

Lab 3

1. Display your MAC address by 2 different ways.

```
test>ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.64.128 netmask 255.255.255.0 broadcast 172.16.64.255
    inet6 fe80::20c:29ff:fe26:edfc prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:26:ed:fc txqueuelen 1000 (Ethernet)
    RX packets 251994 bytes 377893577 (360.3 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 74951 bytes 4153293 (3.9 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 28 bytes 2799 (2.7 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 28 bytes 2799 (2.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
test>ip addr show

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens160: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:0c:29:26:ed:fc brd ff:ff:ff:ff:ff:ff
    altname enp3s0
    inet 172.16.64.128/24 brd 172.16.64.255 scope global dynamic noprefixroute ns160
        valid_lft 938sec preferred_lft 938sec
    inet6 fe80::20c:29ff:fe26:edfc/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
test>
```

2. Display the network settings of all active interfaces.

```
test>ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 172.16.64.128  netmask 255.255.255.0  broadcast 172.16.64.255
    inet6 fe80::20c:29ff:fe26:edfc  prefixlen 64  scopeid 0x20<link>
    ether 00:0c:29:26:ed:fc  txqueuelen 1000  (Ethernet)
    RX packets 252012  bytes 377895221 (360.3 MiB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 74971  bytes 4154843 (3.9 MiB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    inet6 ::1  prefixlen 128  scopeid 0x10<host>
    loop txqueuelen 1000  (Local Loopback)
    RX packets 29  bytes 2866 (2.7 KiB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 29  bytes 2866 (2.7 KiB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

3. Display the network setting of all interfaces both active inactive.

```
test>ifconfig -a
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 172.16.64.128  netmask 255.255.255.0  broadcast 172.16.64.255
    inet6 fe80::20c:29ff:fe26:edfc  prefixlen 64  scopeid 0x20<link>
    ether 00:0c:29:26:ed:fc  txqueuelen 1000  (Ethernet)
    RX packets 252012  bytes 377895221 (360.3 MiB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 74971  bytes 4154843 (3.9 MiB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    inet6 ::1  prefixlen 128  scopeid 0x10<host>
    loop txqueuelen 1000  (Local Loopback)
    RX packets 29  bytes 2866 (2.7 KiB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 29  bytes 2866 (2.7 KiB)
    TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

4. Bring your interface down.

```
test>nmcli connection show
NAME      UUID                                  TYPE      DEVICE
ens160    78bb23e8-37a5-309a-9d65-c8366a06bebc  ethernet  ens160
test>ifdown ens160
```

```
Installing packages...
Connection 'ens160' successfully deactivated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/1)
```

5. Configure your network card to have static IP.

```
test>nmcli con modify "ens160" ifname ens160 ipv4.method manual ipv4.addresses 192.168.76.135/1
test>nmcli connection
NAME          UUID                                  TYPE      DEVICE
ens160        78bb23e8-37a5-309a-9d65-c8366a06bebc ethernet  ens160
```

6. Bring your interface up.

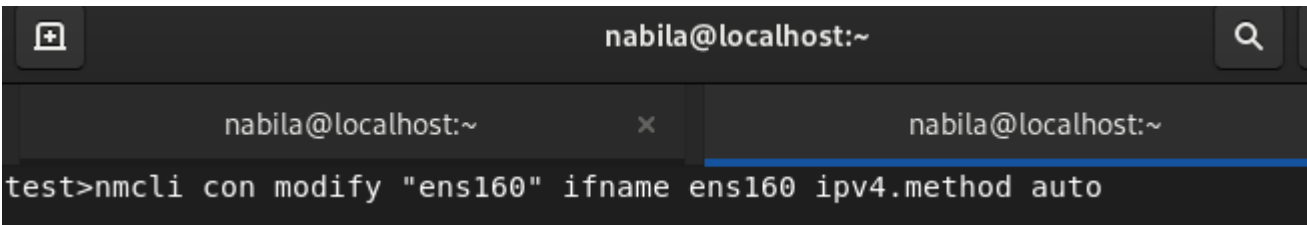
```
test> sudo ifup ens160
Connection successfully activated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/2)
test>
```

