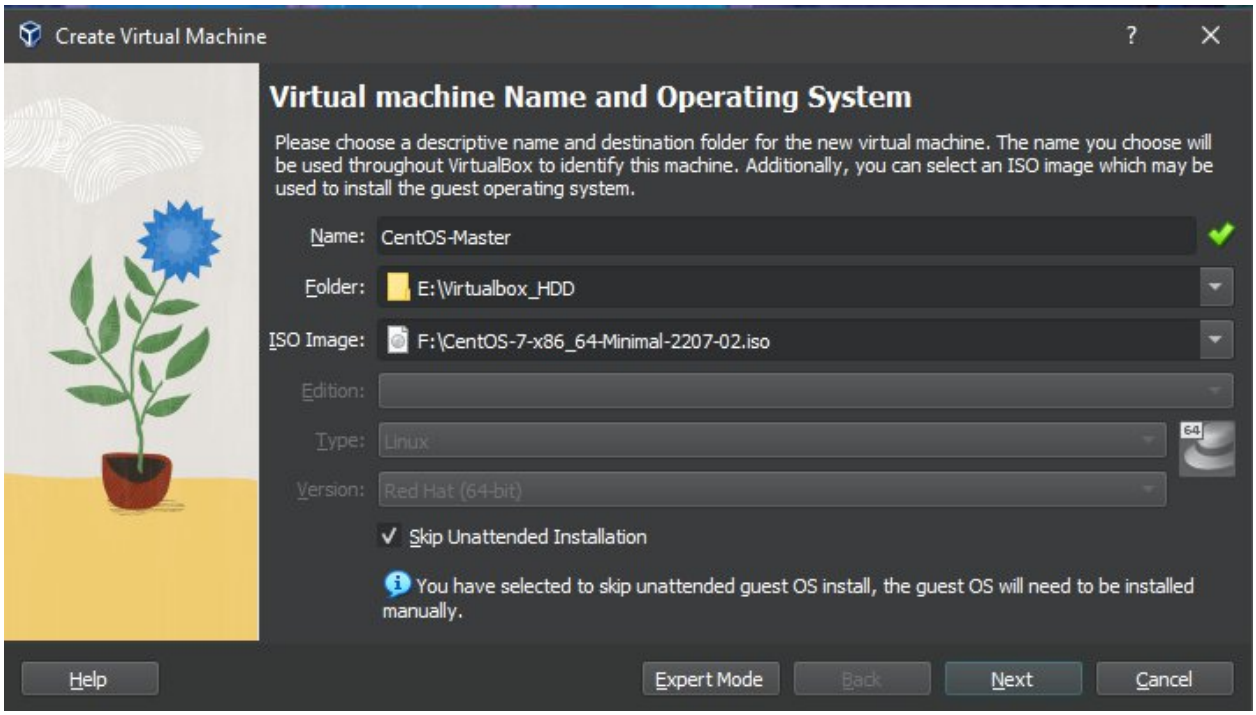
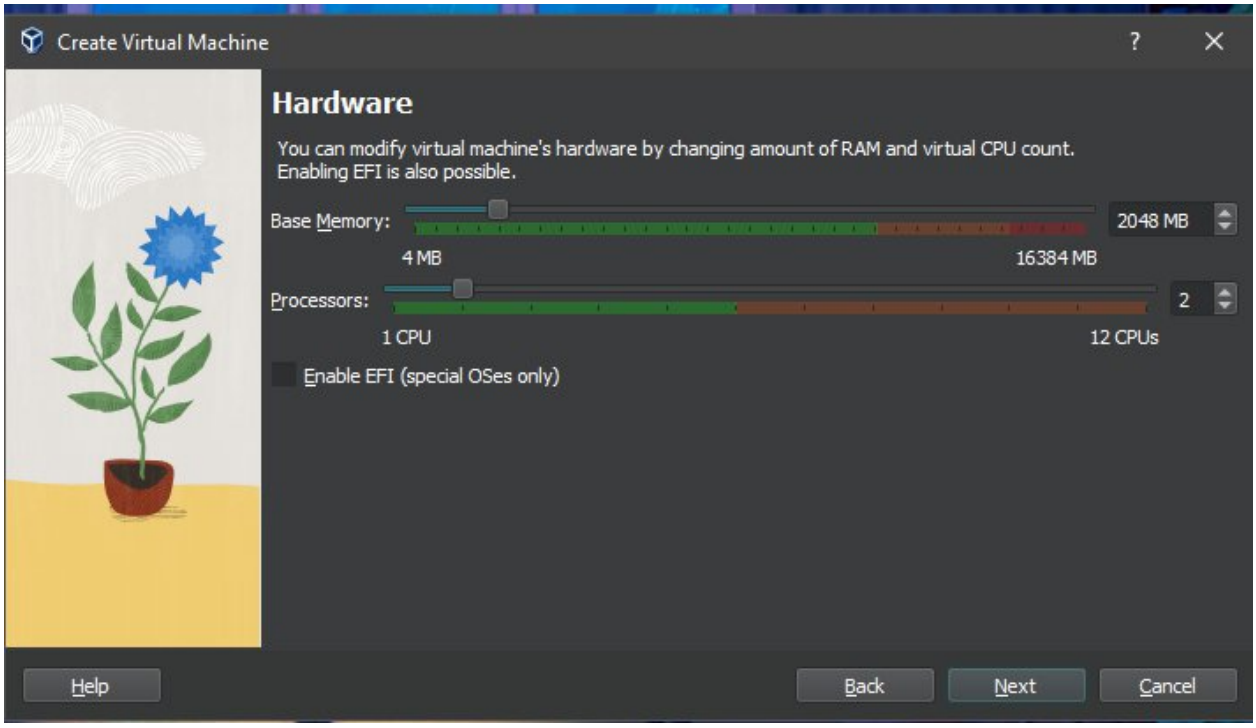
