg
 lshw -class disk ; lsblk

1. PARTITIONING

fdisk ; gdisk (LOW LEVEL)
 parted ; gparted* (HIGH LEVEL)
 (GUI)

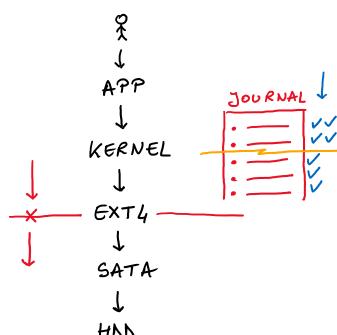
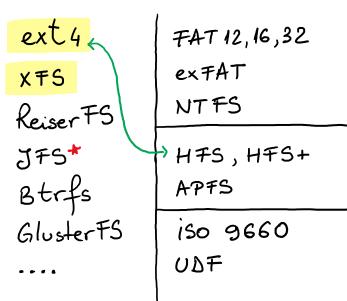
2. FILESYSTEM

mkefs -t [TYPE] [PART]
 (100% DESTRUCTIVE)

3. MOUNTING

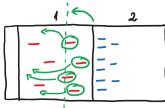
mount [-t [TYPE]] [PART] [MNTP]
 MUST EXIST!!

umount PART/MNTP



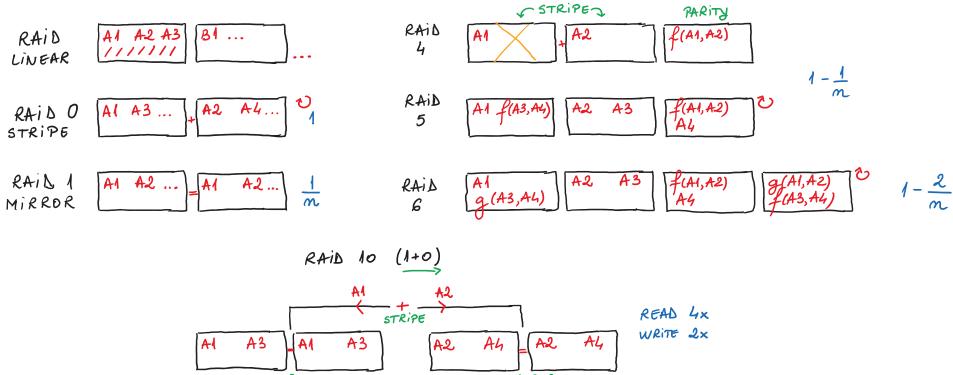
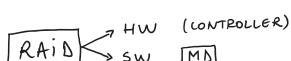
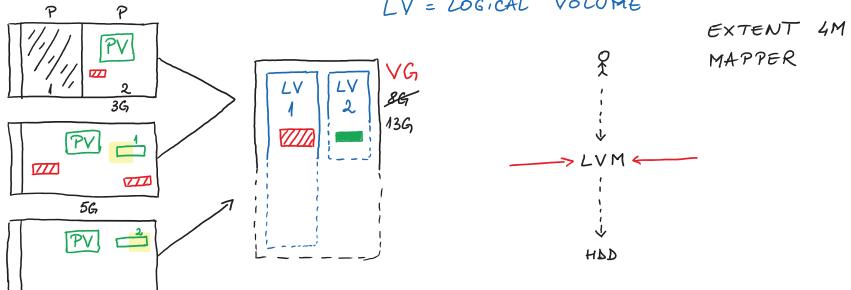
make distclean KERNEL COMPILE

make defconfig ⇒ .config
 make menuconfig + custom string
 make all ↪ vmlinux, bzImage
 make modules_install ⇒ /lib/modules/<version>/...
 make install ⇒ /boot: vmlinux, System.map, initramfs
 grub2-mkconfig -o /boot/grub/grub.cfg