7. Verify your network setting using ifconfig command

```
test>ifconfig
ens160: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.76.135 netmask 128.0.0.0 broadcast 255.255.255.255
    inet6 fe80::20c:29ff:fe26:edfc prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:26:ed:fc txqueuelen 1000 (Ethernet)
    RX packets 29 bytes 3306 (3.2 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 92 bytes 9967 (9.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 241 bytes 21333 (20.8 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 241 bytes 21333 (20.8 KiB)
```

8. Configure your network card to have dynamic IP using network manager command.



The image shows a terminal window titled 'nabila@localhost:~'. The command 'test>nmcli con modify "ens160" ifname ens160 ipv4.method auto' is entered. The terminal has a dark background with light-colored text. There are window control buttons (minimize, maximize, close) and a search icon in the top right corner.

```
nabila@localhost:~
test>nmcli con modify "ens160" ifname ens160 ipv4.method auto
```

9. Check using ifconfig then check its configuration file.

```
nager/ActiveConnection/3/
test>sudo cat /etc/NetworkManager/system-connections/ens160.nmconnection
[sudo] password for nabila:
[connection]
id=ens160
uuid=78bb23e8-37a5-309a-9d65-c8366a06bebc
type=ethernet
autoconnect-priority=-999
interface-name=ens160
timestamp=1677521096

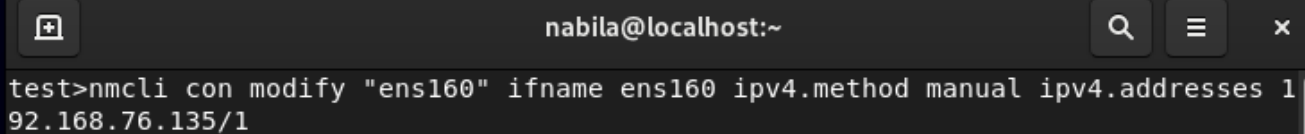
[ethernet]

[ipv4]
address1=192.168.76.135/1
method=auto

[ipv6]
addr-gen-mode=eui64
method=auto

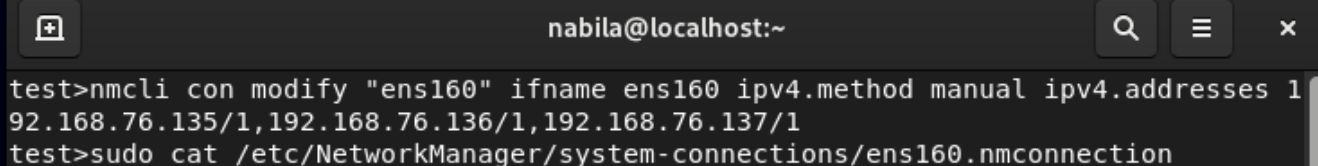
[proxy]
```

10. Reconfigure your network card using system-config-network utility to have static IP.



```
nabila@localhost:~
test>nmcli con modify "ens160" ifname ens160 ipv4.method manual ipv4.addresses 192.168.76.135/1
```

11. Configure your network card to have 3 IPs and check that they are all working using ifconfig command.



```
nabila@localhost:~
test>nmcli con modify "ens160" ifname ens160 ipv4.method manual ipv4.addresses 192.168.76.135/1,192.168.76.136/1,192.168.76.137/1
test>sudo cat /etc/NetworkManager/system-connections/ens160.nmconnection
```

```
nabila@localhost:~
Sorry, try again.
[sudo] password for nabila:
[connection]
id=ens160
uuid=78bb23e8-37a5-309a-9d65-c8366a06bebc
type=ethernet
autoconnect-priority=-999
interface-name=ens160
timestamp=1677523503

[ethernet]

[ipv4]
address1=192.168.76.135/1
address2=192.168.76.136/1
address3=192.168.76.137/1
method=manual

[ipv6]
addr-gen-mode=eui64
method=auto
```

12. Change your host name in your global network file.

```
nabila@localhost:~
test>vi /etc/hostname
```

```
nabila@localhost:~ — /usr/bin/vim /etc/hostname
nabila :)
```

Or

```
bash: syntax error near unexpected token `)'
test>sudo hostname nabila
[sudo] password for nabila:
test>
```

