AppDynamics Student Practice Lab

- Linux Operating System Installation

Linux Operating System Installation

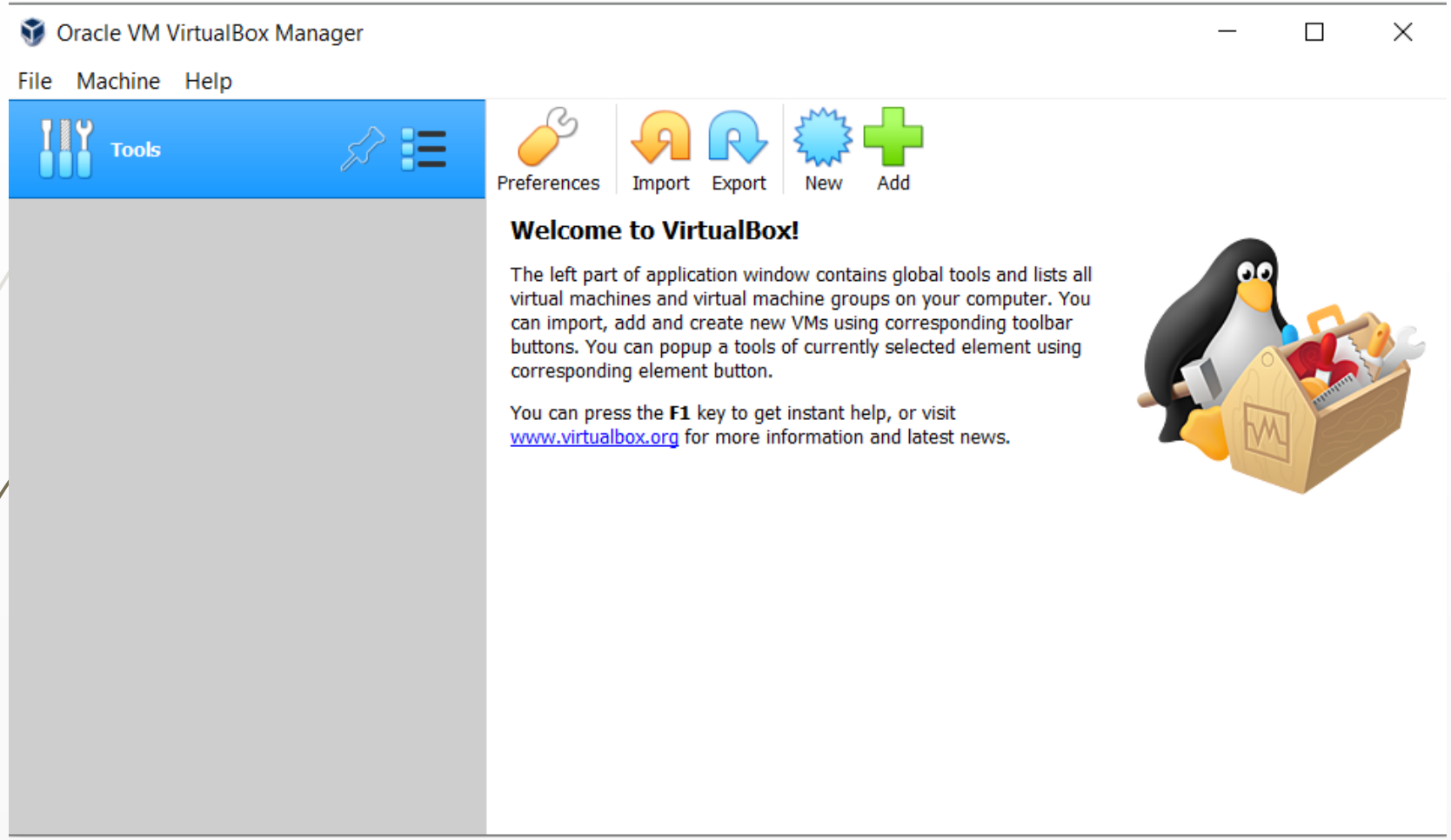
- Centos 7 Operating, 4GB Ram , 20GB HDD, 2 CPU Core
- VMWare Workstation or VirtualBox and centos 7 ISO file
- Download and install virtualbox from https://www.virtualbox.org/wiki/Downloads by selecting the download for windows. Select your OS bit like 64Bit

Use google to download centos 7 (full OS and not minimal)
http://ftp.iij.ad.jp/pub/linux/centos-vault/7.1.1503/isos/x86_64/

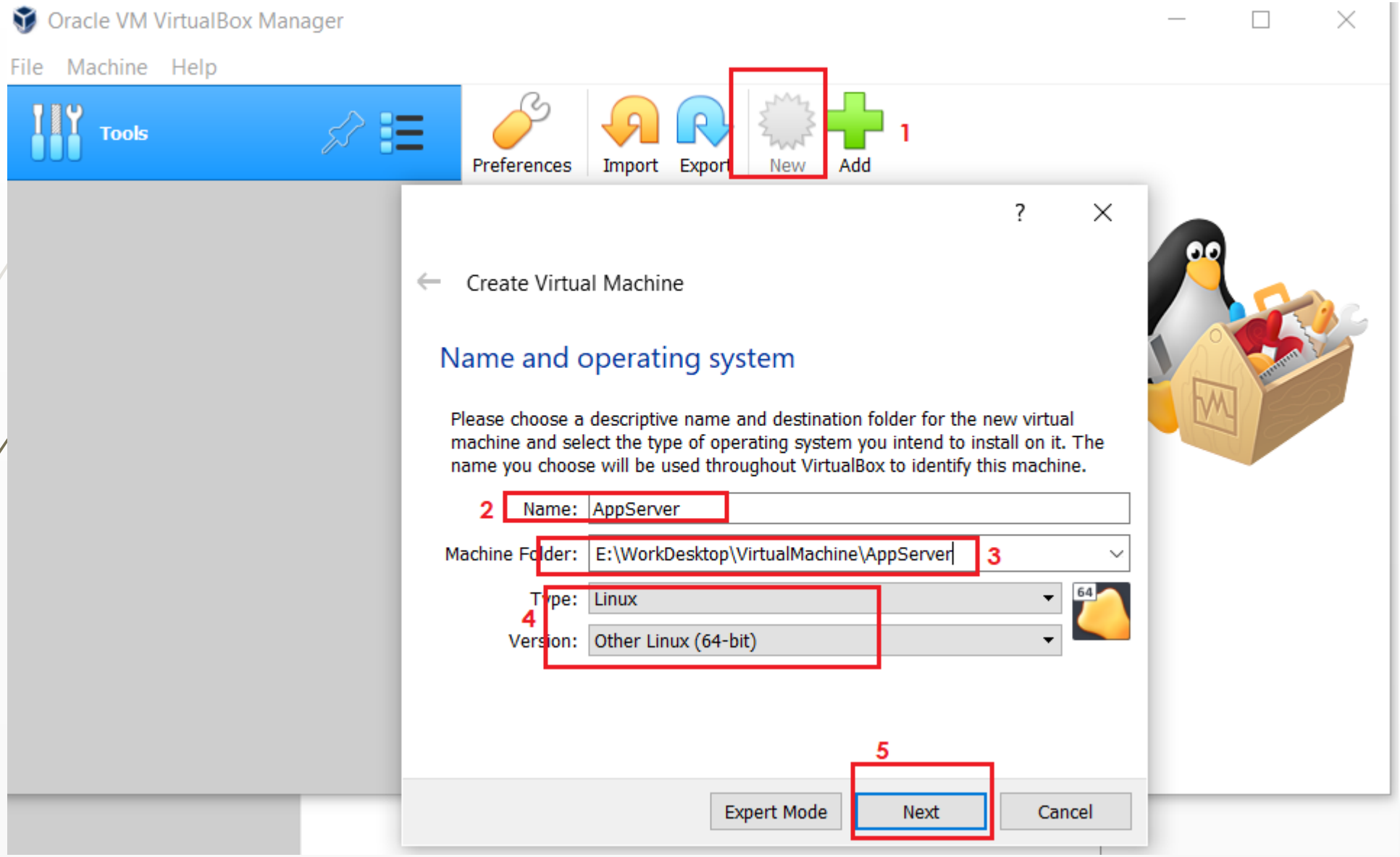
This step by step assumes installation on VirtualBox running on Windows laptop but can also serve for other operating systems guide.

Oracle Virtual Box – Creating New Operating System

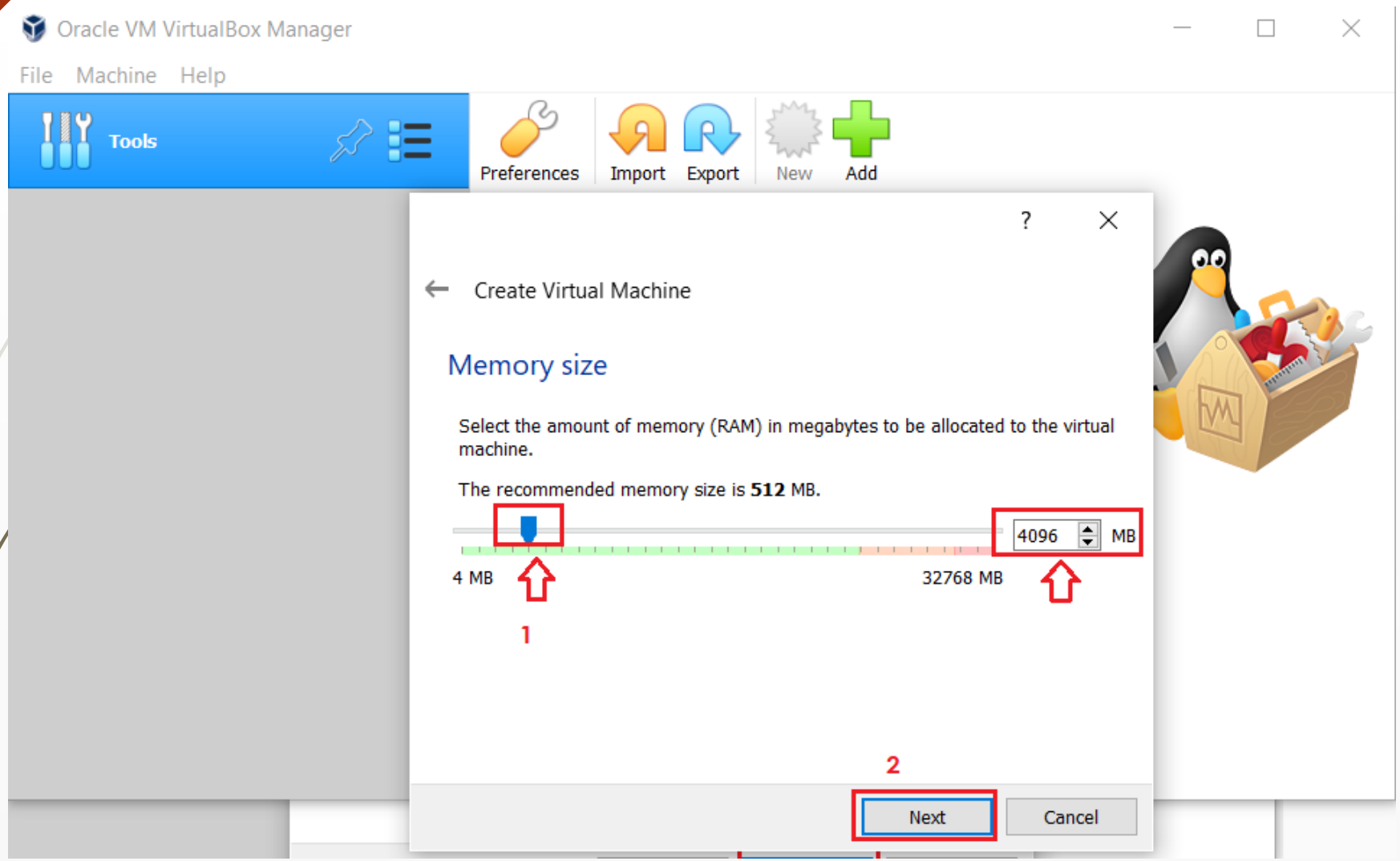
Follow the instructions to create a new virtual machine



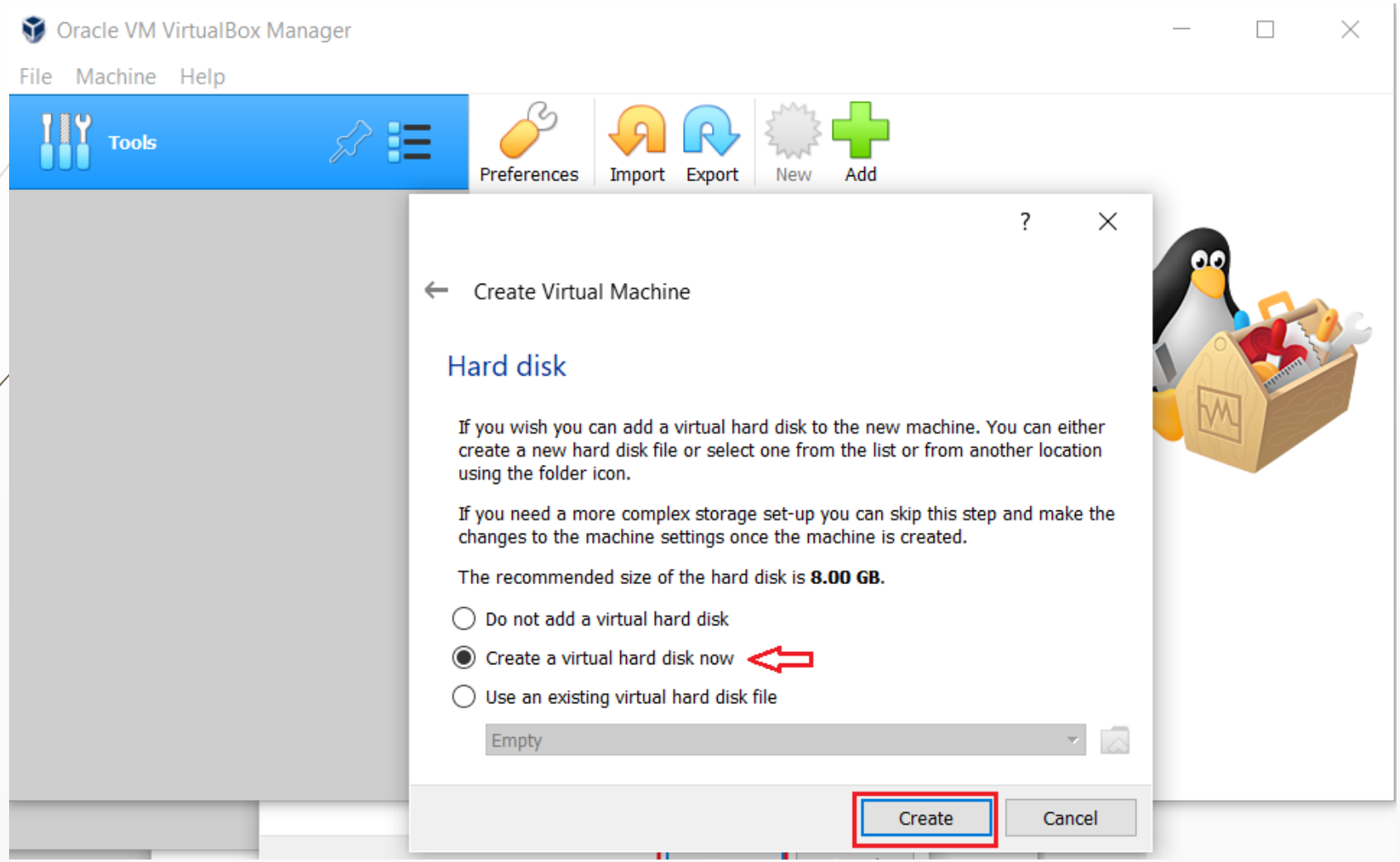
Give a name to your VM, select installation directory, select OS version type as Other Linux (64-bit) and click next.