LVM

PV = PHYSICAL VOLUME
VG = VOLUME GROUP
LV = LOGICAL VOLUME



NETWORKING

NET-TOOLS

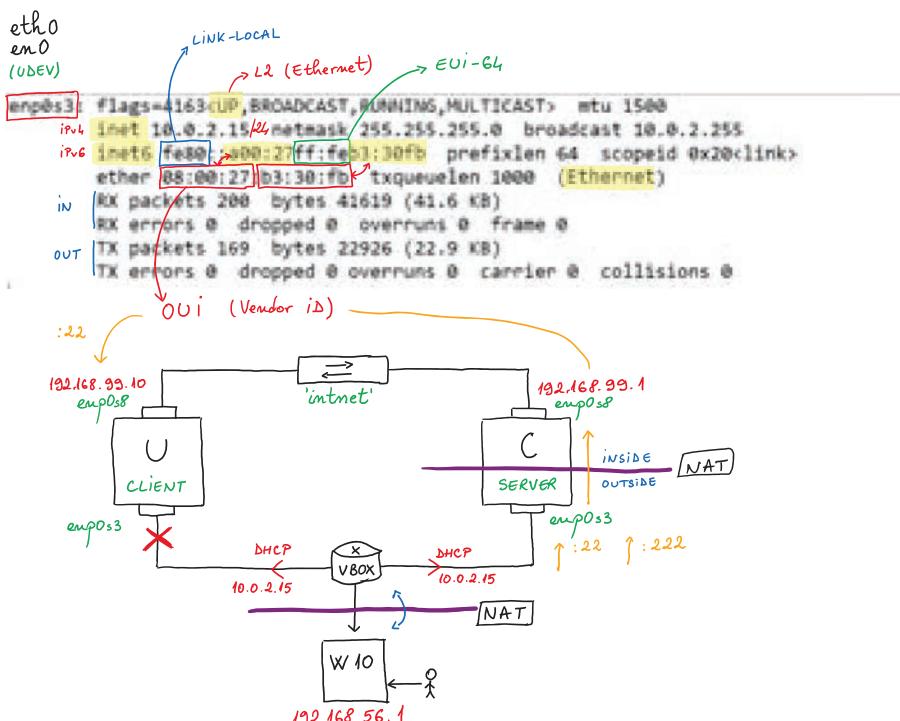
ifconfig [-a]
route [-m]
arp [-n]

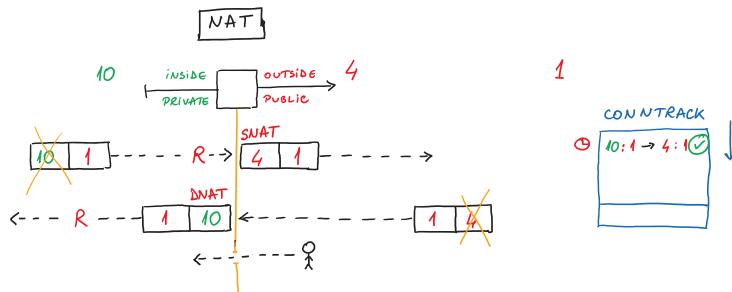
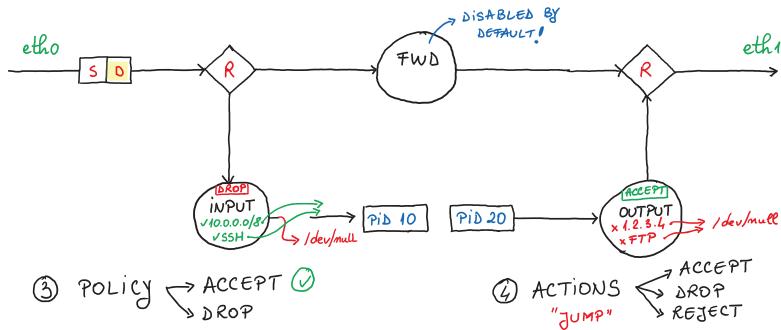
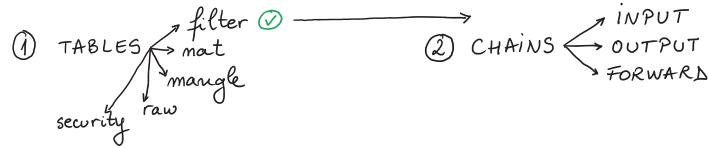
iPROUTE2