Using yum

20. Attempt to run the command `gnuplot`. You should find that it is not installed.

```
test>gnuplot
bash: gnuplot: command not found...
```

21. Search for the plotting packages.

`Sudo yum search gnuplot`

22. Find out more information about the gnuplot package.

`Sudo yum info gnuplot`

23. Install the gnuplot package.

`Sudo yum install gnuplot`

24. Attempt to remove the gnuplot package, but say no
How many packages would be removed

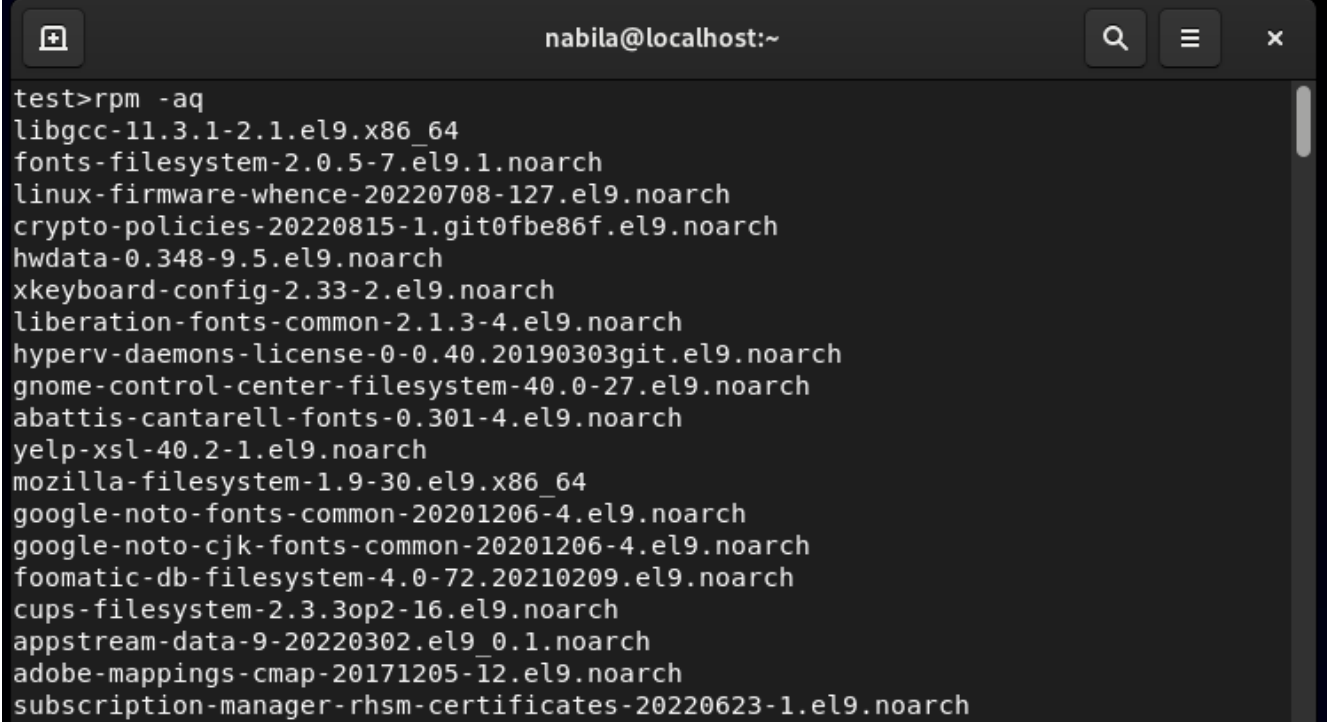
`Sudo yum remove gnuplot`

25. Attempt to remove the gnuplot-common package but say no
How many packages would be removed

`Sudo yum search gnuplot-common`

Using rpm

26. List all installed packages in your system.

A terminal window titled 'nabila@localhost:~' with search, menu, and close buttons in the title bar. The terminal shows the command 'test>rpm -aq' and a long list of installed packages including libgcc, fonts, linux-firmware, crypto-policies, hwdata, xkeyboard-config, liberation-fonts, hyperv-daemons, gnome-control-center, abattis-cantarell-fonts, yelp-xsl, mozilla-filesystem, google-noto-fonts, foomatic-db, cups, appstream-data, adobe-mappings, and subscription-manager.

```
test>rpm -aq
libgcc-11.3.1-2.1.el9.x86_64
fonts-filesystem-2.0.5-7.el9.1.noarch
linux-firmware-whence-20220708-127.el9.noarch
crypto-policies-20220815-1.git0f8e86f.el9.noarch
hwdata-0.348-9.5.el9.noarch
xkeyboard-config-2.33-2.el9.noarch
liberation-fonts-common-2.1.3-4.el9.noarch
hyperv-daemons-license-0-0.40.20190303git.el9.noarch
gnome-control-center-filesystem-40.0-27.el9.noarch
abattis-cantarell-fonts-0.301-4.el9.noarch
yelp-xsl-40.2-1.el9.noarch
mozilla-filesystem-1.9-30.el9.x86_64
google-noto-fonts-common-20201206-4.el9.noarch
google-noto-cjk-fonts-common-20201206-4.el9.noarch
foomatic-db-filesystem-4.0-72.20210209.el9.noarch
cups-filesystem-2.3.3op2-16.el9.noarch
appstream-data-9-20220302.el9_0.1.noarch
adobe-mappings-cmap-20171205-12.el9.noarch
subscription-manager-rhsm-certificates-20220623-1.el9.noarch
```

27. View the files in the initscripts package

```
nabila@localhost:~  
test>rpm -ql initscripts  
package initscripts is not installed  
