***Network Manager –*** *work with DB (nmcli)*

Devices – eth0, eth1, wlan

nmcli connections add, mod, up, down, show

nmcli device – show my network device status

nmcli connection – show me adapter details

nmcli connection modify eth0 connection.id ens160

dig - same as nslookup

netstat - checking your network configuration and activity

tcpdump -nnni any host "ip" port "port"

ip monitor – monitor the network

/etc/init.d/SERVIER = systemctl

Chkconfig still exist

/etc/sysconfig/network-scripts/ifcfg-eth[0,1,2,3]

*Nmap 🡪 network helper*

*Arp –scan 🡪 show hidden device*

*Ss –A inet –n 🡪 like netstat – show ports listening*

*Udev-* manage all network interface

*enpos1 –* en (Ethernet) pos (pci slot)

**Network**

ifconfig/ip a – show me network interface

ip (address), (route) - show me network interface

ip route add default via <192.168.1.1> dev <ens33>

ip addr add <192.168.1.10/24> dev <ens33>

ip link set <ens33> up

tracepath/traceroute – show the routing traffic (I can do it via tcp or udp or icmp)

netstat – ss – show the ports and programs details

ip link property del dev eth0 altname ens160

netstat –L(listen), -n(מספר), -p(process), -t(tcp)

**To regain eth0 back**

vi /etc/default/grub

add net.ifnames=0 after swap

grub2-mkconfig -o /boot/grub2/grub.cfg

**Service Network –** work with service file

/etc/sysconfig/network-scripts/ - the folder where the network details are located

*/etc/NetworkManager/system-connections*

*/etc/sysconfig/network*

*/etc/systemd/system/network.services*

ifcfg-dev – network adapter interface

*DEVICE* 🡪 *device name (ens1)*

*BOOTPROTO🡪 protocol settings (DHCP, none, bootp (pxe))*

*HWADDR🡪 mac address*

*UUID🡪* network id

*BRIDGE🡪* (all the configuration we have here use another one (br1)

*ONBOOT🡪* all the boot configuration – yes\no

*TYPE🡪* type of network adapter (Ethernet tin)

*NAME🡪 interface nickname*

*IPPADDR🡪 ip address*

*NETMASK🡪 subnet mask*

*PREFIX0🡪 netmask (24)*

*GATEWAY0🡪 gateway ip*

*DNS1🡪 DNS address*

*DOMAIN🡪 domain relation (example.com)*

*IPV6INIT🡪 IPv6 enable – yes\no*

*PEERNTP🡪"no" if you want to ignore ntp from dhcp*

*PEER\_DNS🡪 if it's on YES means that getting from DHCP, if NO so it's not*

*{ifcfg-eth0:1} – I can configure virtual interface*

nmcli con add type bond ifname bond0 con-name bond0 mode 802.3ad miimon 100 downdelay 0 updelay 0 connection.autoconnect yes ipv4.method disabled ipv6.method ignore

nmcli con add type bond-slave ifname ens1f0 con-name ens1f0 master bond0

nmcli con add type bond-slave ifname ens1f1 con-name ens1f1 master bond0

nmcli con add type vlan ifname bond0.2520 con-name bond0.2520 id 2520 dev bond0 connection.autoconnect yes ip4 [10.252.9.235/20](http://10.252.9.235/20) gw4 10.252.0.1

nmcli con add type vlan ifname bond0.4009 con-name bond0.4009 id 4009 dev bond0 connection.autoconnect yes ip4 [10.254.9.64/24](http://10.254.9.64/24)

**Bridge and LAG: Bridging:**

Team: Ifcfg-br0:

Loadbalance Master

Roundrobin IPADDR

active backup NETMASK

broadcast GATEWAY

lacp -> 802.3ad DNS

**teamdctl team0 state**

**Ifcfg-eth0:**

BOOTPROTO=DHCP

ONBOOT

NAME

BRIDGE

**brctl show**

**NAT:**

Masquerading/NAT

Port Forwarding - only one way, translate port to another port

**Selinux:**

setenforce permissive/enforcing

semanage port -l

System-config-selinux - gui util

**DNS Utile:**

**- When we configure something, we set configure it on FW and then in SELinux**

**- To look for monitor DNS: dig, host, nslookup:**

dig + noall + ans

dig - show me the closet DNS server

dig -x - reverse lookup

dig - like nslookup

nslookup – ask the domain

host - ask the domain

**DNS Caching -** saving all DNS records until the server will reboot

**Unbound –** main DNS server that will do the local DNS records

**IN –** internal DNS server

**A –** relate name to IP address

**AAAA –** relate name to IPv6

**MX –** mail records

**NS -** Name server

**SOA –** Source of Auth

**CNAME –** alias to another record

**PTR –** point to read

**SRV –** location of servers

**SPF –** Sender Policy Framework

**TXT –** human readable

**Troubleshooting:**

/etc/resolv.conf (recommended not to edit manually)

/etc/hosts (/etc/allow, /etc/deny)

/etc/nsswitch

[21 Basic Yet Essential Linux Networking Commands (itsfoss.com)](https://itsfoss.com/basic-linux-networking-commands/)