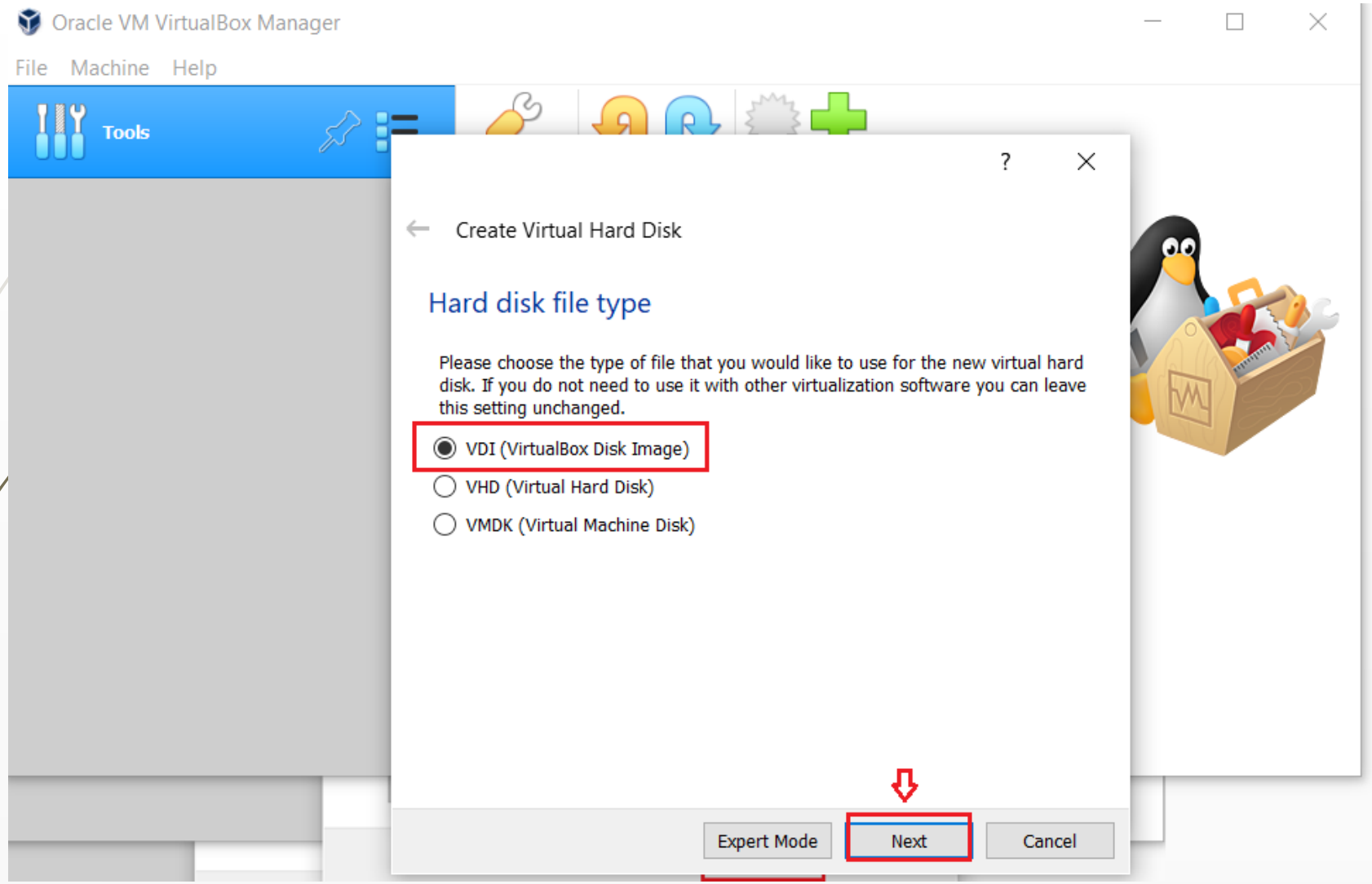
Use the slider to select 4096 (4GB) as your RAM Size and click next



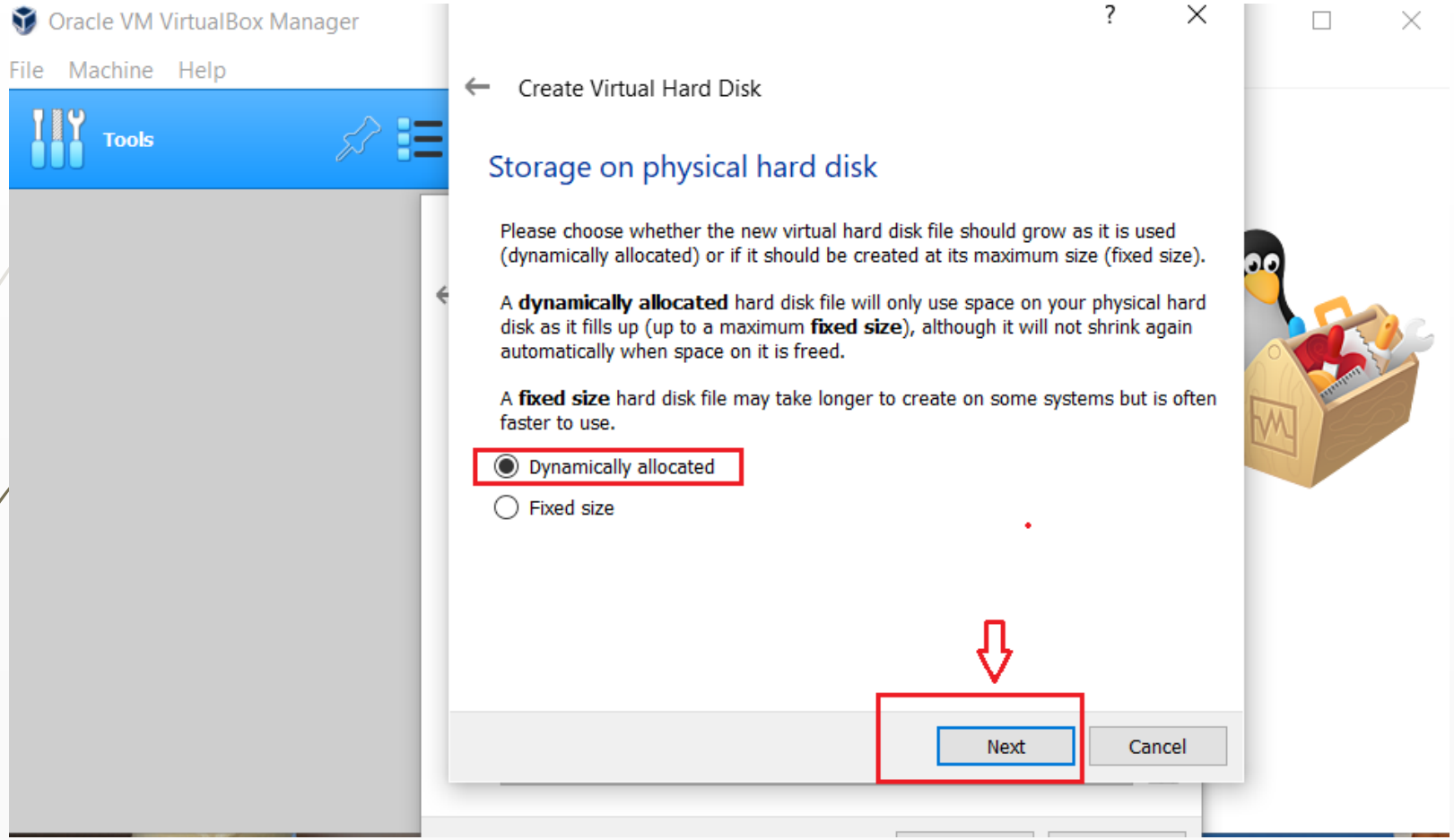
Select Create a virtual hard disk drive and click next



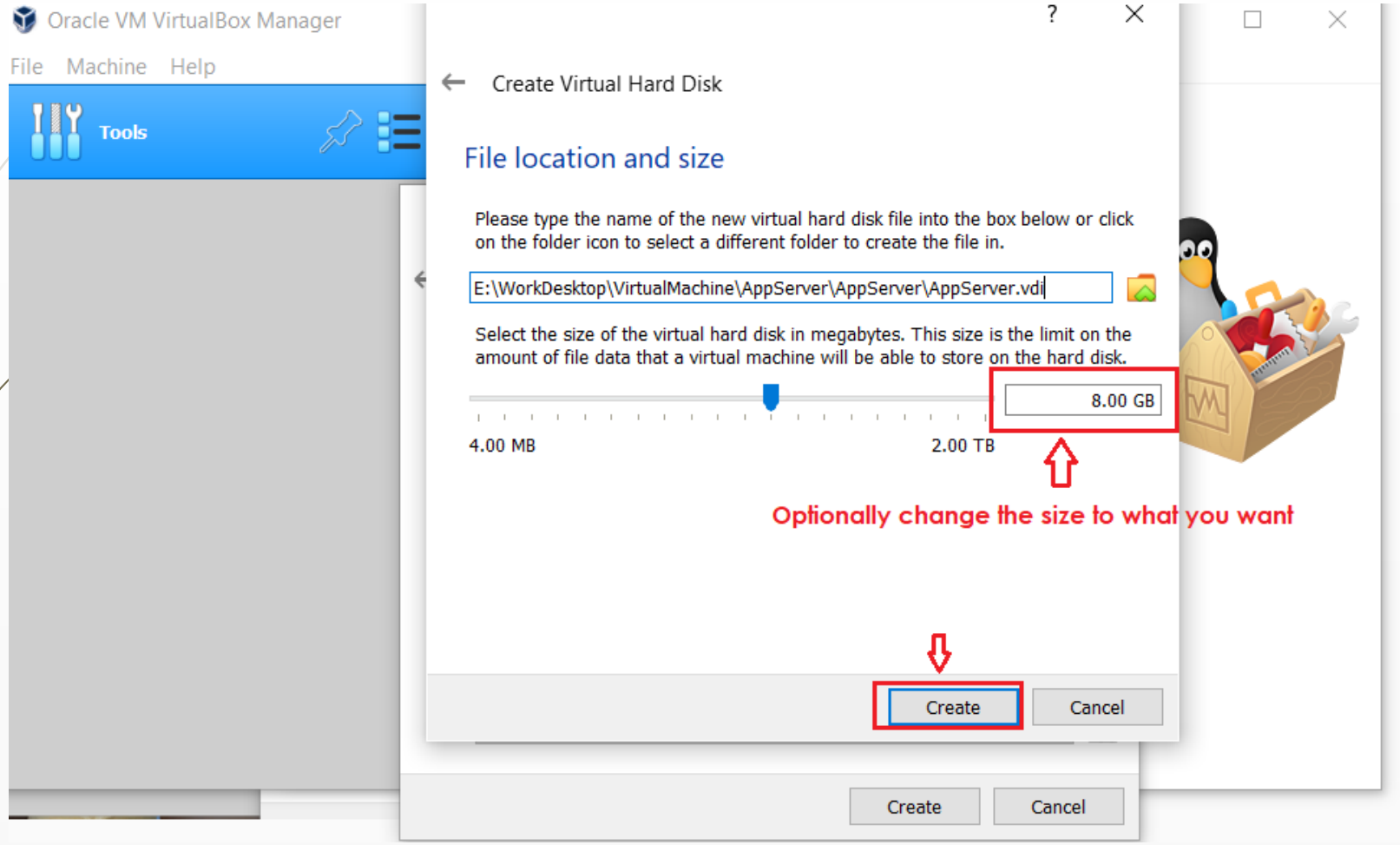
Select Create a virtual hard disk drive as VDI and click next



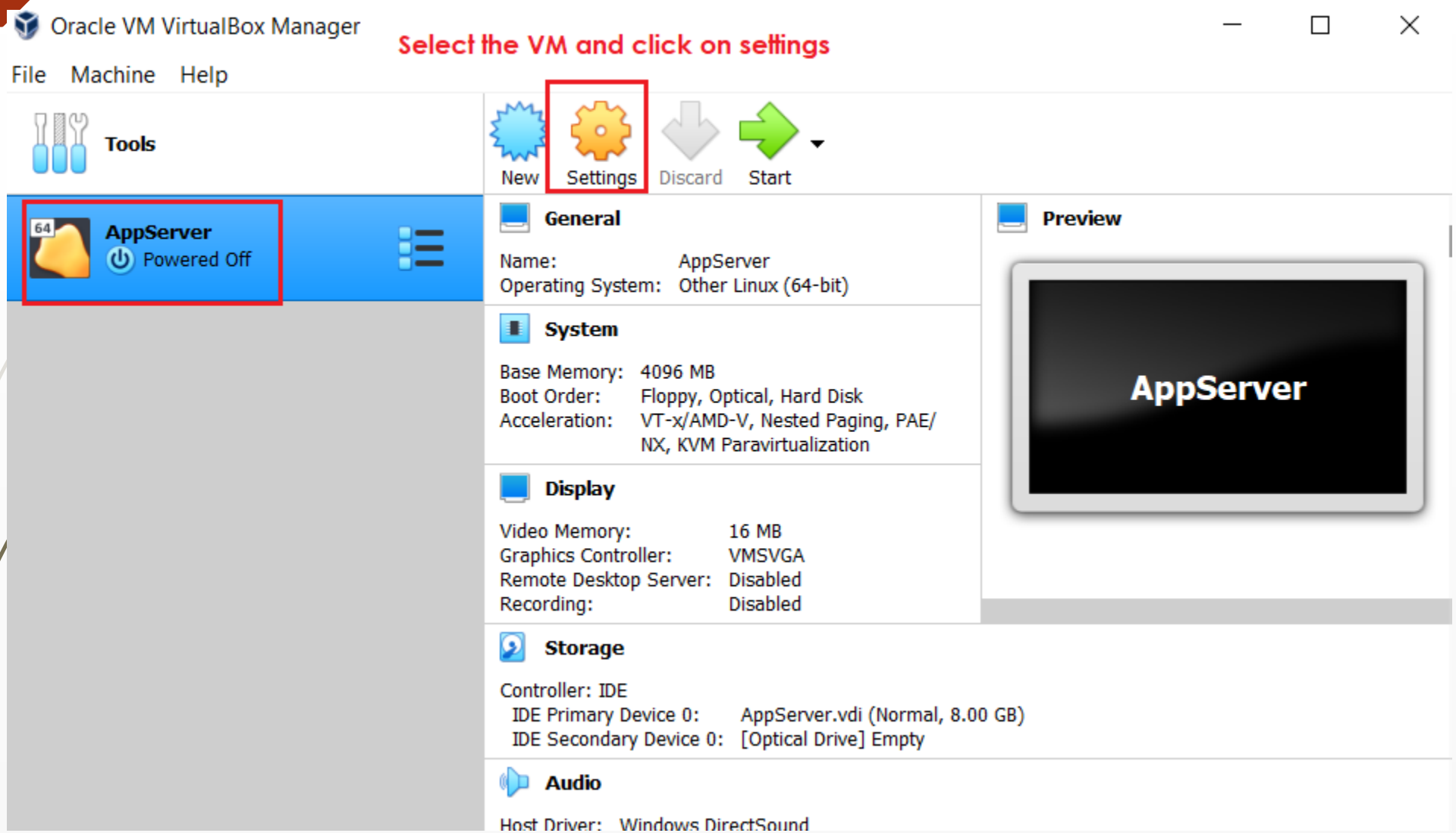
Select Dynamically allocated and click next



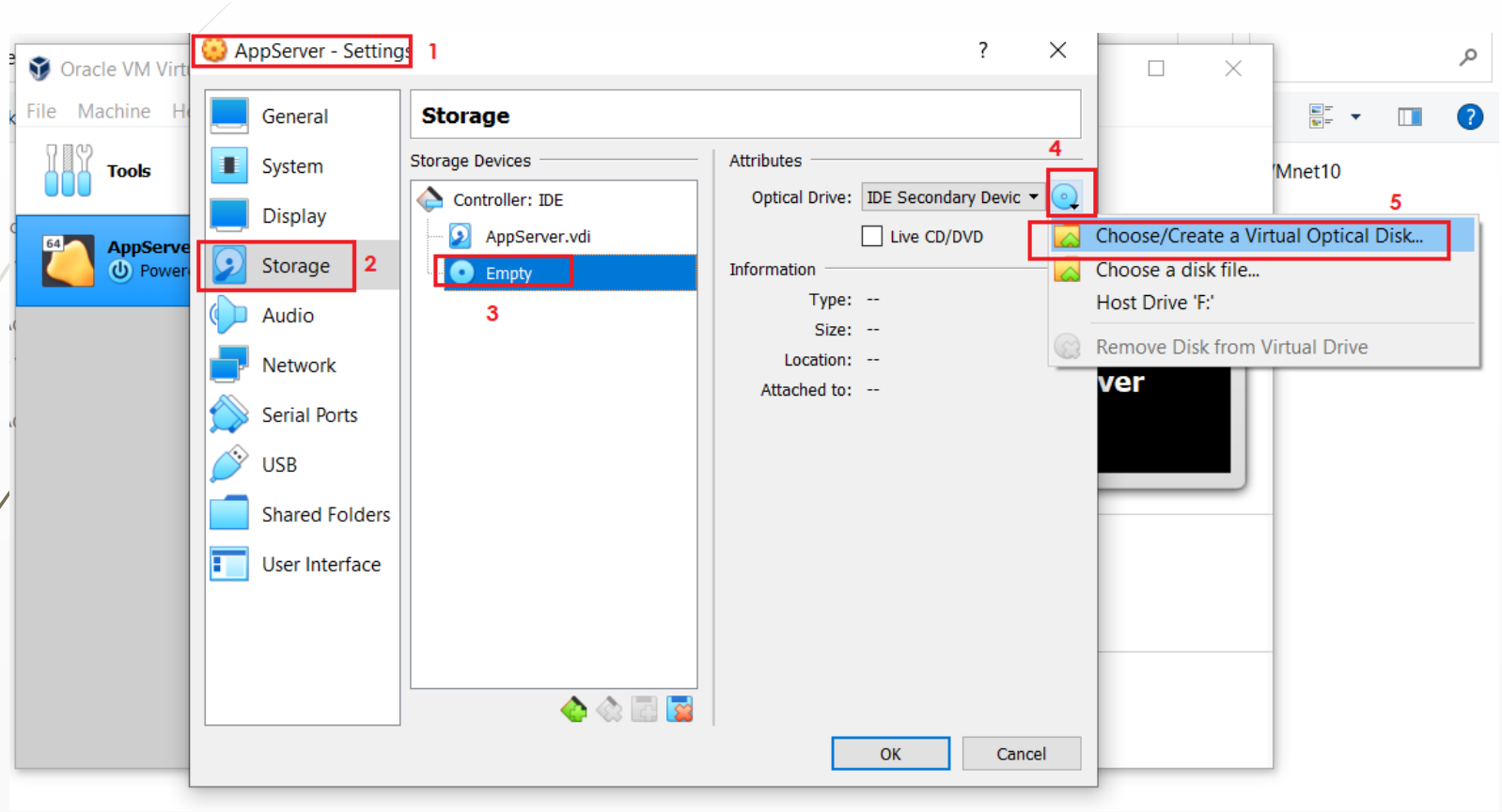
Select the size of your virtual machine. **8GB** should be fine for Lab Application server. You will require more size if you are installing AppDynamics controller (80GB and above). Click Create.