test>
```

28. Get general information about bash rpm.

```
nabila@localhost:~  
test>rpm -qi bash  
Name       : bash  
Version    : 5.1.8  
Release    : 5.el9  
Architecture: x86_64  
Install Date: Mon 19 Dec 2022 09:00:25 PM EET  
Group      : Unspecified  
Size       : 7738586  
License    : GPLv3+  
Signature  : RSA/SHA256, Thu 25 Aug 2022 03:46:10 PM EET, Key ID 199e2f91fd431d51  
Source RPM : bash-5.1.8-5.el9.src.rpm  
Build Date : Mon 08 Aug 2022 03:09:31 PM EET  
Build Host : x86-64-02.build.eng.rdu2.redhat.com  
Packager   : Red Hat, Inc. <http://bugzilla.redhat.com/bugzilla>  
Vendor     : Red Hat, Inc.  
URL        : https://www.gnu.org/software/bash
```

29. Have the files from the pam package changed since it was installed.

```
test>rpm -v pam  
RPM version 4.16.1.3  
Copyright (C) 1998-2002 - Red Hat, Inc.  
This program may be freely redistributed under the terms of the GNU GPL
```

30. Which installed packages have gnome in their names?

```
nabila@localhost:~  
test>rpm -aq | grep "gnome"  
gnome-control-center-filesystem-40.0-27.el9.noarch  
gnome-video-effects-0.5.0-7.el9.noarch  
gnome-menus-3.36.0-8.el9.x86_64  
pinentry-gnome3-1.1.1-8.el9.x86_64  
gnome-desktop3-40.4-1.el9.x86_64  
gnome-settings-daemon-40.0.1-8.el9.x86_64  
gnome-session-40.1.1-6.el9.x86_64  
libgnomekbd-3.26.1-7.el9.x86_64  
gnome-autoar-0.4.1-2.el9.x86_64  
gnome-bluetooth-libs-3.34.5-3.el9.x86_64  
xdg-desktop-portal-gnome-41.2-1.el9.x86_64  
gnome-keyring-40.0-3.el9.x86_64  
gnome-keyring-pam-40.0-3.el9.x86_64  
gnome-color-manager-3.36.0-7.el9.x86_64  
gnome-terminal-3.40.3-1.el9.x86_64  
gnome-remote-desktop-40.0-7.el9.x86_64
```

31. Install any uninstalled package from RH Enterprise Linux cds

```
on most systems):  
test>sudo yum install inkscape.x86_64  
[sudo] password for nabila:  
Updating Subscription Management repositories.
```

32. Search for software resemble the Photoshop software other than Gimp and install it.

```
not downloaded repomd.xml: cannot download repodata/repomd.xml: All mirrors were t  
ried  
test>sudo dnf install krita  
Updating Subscription Management repositories.
```