ip address show
ip route show
ip neigh show

NETWORK MANAGER

nmcli
nmcli
nmguic



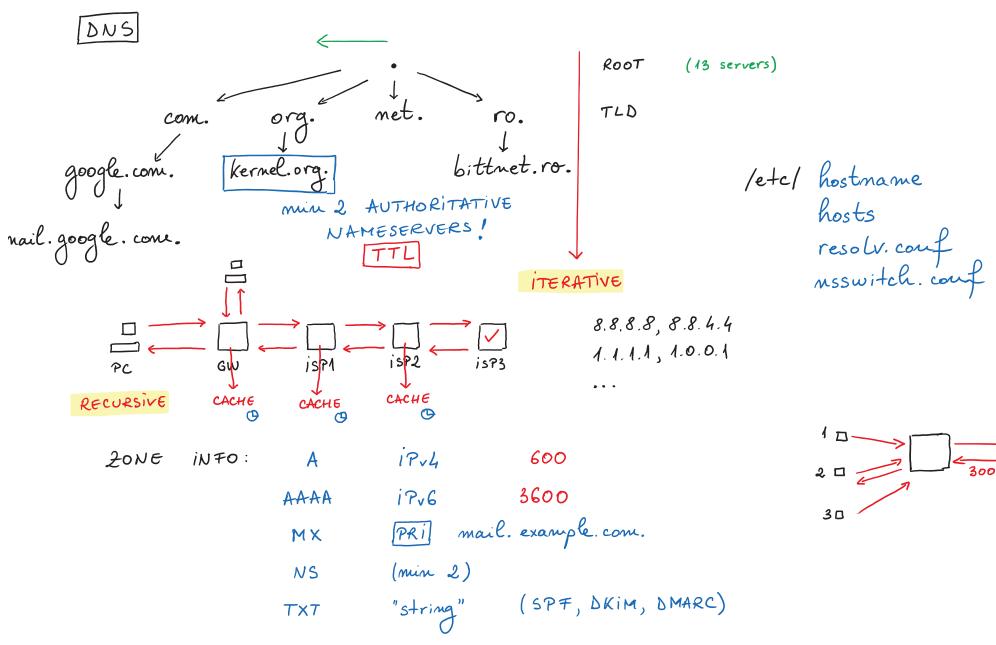


ONE-WAY

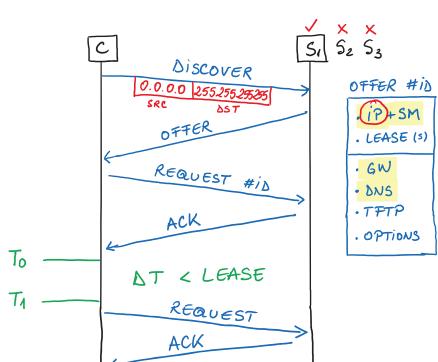
$$f(x) = y$$

$$\leftarrow f^{-1} \text{ 'NP'}$$

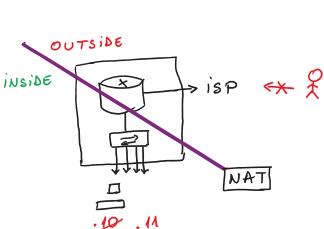
ssh, sshd → DAEMON
http, httpd
dhcp, dhcpcd



DHCP

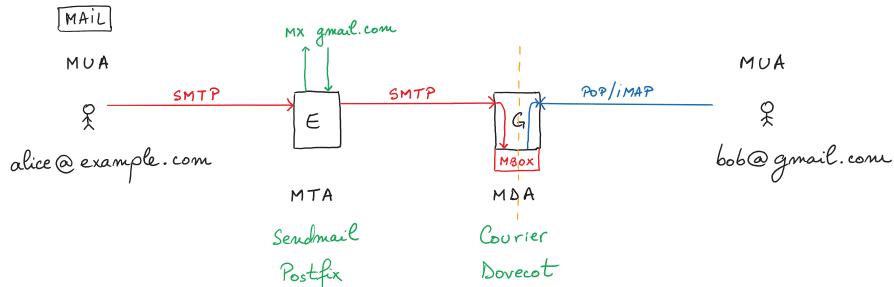
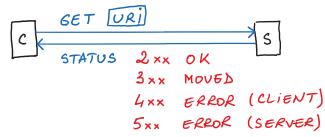


S0/H0



HTTPD | Apache2, nginx, lighttpd

ServerName	DocumentRoot
site1.com	→ /var/www/site1/
site2.com	→ site2/
example.com	→ example.com/
Virtual Host (ip:port)	
80, 443	



SYSLOG

FACILITY	SEVERITY
auth	0 emerg
mail	1 alert
cron	2 crit
security	3 error
kernel	4 warn
local0 - 7	5 notice
	6 info
	7 debug