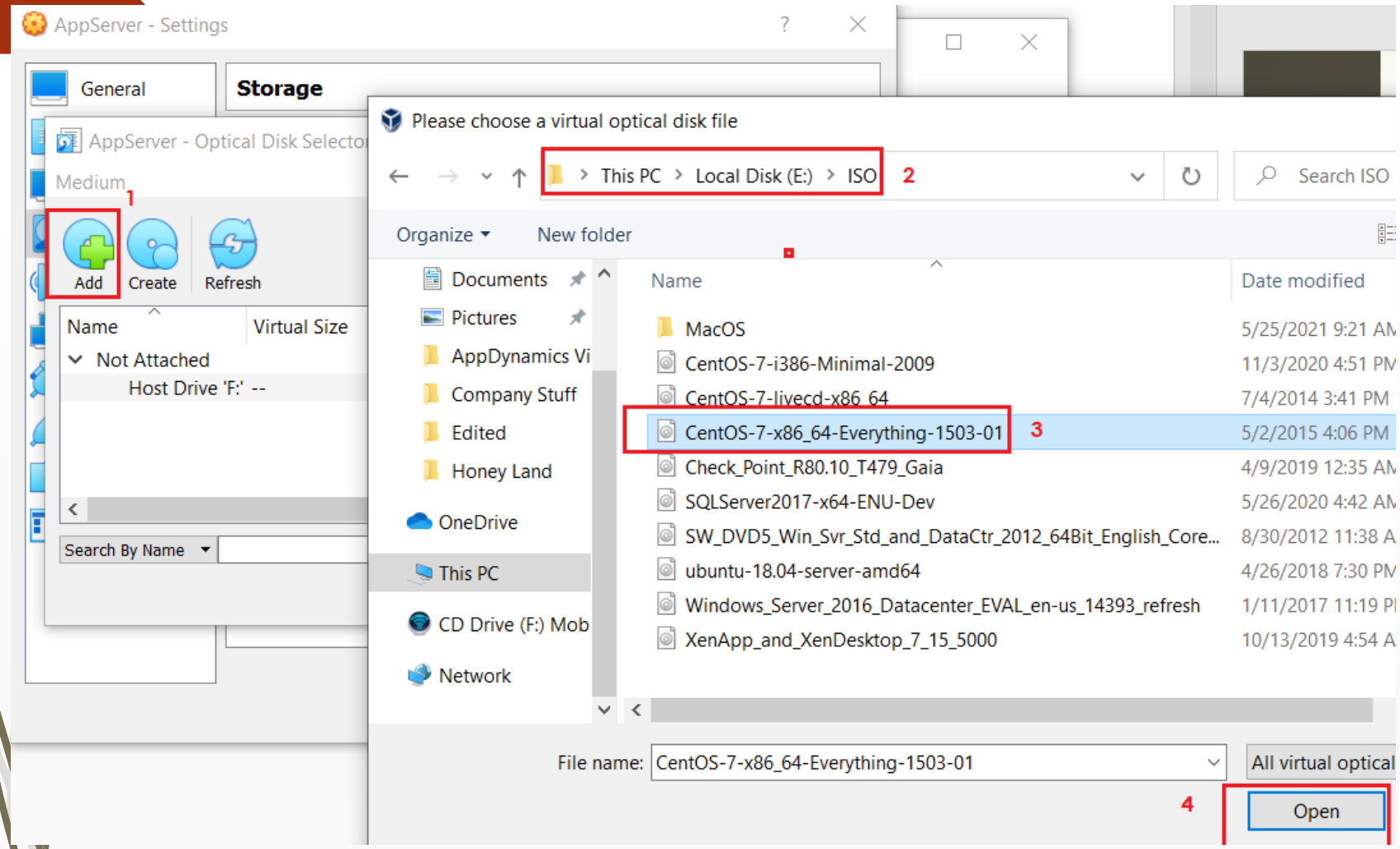
Modify the virtual machine settings by selecting the VM and settings



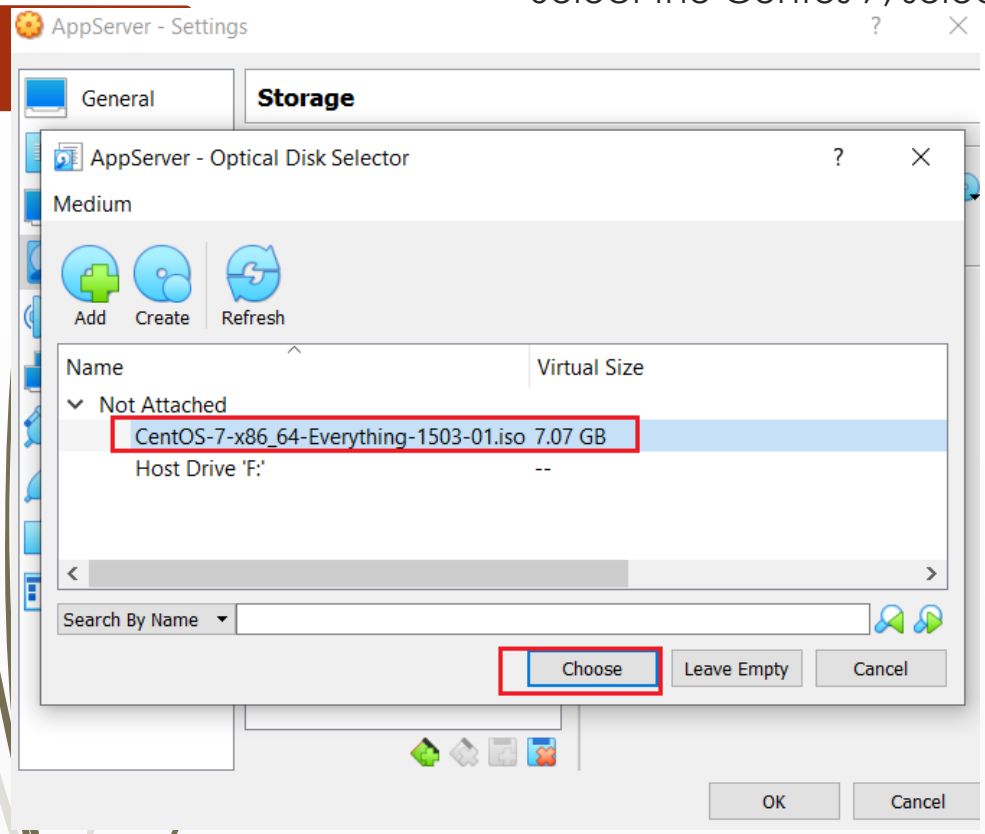
Connect the downloaded Centos 7 ISO file to virtual machine to begin installation by selecting settings > storage and follow the steps below. Select **Choose/Create a Virtual Optical Disk** and browse to location of the centos 7 ISO file.

