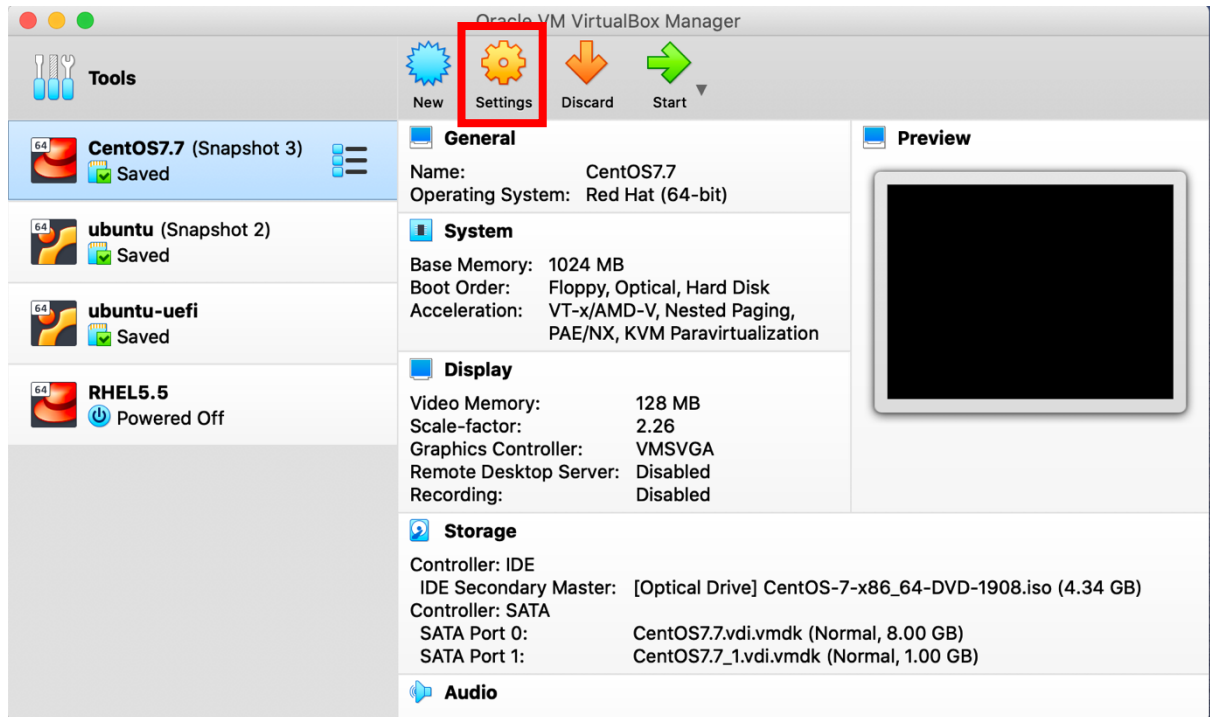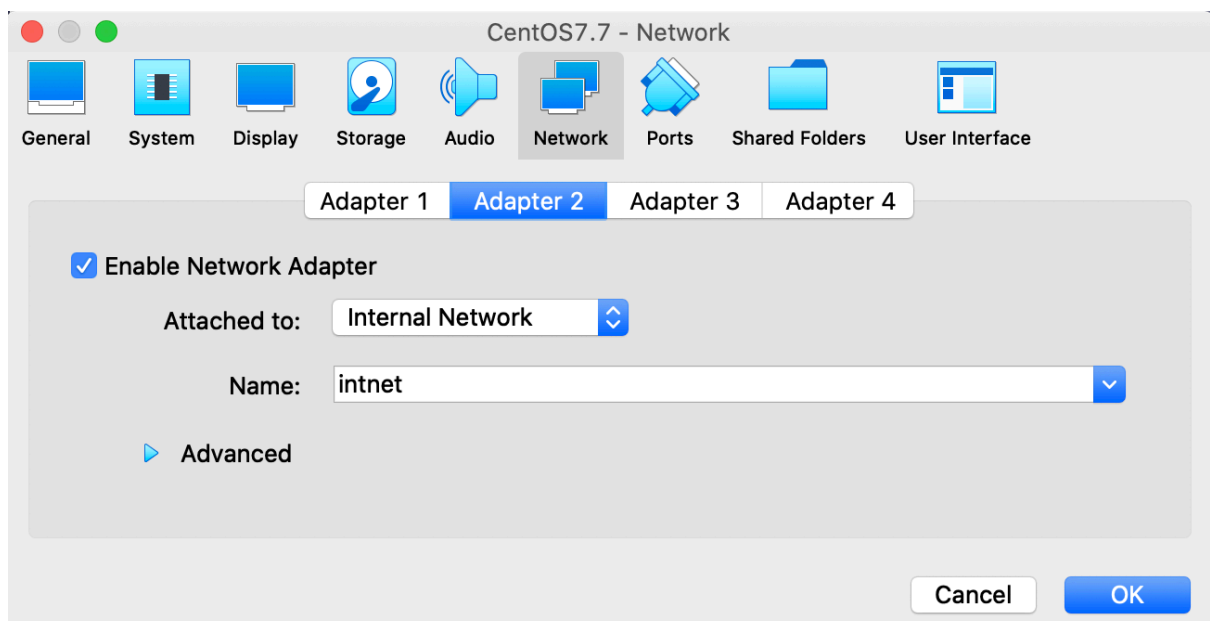# Exercise 18: Configuring Basic Networking - Part 2