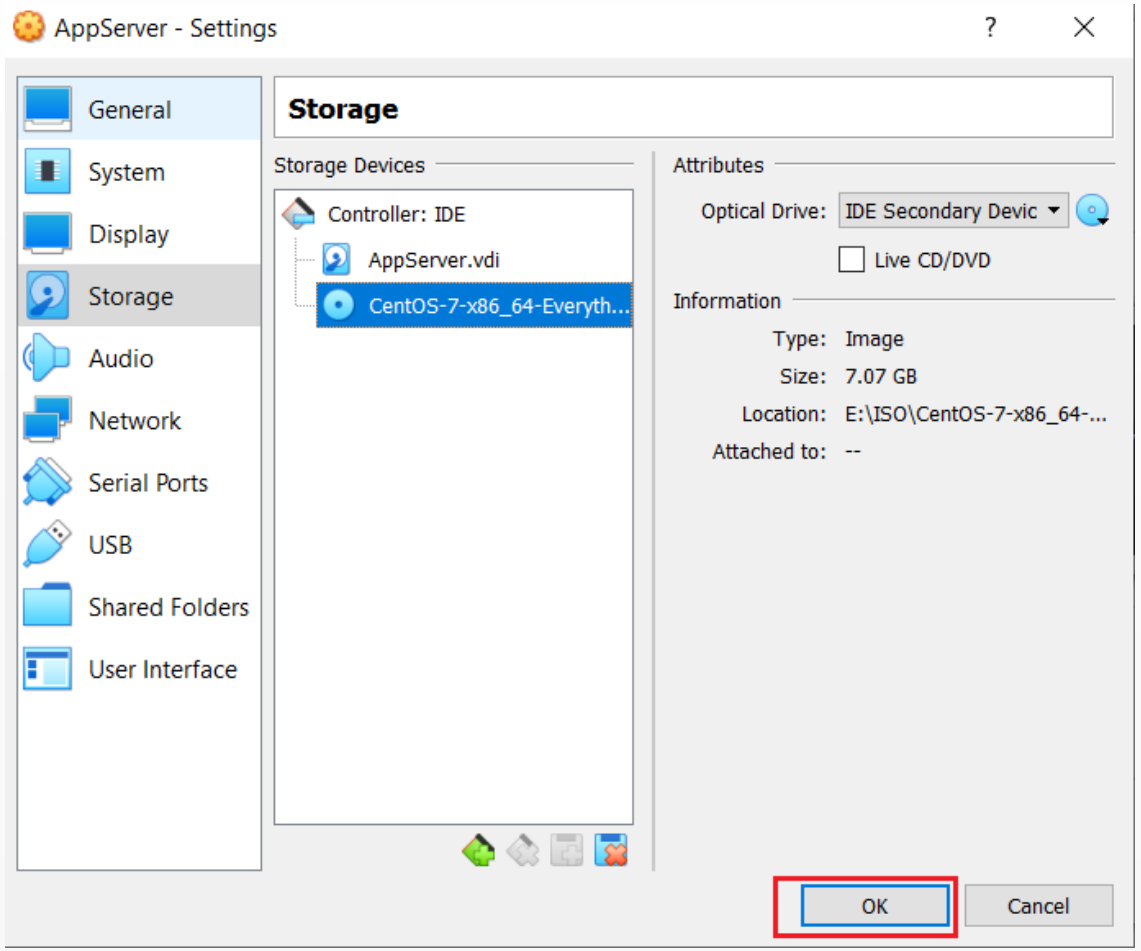


Select the Centos 7 ISO file and click open

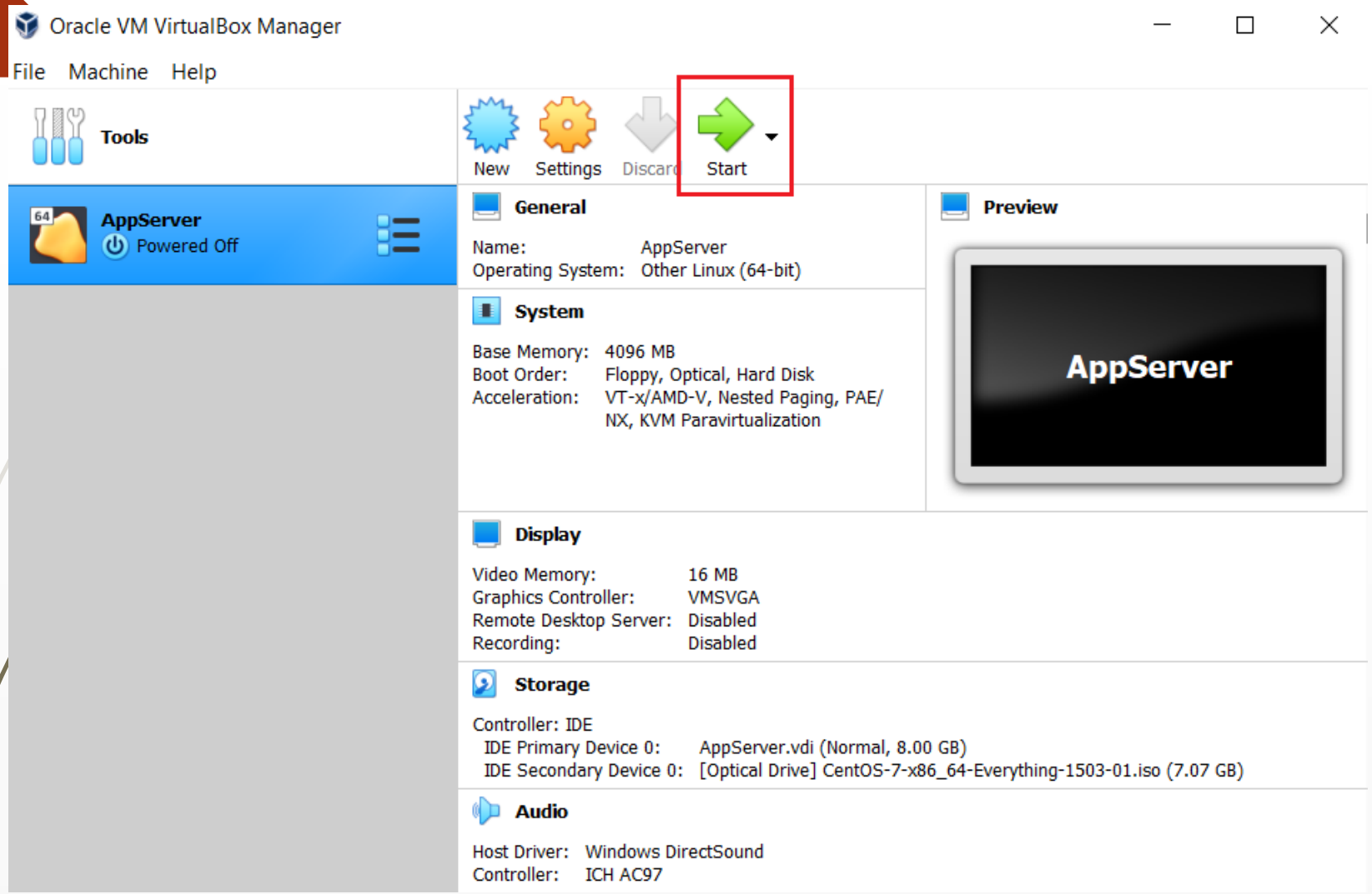


Select the Centos 7, select “choose” and click ok

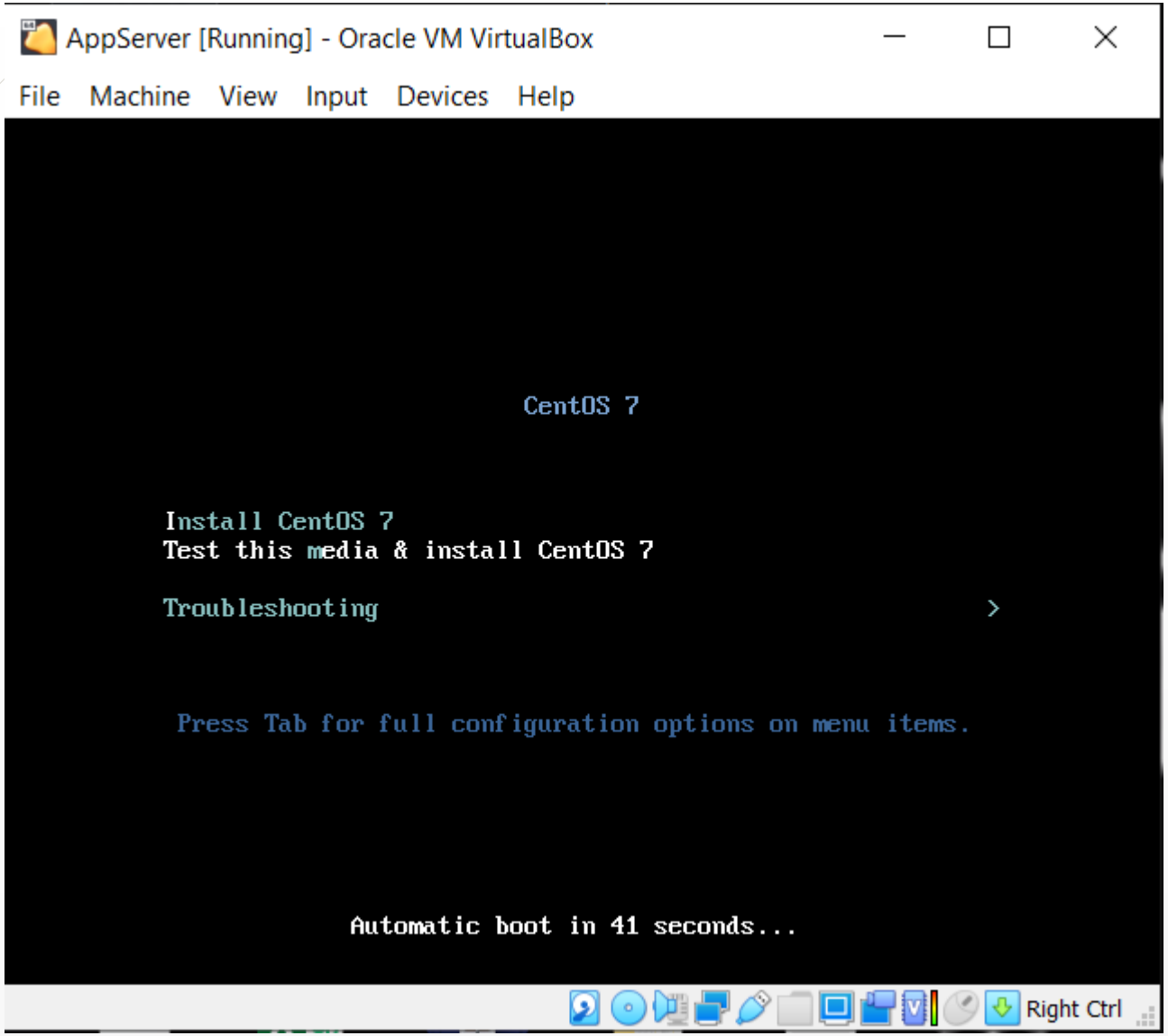




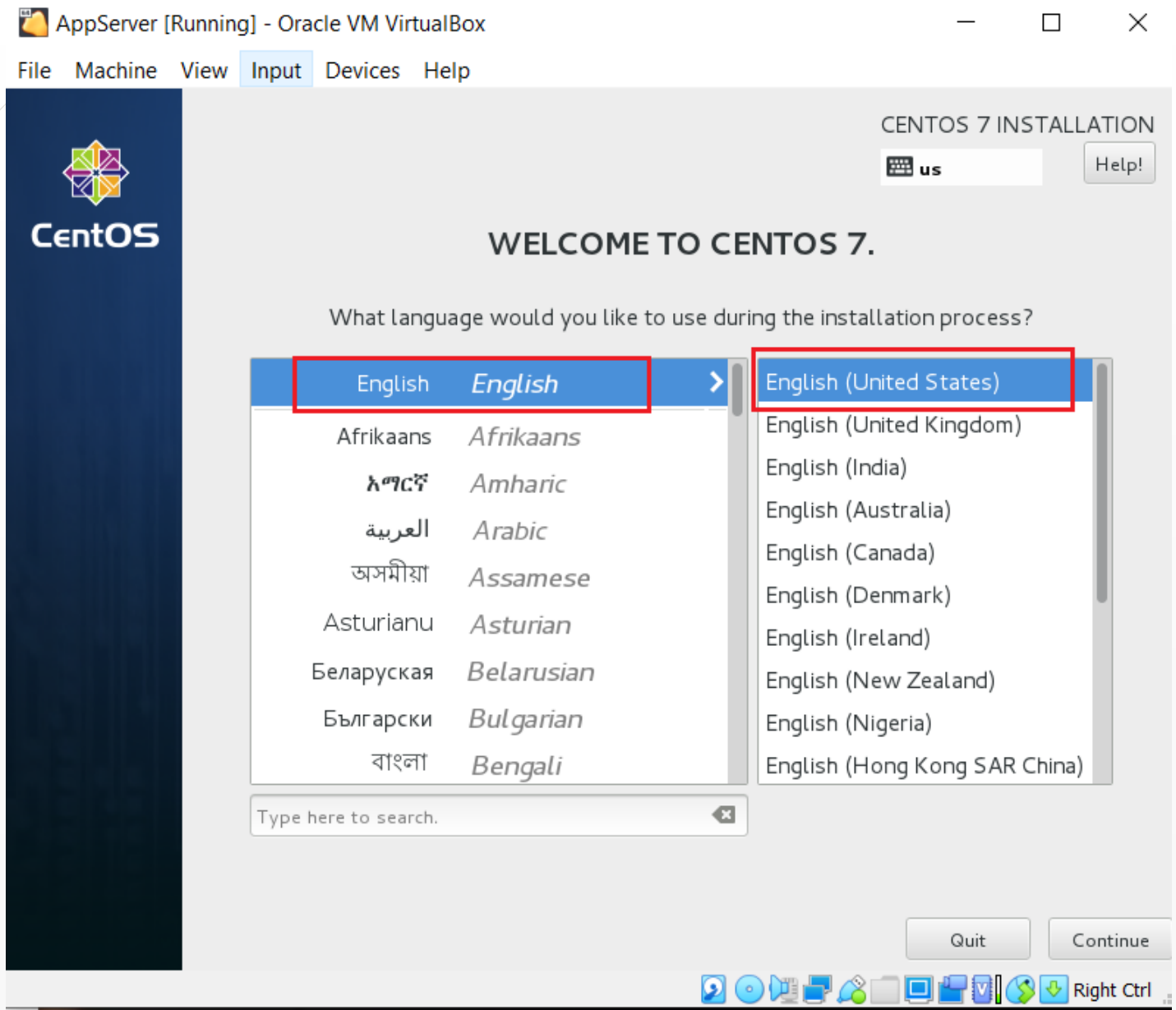
Select “Start” to begin installation



Select Install Centos 7 and press enter

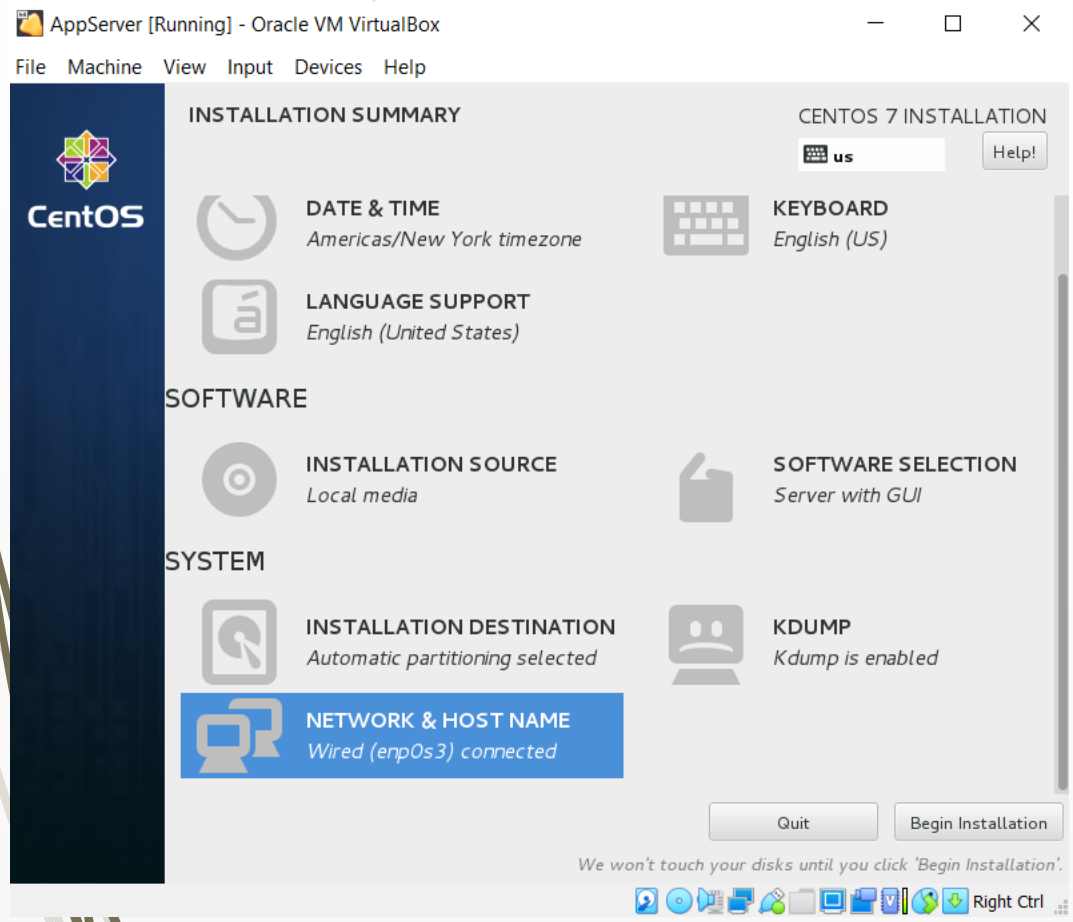


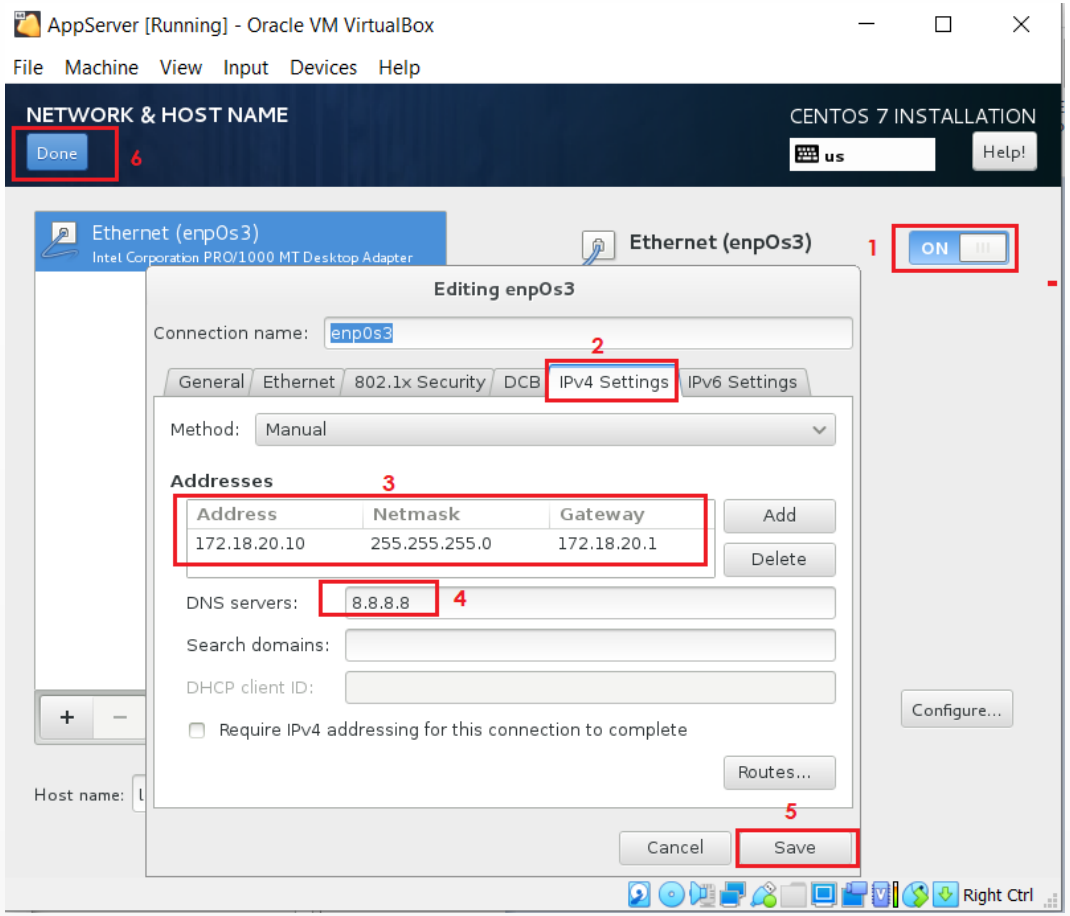
Select English or your language and click continue



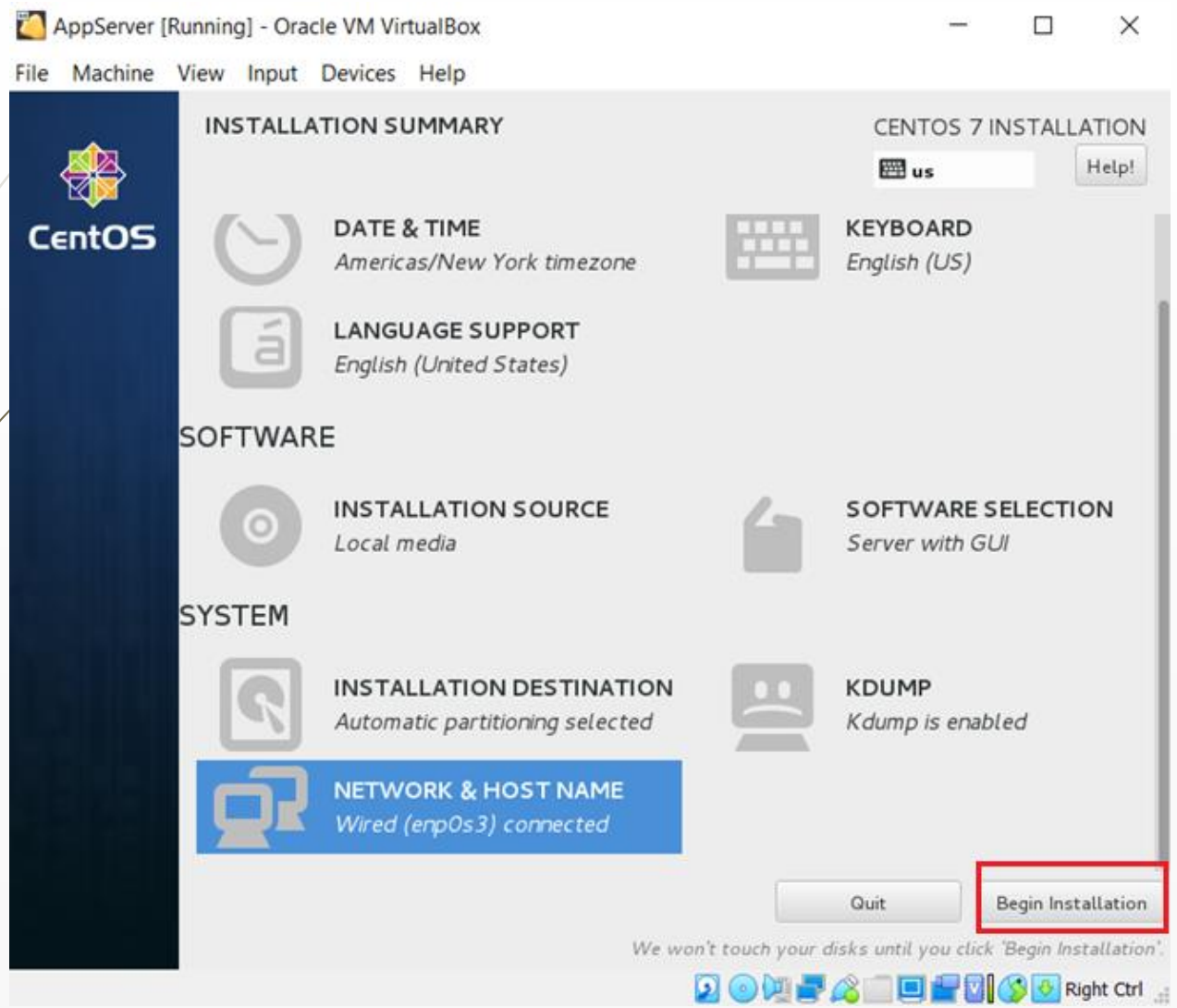
Select your **keyboard** option, **Date and Time**, Installation source to be **local media** (your ISO file)

Also select Installation destination and select **Automatic Partitioning**. Note for production installation you may need to choose **manual partitioning** to give you more control. Ensure your software Selection is with **Server with GUI** (if you are not used to linux command line). Lastly click on the network and modify to suite your own network. See " **Network and Hostname Screen**" below for example. Click save when you are done

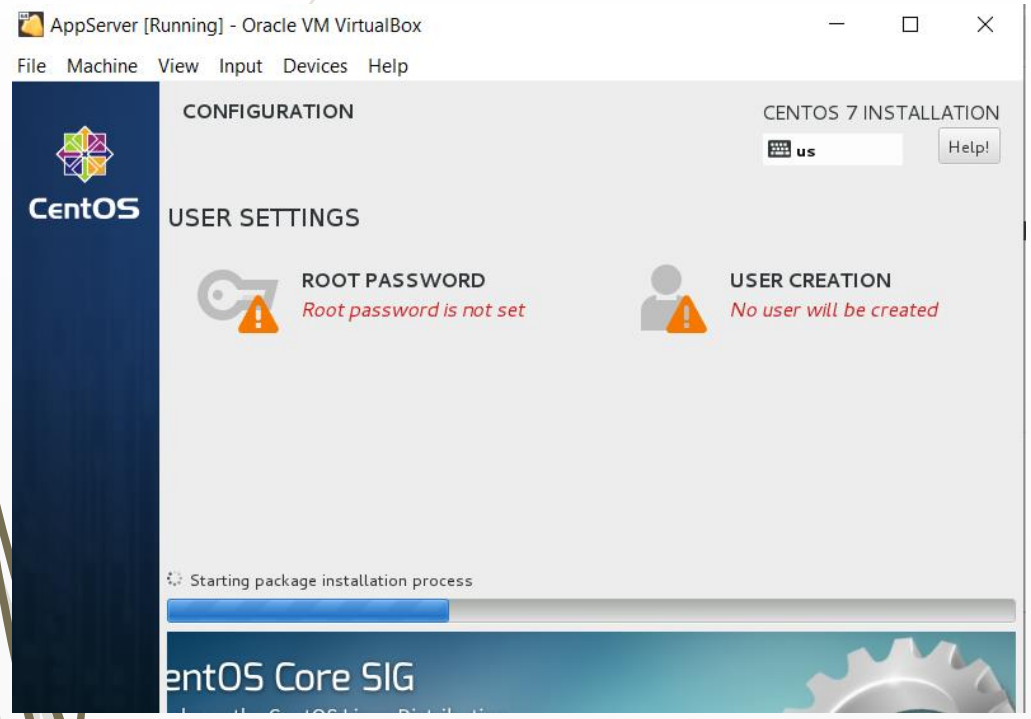


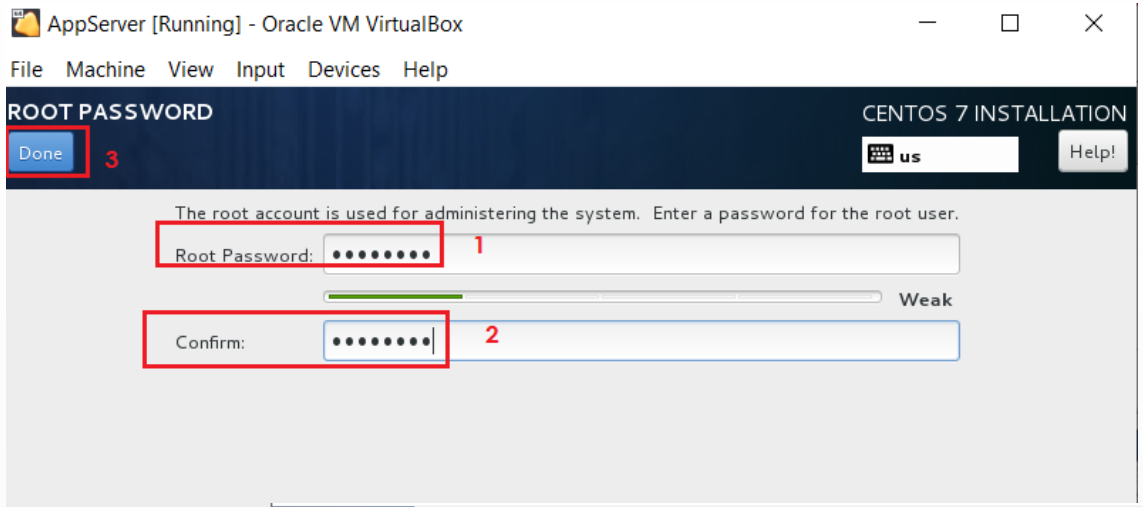


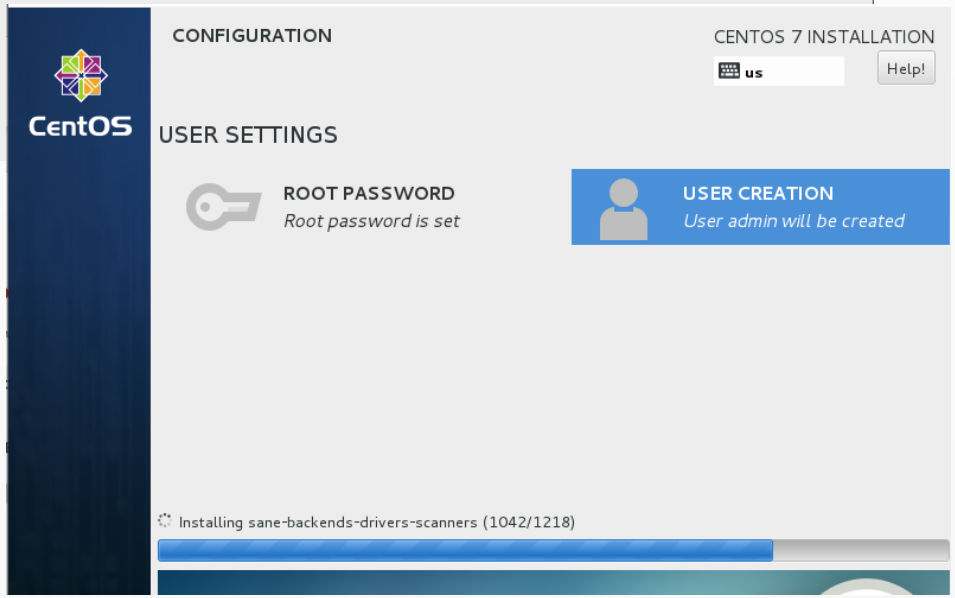
Your screen should look like this when you are done with no error flags. Click Begin Installation to start installation



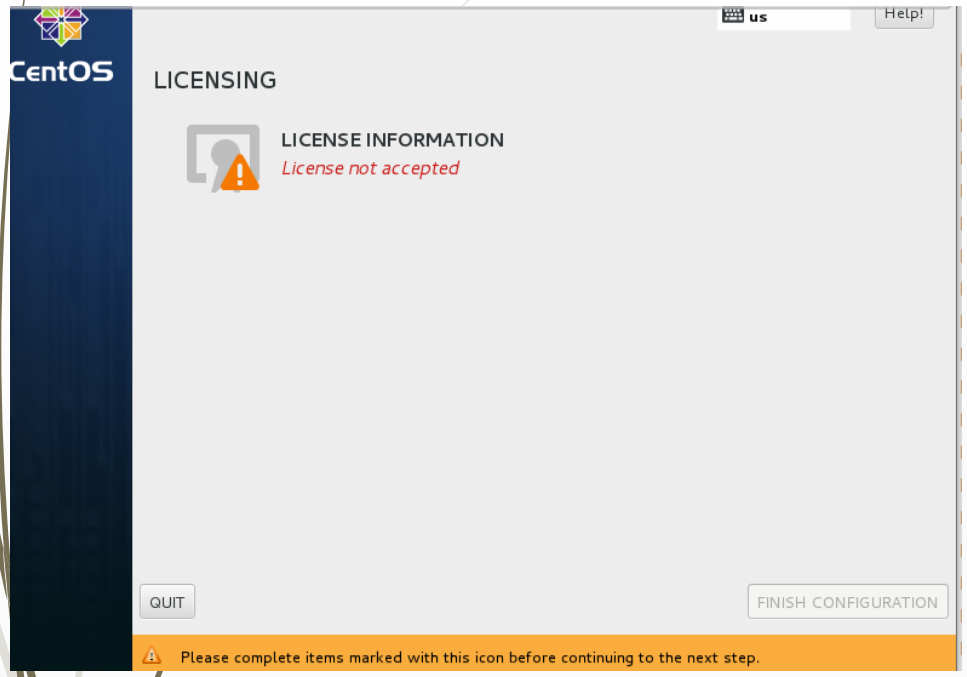
Select the **Root password** and type in password for the root. Also select User creation and create the first user for the linux server aside from root. I have used **admin** in my example, but it can be anything you choose

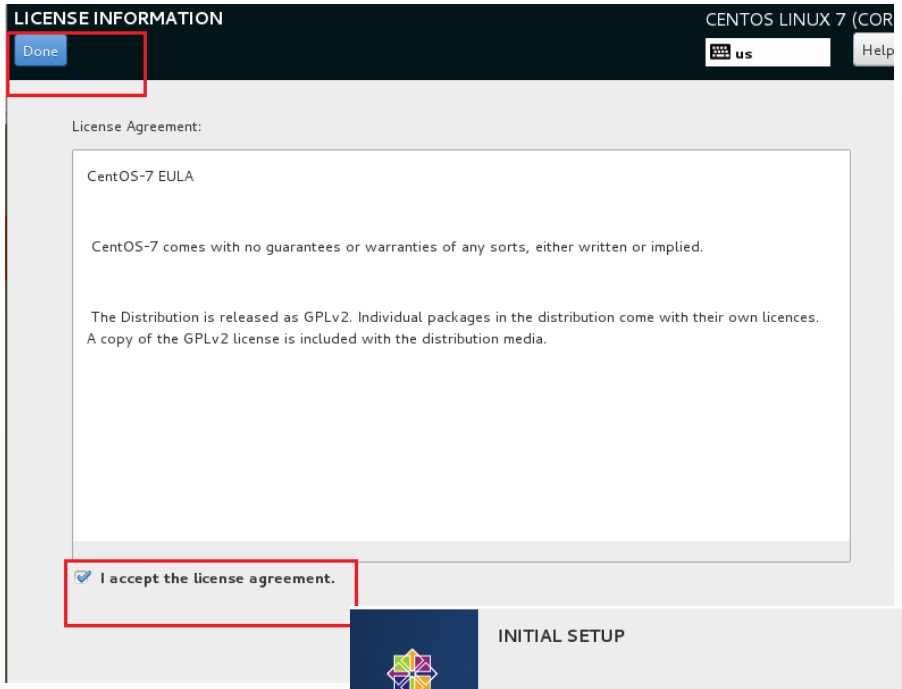


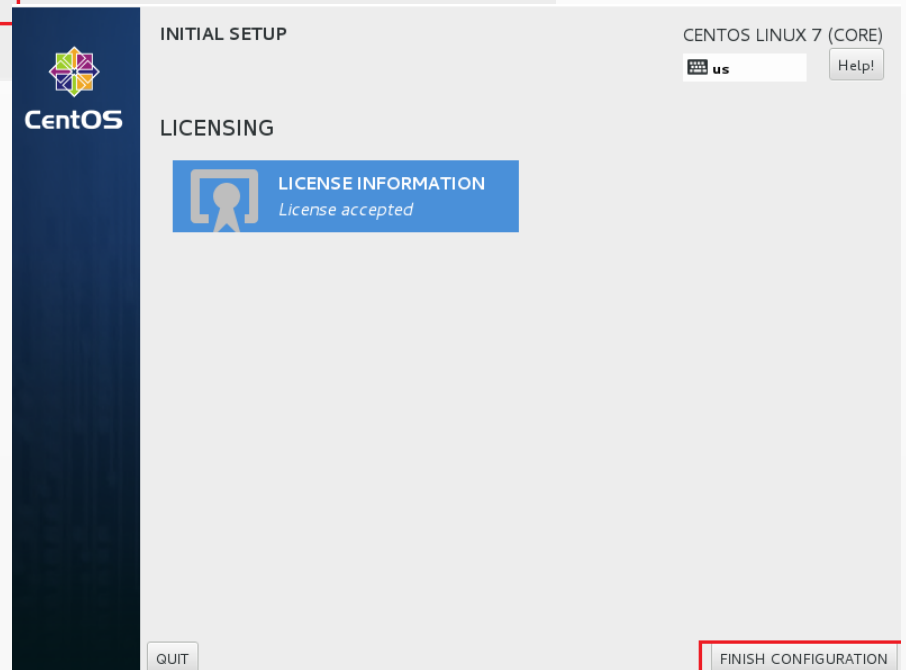




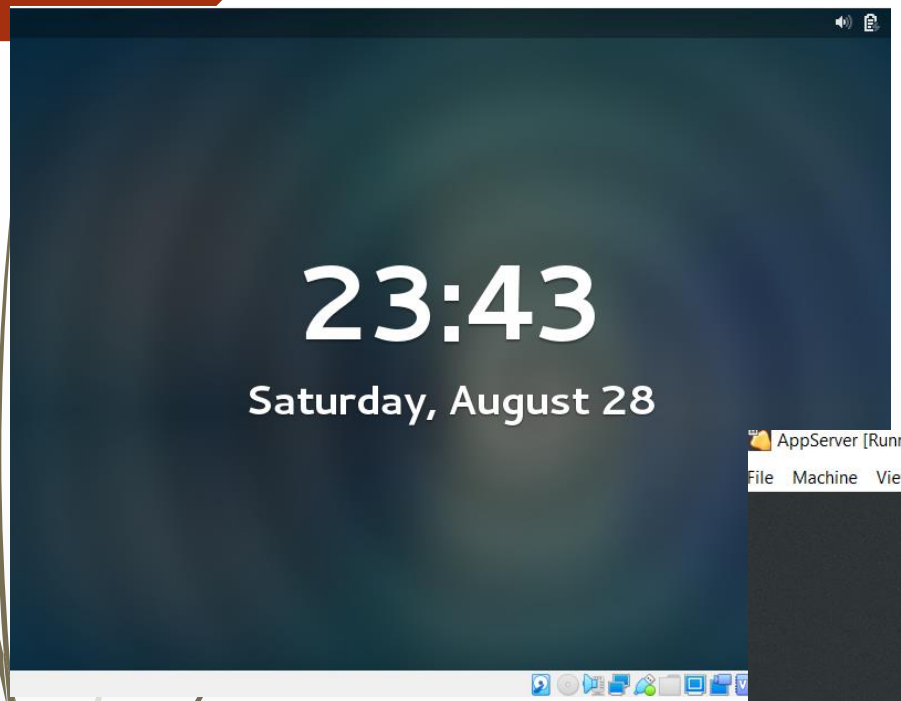
Click on Licensing Information and accept the license agreement and select finish configuration.