I. Prepare the environment

1. Add 1 more network card to both CentOS and Ubuntu servers as follows:
   Shutdown both servers, select one and click Settings

Select, Network icon → Adapter 2, select the Enable Network Adapter check box.
On Attached to:, select Internal Network → Click OK to complete.

Do the same procedure with the other server.

Power on both servers.

II. Persistent network configuration and Configure client side DNS

1. Change the hostname of Centos7 server to centsvr and change the hostname of Ubuntu to ubusvr.

Configure the ip address of the second network added on the preparation part (Part I) of both server as follows:

- With centsvr server:
    - Set the IP address of server to 192.168.56.2/24
    - Set the IP address of default gateway to 192.168.56.1
- With ubusvr server:
    - Set the IP address of server to 192.168.56.3/24
    - Set the IP address of default gateway to 192.168.56.1

Ensure that you can ping and get reply from 192.168.56.2 on ubusvr and vice versa

2. Configure the IP address of 2 servers with Network manager GUI. Do the ping check and clear the configuration
3. Re do the step 2 but using nmtui and nmcli instead.
4. Re do the step 2 but using legacy tool and ip utility.
5. Assume that your company has a DNS server with IP 192.168.56.100.
   Do the appropriate configuration to the centsvr so that the DNS server above can work as a name server for it.

Exercise Instructions

I.   Prepare the environment
II.   Persistent network configuration and Configure client side DNS

1. Change the hostname of Centos7 server to centsvr and change the hostname of Ubuntu to ubusvr.
   On Centos7 server:
   $ hostnamectl set-hostname centsvr

   On Ubuntu server:
   $ hostnamectl set-hostname ubusvr

Configure the ip address of the second network added on the preparation part (Part I) of both server as follows:

- With centsvr server:
    o   Set the IP address of server to 192.168.56.2/24
    o   Set the IP address of default gateway to 192.168.56.1
- With ubusvr server:
    o   Set the IP address of server to 192.168.56.3/24
    o   Set the IP address of default gateway to 192.168.56.1

Ensure that you can ping and get reply from 192.168.56.2 on ubusvr and vice versa

2. Configure the IP address of 2 servers with Network manager GUI. Do the ping check and clear the configuration
3. Re do the step 2 but using nmtui and nmcli instead.
   With nmcli
   On Centsvr:
   $ nmcli con add type ethernet con-name eth2 ifname <your network interface> ip4 192.168.56.2/24 gw4 192.168.56.1
   On Ubusvr:
   $ nmcli con add type ethernet con-name eth2 ifname <your network interface> ip4 192.168.56.3/24 gw4 192.168.56.1
   $ ping 192.168.56.2

   On Centsvr:
   $ ping 192.168.56.3
   $ nmcli con delete con-name eth2

   On Ubusvr:
   $ nmcli con delete con-name eth2

4. Re do the step 2 but using legacy tool and ip utility.
   With legacy tool:
   On Centsvr:

```
$ ifconfig <your network interface> 192.168.56.2/24 up
$ route add default gw 192.168.56.1

On Ubusvr:
$ ifconfig <your network interface> 192.168.56.3/24 up
$ route add default gw 192.168.56.1
$ ping 192.168.56.2
```

With IP utility:
On Centsvr:
```
$ ip address add 192.168.56.2/24 dev <your network interface>
$ ip link set <your network interface> up
$ ip route add default via 192.168.56.1
```

On Ubusvr:
```
$ ip address add 192.168.56.3/24 dev <your network interface>
$ ip link set <your network interface> up
$ ip route add default via 192.168.56.1
```

5. Assume that your company has a DNS server with IP 192.168.56.100.
Do the appropriate configuration to the centsvr so that the DNS server above can work as a name server for it.

$ vi /etc/nsswitch.conf
Ensure the dns is configure as follows:
hosts: files dns

$ vi /etc/resolv.conf   # add 1 more line
nameserver 192.168.56.100
:wq!