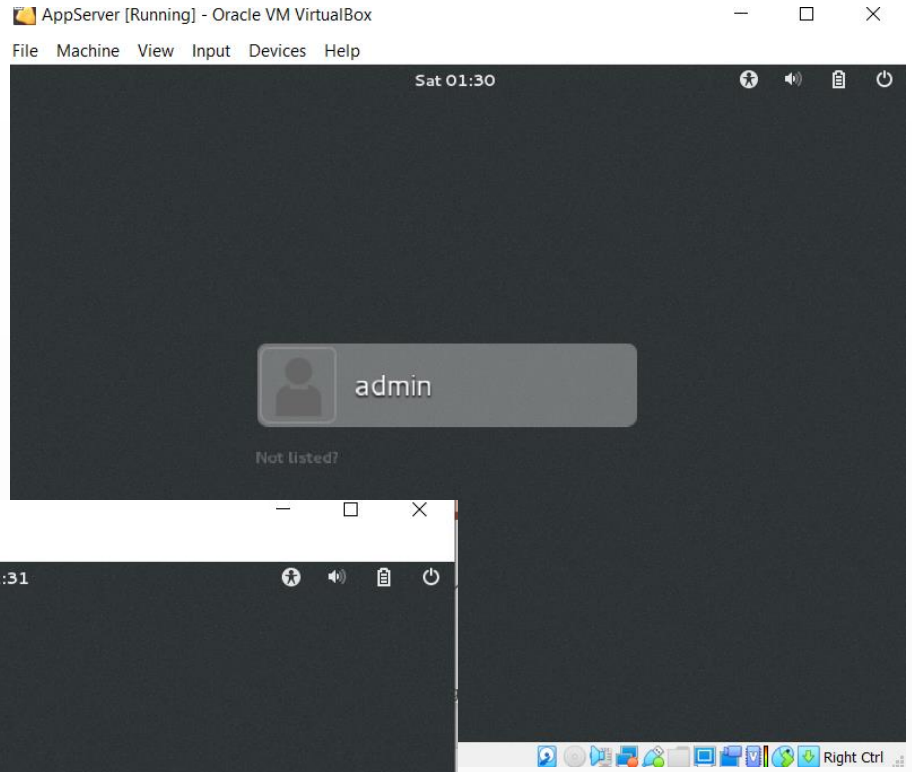


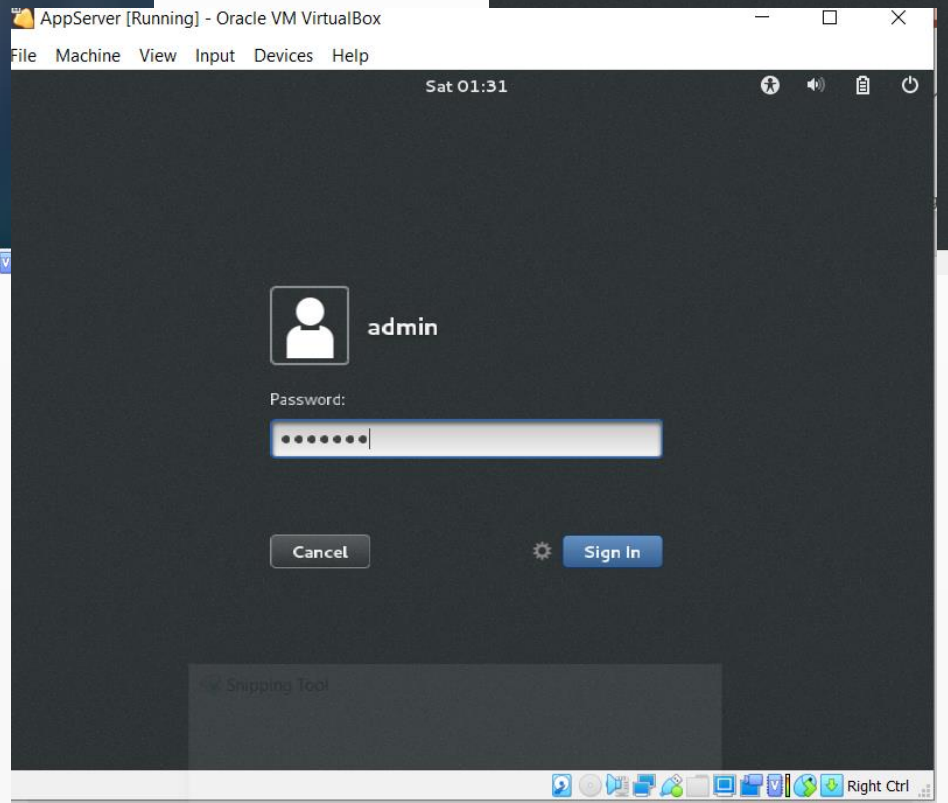




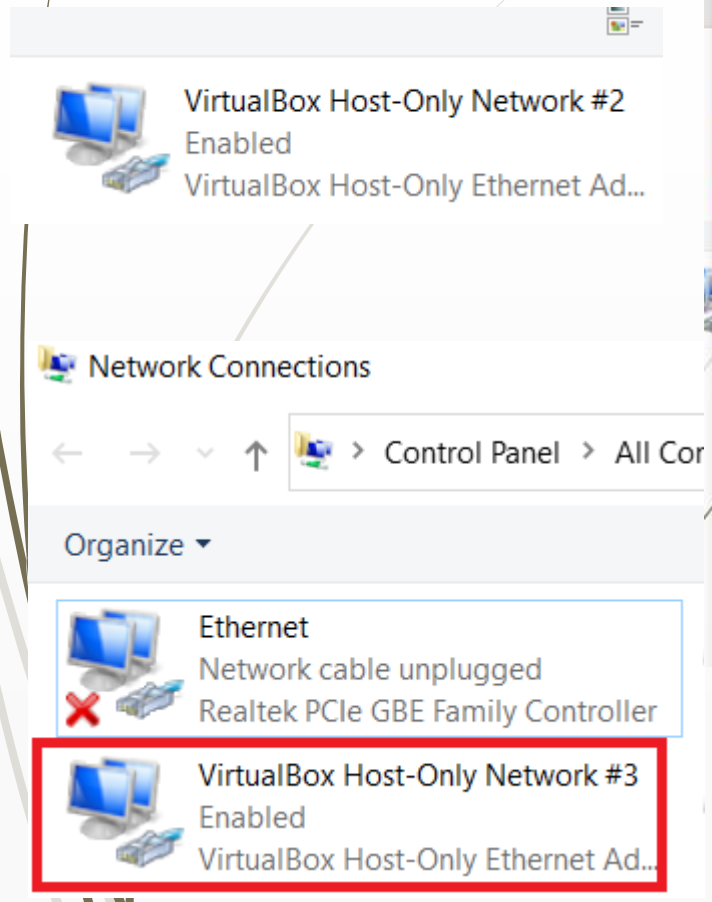
Your centos 7 server will power cycle and present you to login screen. Click on admin to login. If the VM locks after some time of working just click the mouse, hold and drag up the screen to see the login page

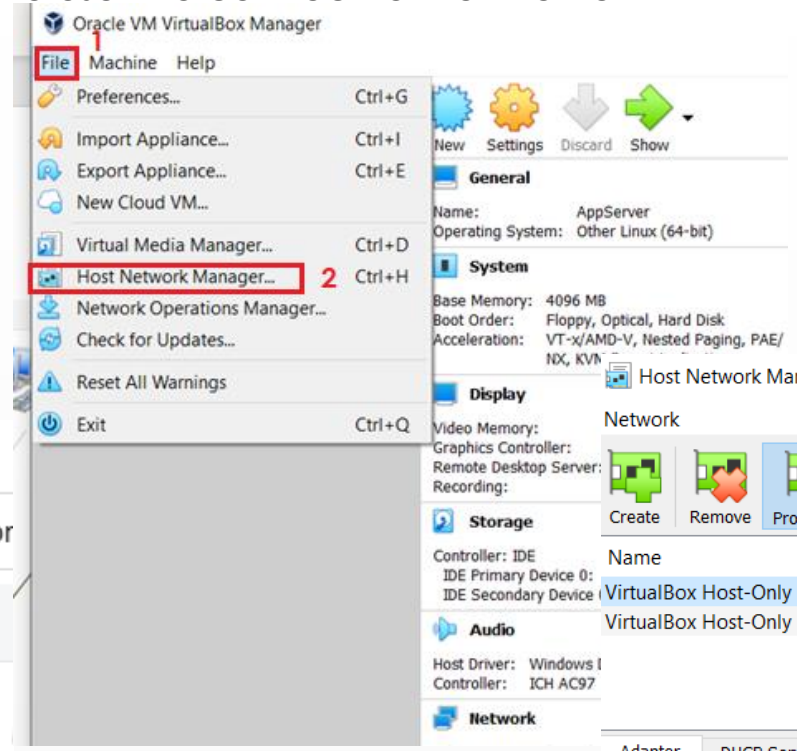


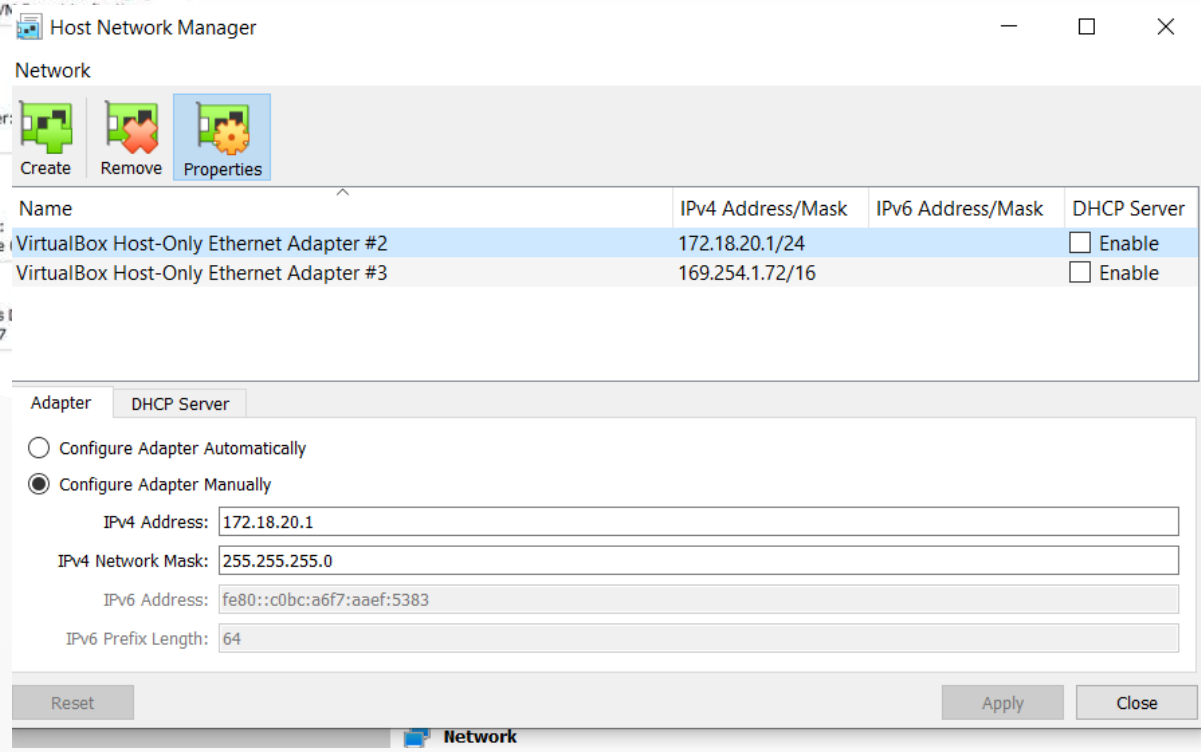




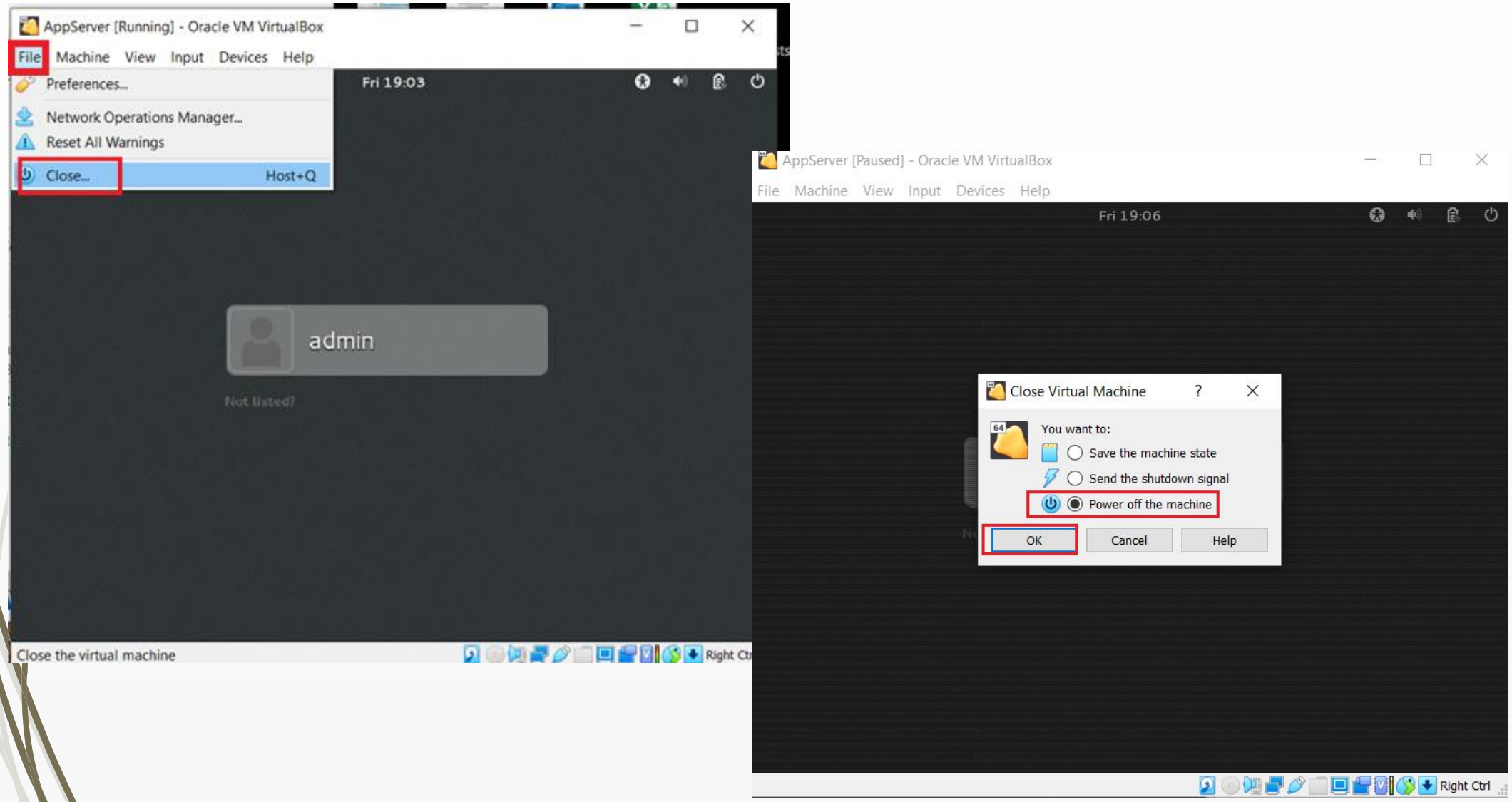
Note that after oracle VirtualBox installation, the installation would have created **one** Host-Only network under your windows network connections. This is what your virtual machine will connect to. I am using two connection. You can create additional connections. I created a second **Network #3** because I intend to use it to connect to the internet



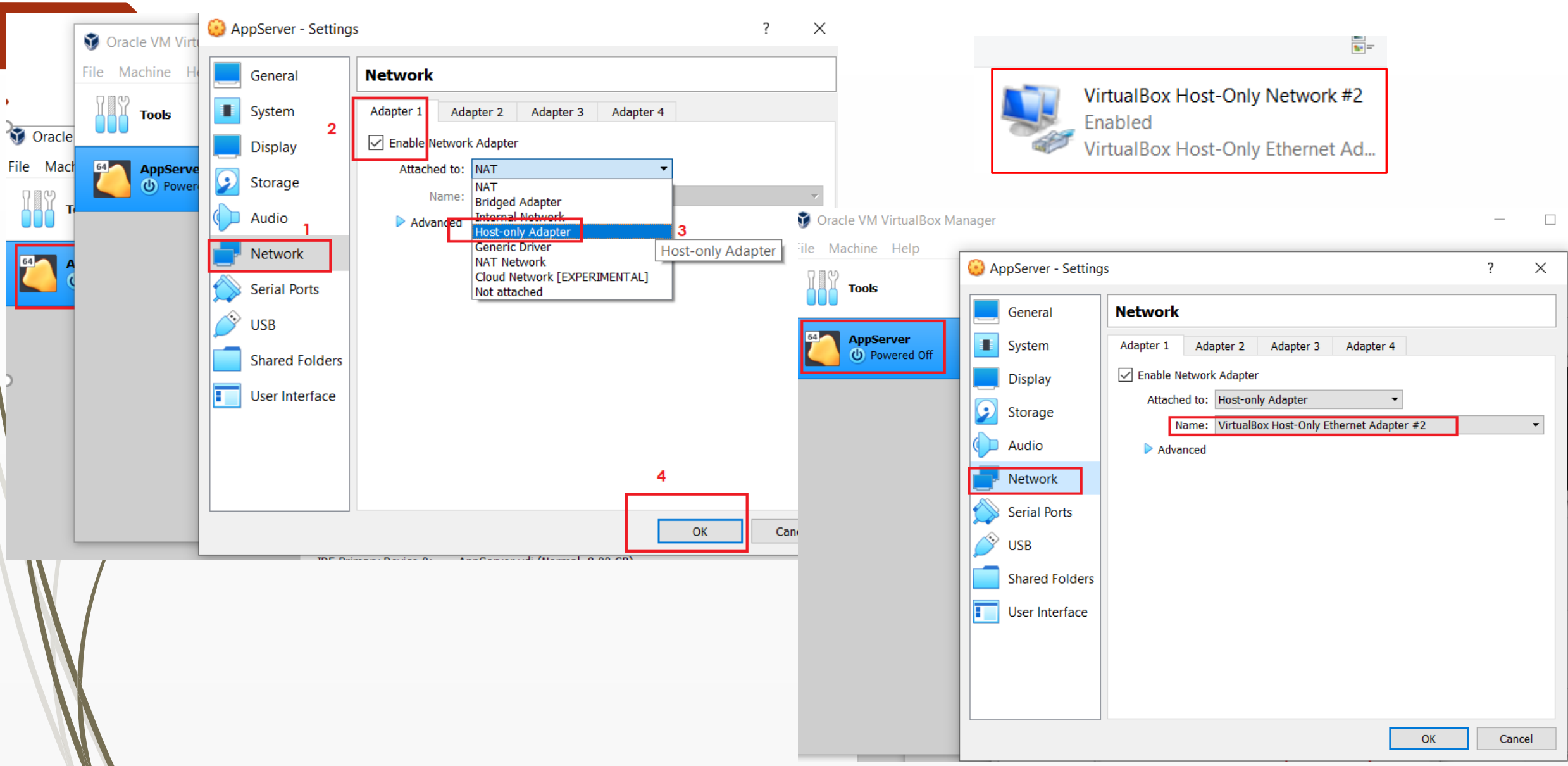




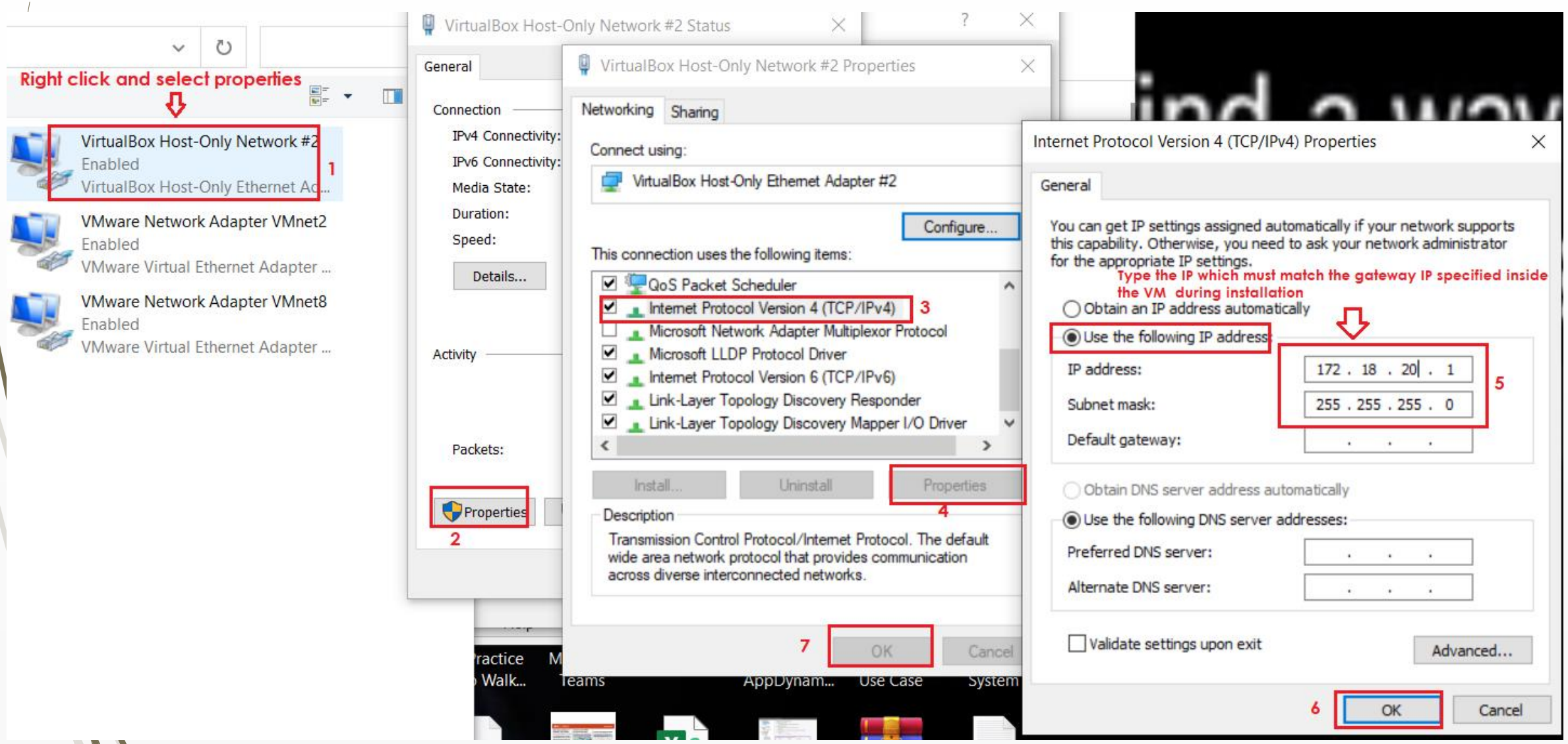
Select File, close and Power off the machine to shutdown the VM to modify the network settings



To interact with your virtual machine from your laptop, you need to select Host-only adapter. In my case #2
Click okay and power on the machine again to test



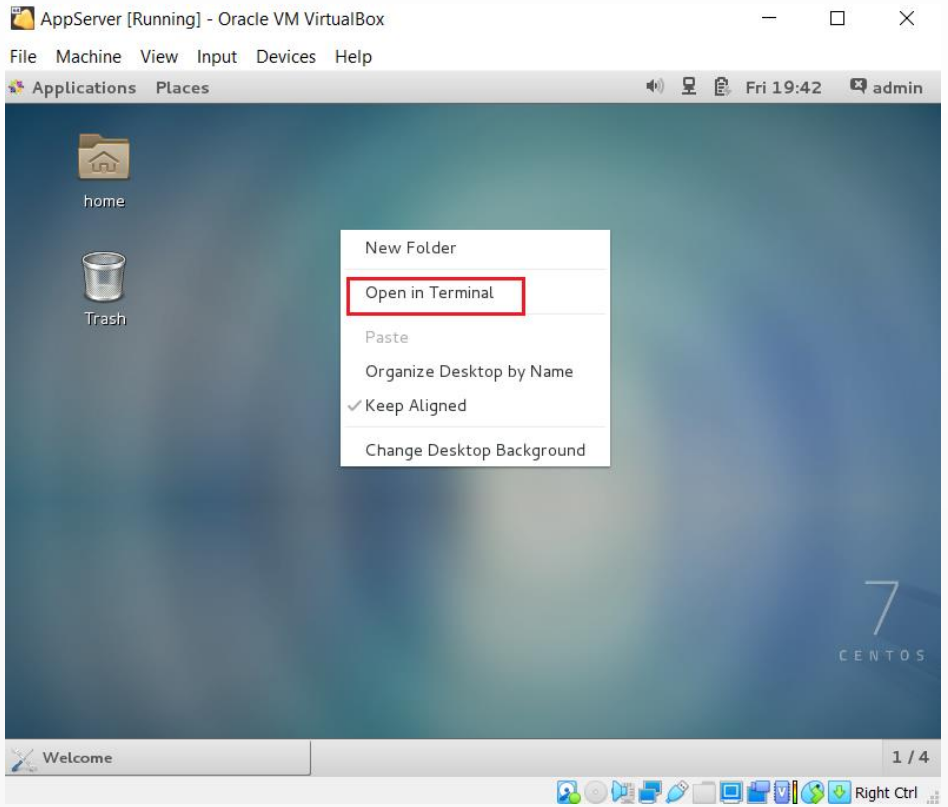
Modify the virtual network of your laptop (this will be removed later) to serve as the gateway of your linux virtual machine



Centos 7 Post installation tasks

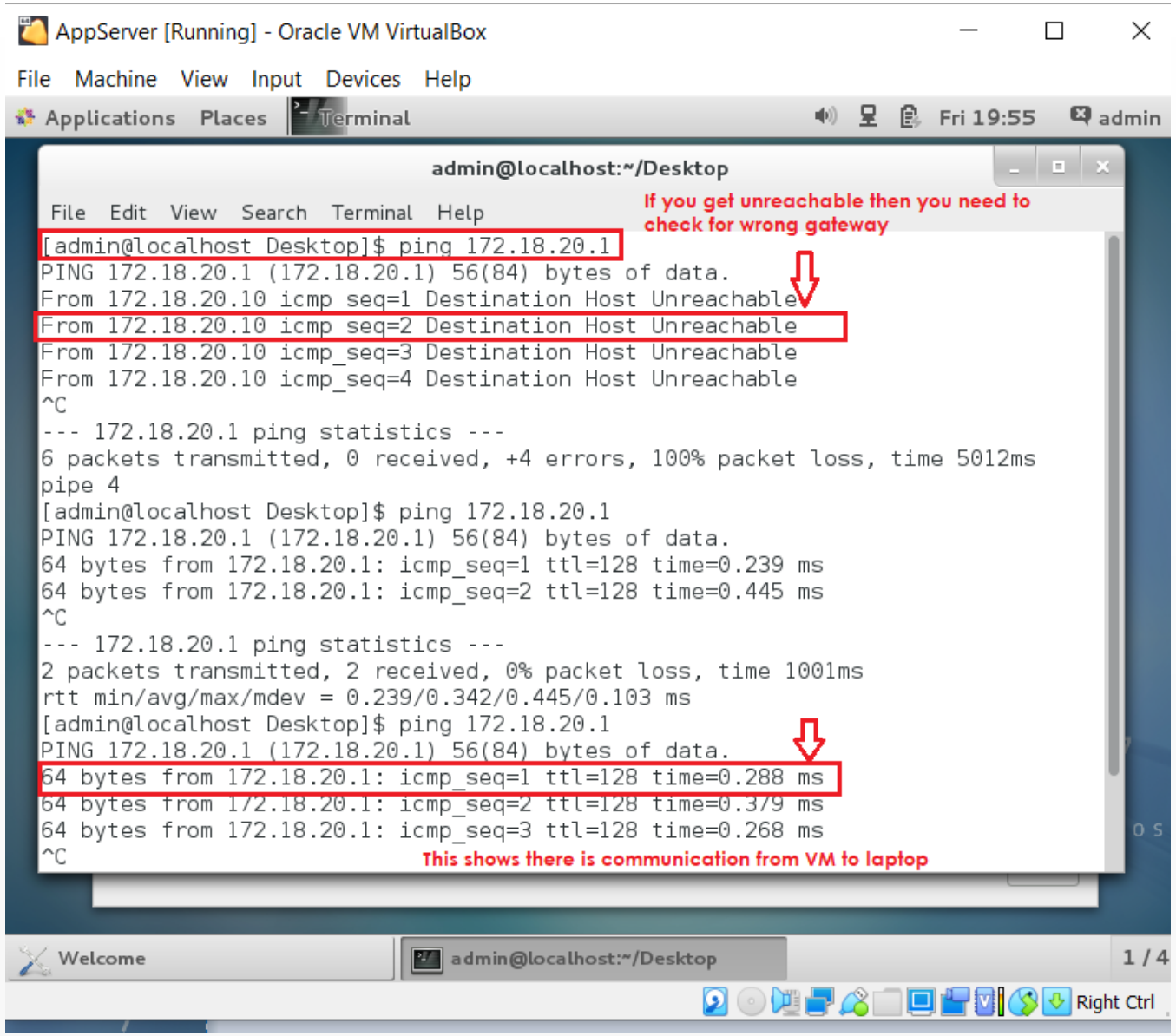
- Ensure firewalld and Selinux are disabled
- Ensure you can connect via SSH and WinSCP
- Ensure the virtual machine can reach the internet
- Ensure you can resolve DNS names

Logon to the virtual machine. Right click on the desktop and select Open Terminal



Centos 7 Post installation tasks

- Ensure the virtual machine can reach the gateway IP – 172.18.20.1



Centos 7 Post installation tasks

- Ensure firewalld and Selinux is disabled
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Logon to the virtual machine. Right click on the desktop and select Open Terminal

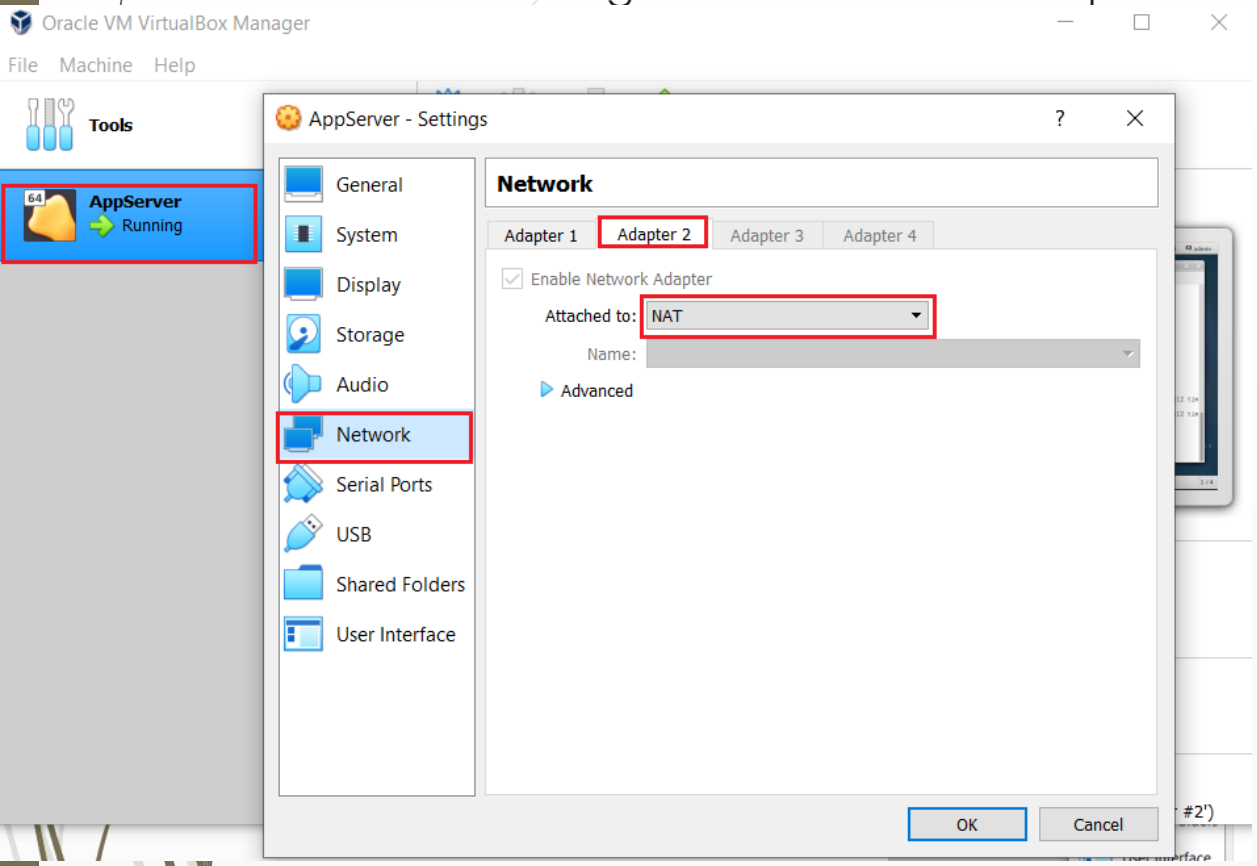
```
root@localhost:~
File  Edit  View  Search  Terminal  Help
[root@localhost ~]#
[root@localhost ~]# systemctl status firewalld   check firewall status
firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled)
   Active: active (running) since Fri 2021-09-03 19:37:19 WAT; 23min ago
 Main PID: 607 (firewalld)
   CGroup: /system.slice/firewalld.service
           └─607 /usr/bin/python -Es /usr/sbin/firewalld --nofork --nopid

Sep 03 19:37:19 localhost.localdomain systemd[1]: Started firewalld - dynamic...
Hint: Some lines were ellipsized, use -l to show in full.
[root@localhost ~]# systemctl stop firewalld   stop firewall
[root@localhost ~]#
[root@localhost ~]# systemctl disable firewalld   Disable firewall
rm '/etc/systemd/system/dbus-org.fedoraproject.FirewallD1.service'
rm '/etc/systemd/system/basic.target.wants/firewalld.service'
[root@localhost ~]#
[root@localhost ~]# systemctl status firewalld   confirm firewall is disabled
firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; disabled)
   Active: inactive (dead)

Sep 03 19:37:17 localhost.localdomain systemd[1]: Starting firewalld - dynami...
Sep 03 19:37:19 localhost.localdomain systemd[1]: Started firewalld - dynamic...
```

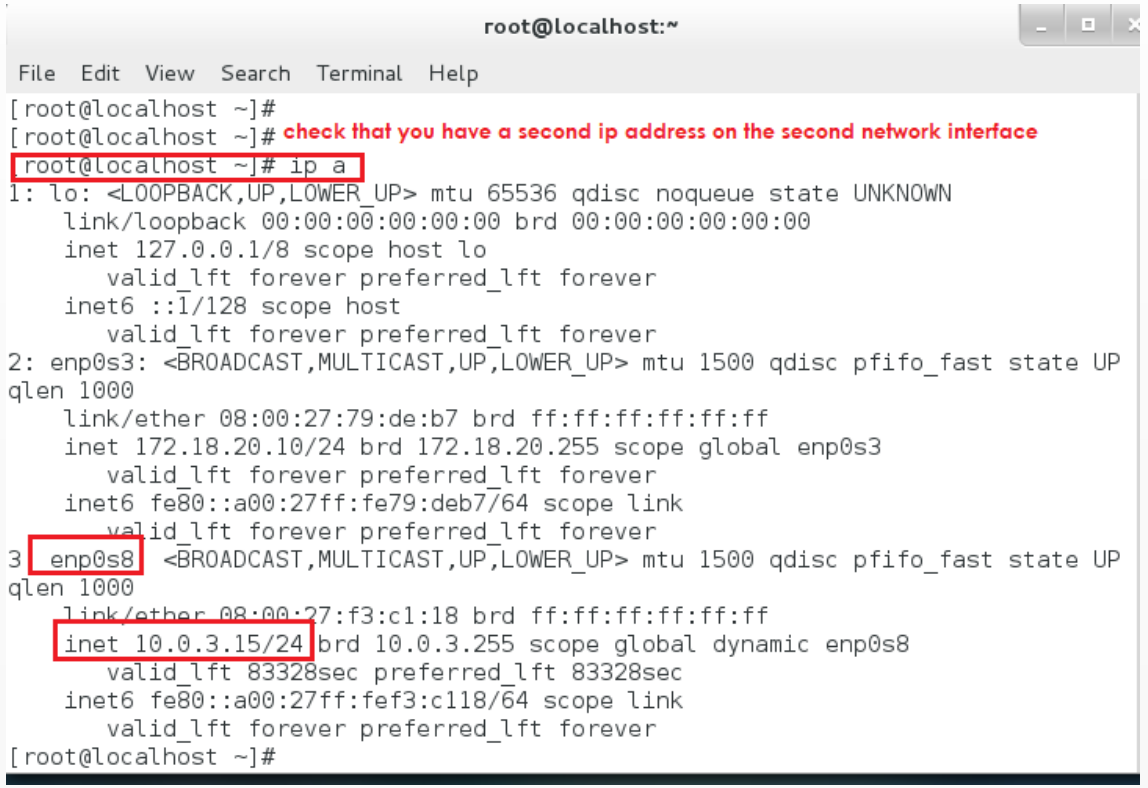
```
root@localhost:~
login as: root
root@172.18.20.10's password:
Last login: Fri Sep  3 20:00:28 2021
[root@localhost ~]#
```

Centos 7 Post installation tasks

- Ensure the virtual machine can reach the internet
- Ensure you can resolve DNS names

Logon to the virtual machine. Right click on the desktop and select Open Terminal
Assign the VM second adapter to NAT and click OK.

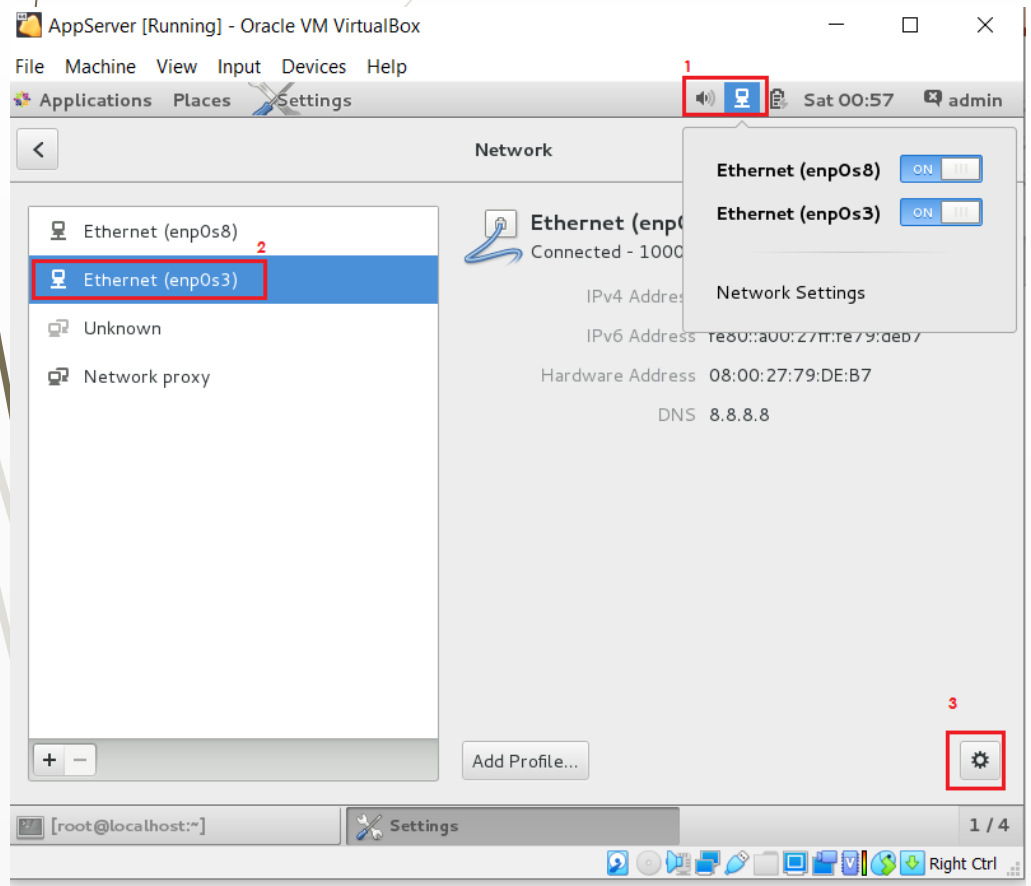


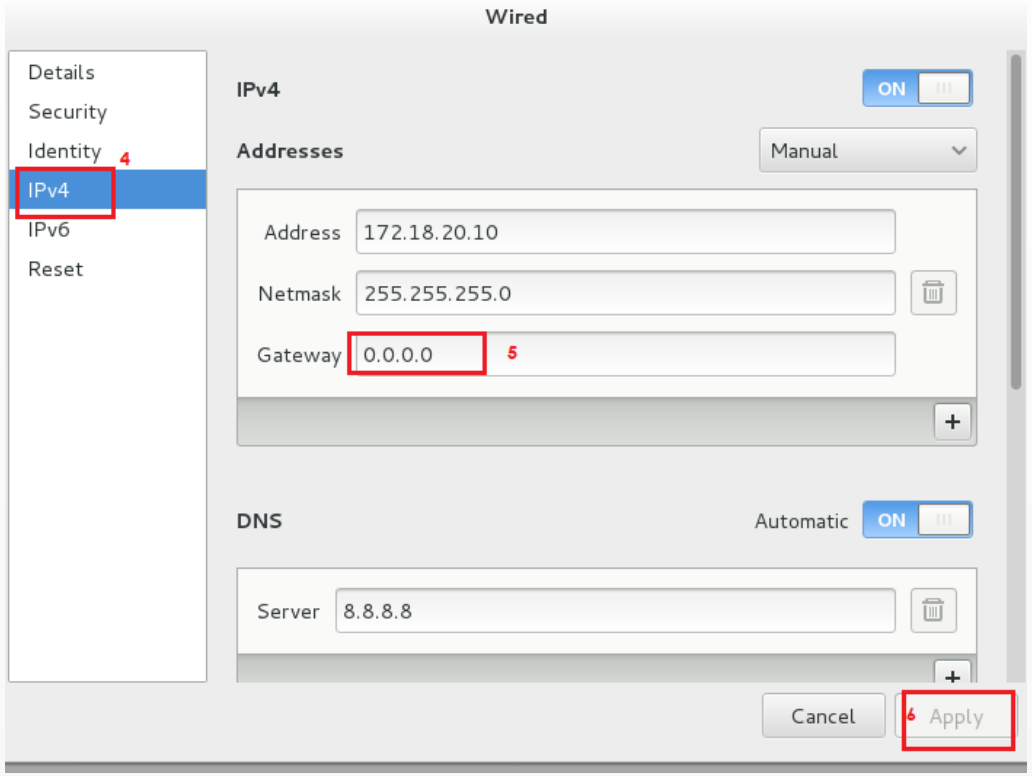


Centos 7 Post installation tasks

- Ensure the virtual machine can reach the internet
- Ensure you can resolve DNS names

Modify NIC1 (host only network) and **remove the gateway** by typing 0.0.0.0. This will allow the virtual machine to use the NAT Network as the gateway since we want our VM to reach the internet.

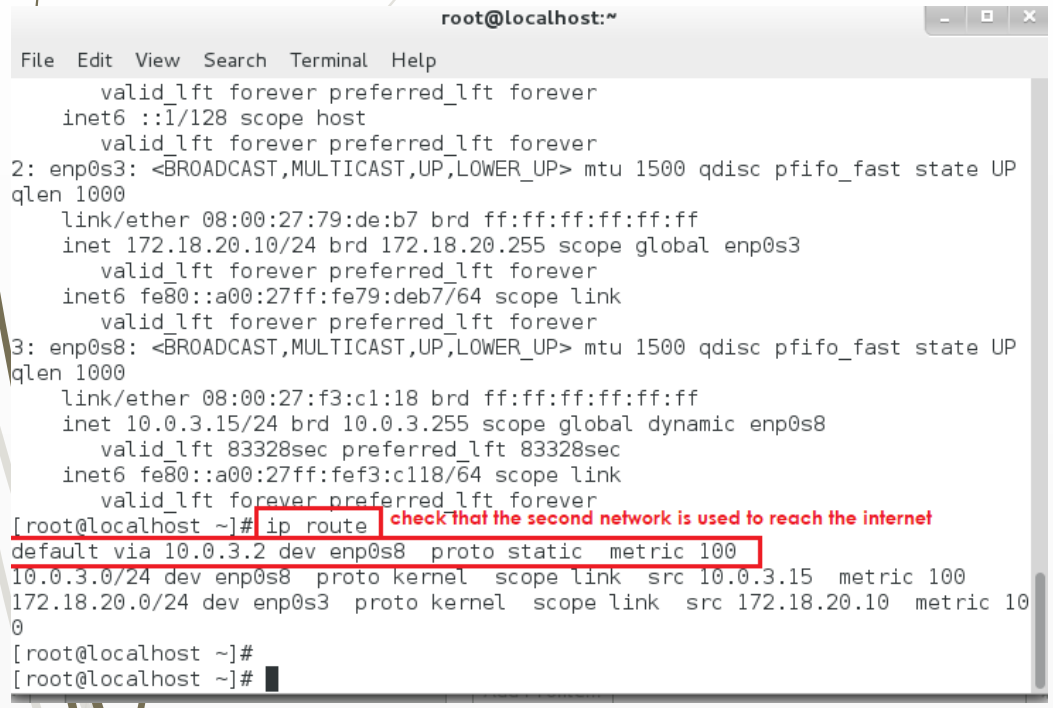


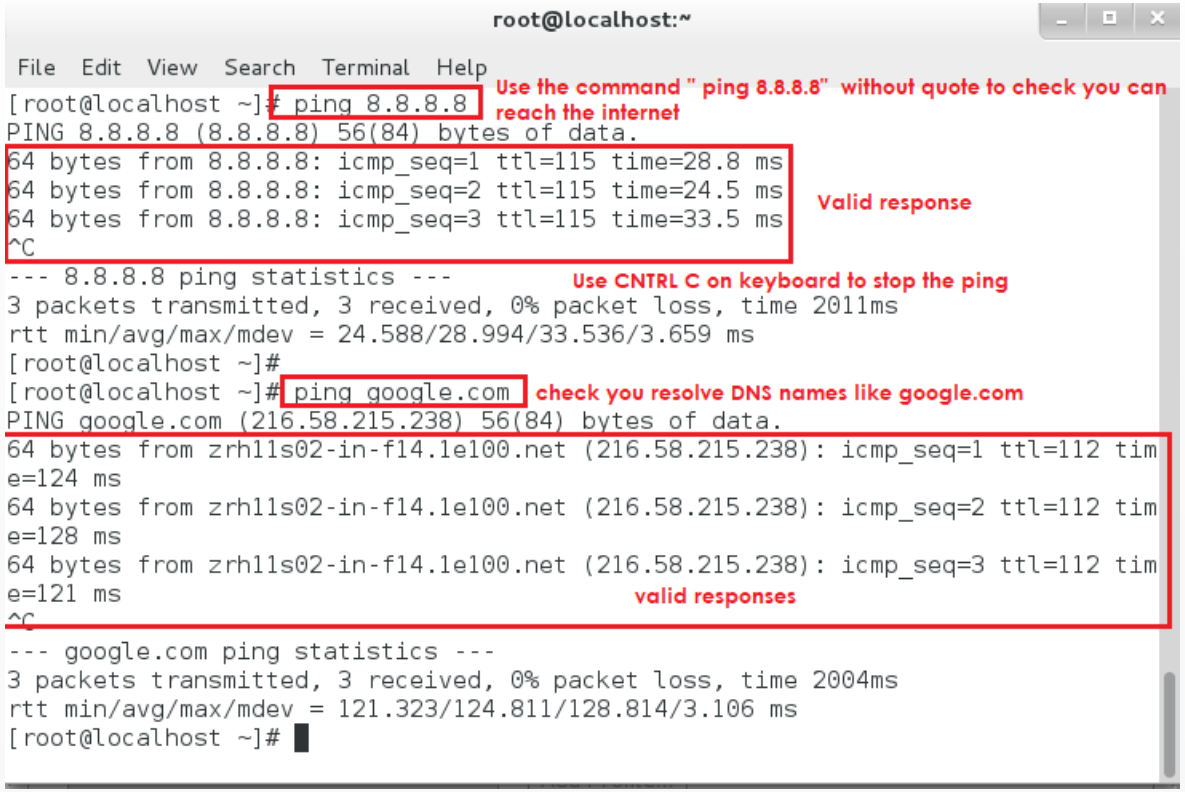


Centos 7 Post installation tasks

- Ensure the virtual machine can reach the internet
- Ensure you can resolve DNS names

Use **ping** to check you can reach the internet and resolve DNS names





The End