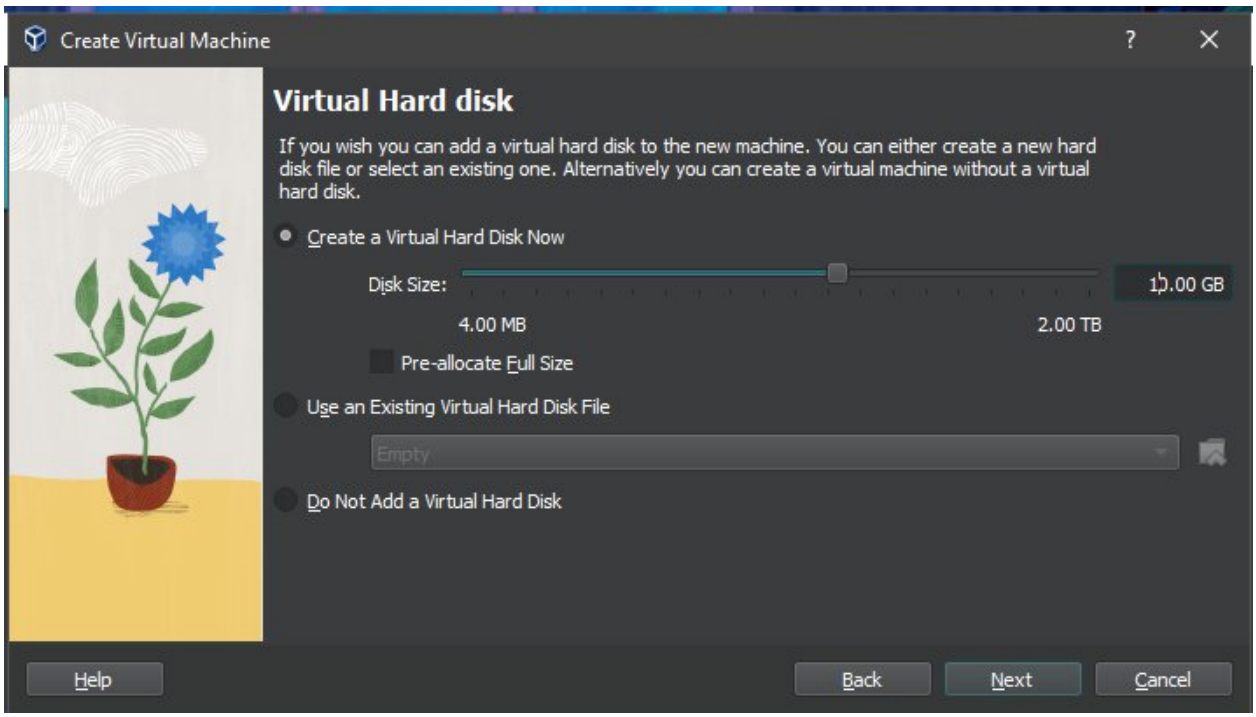
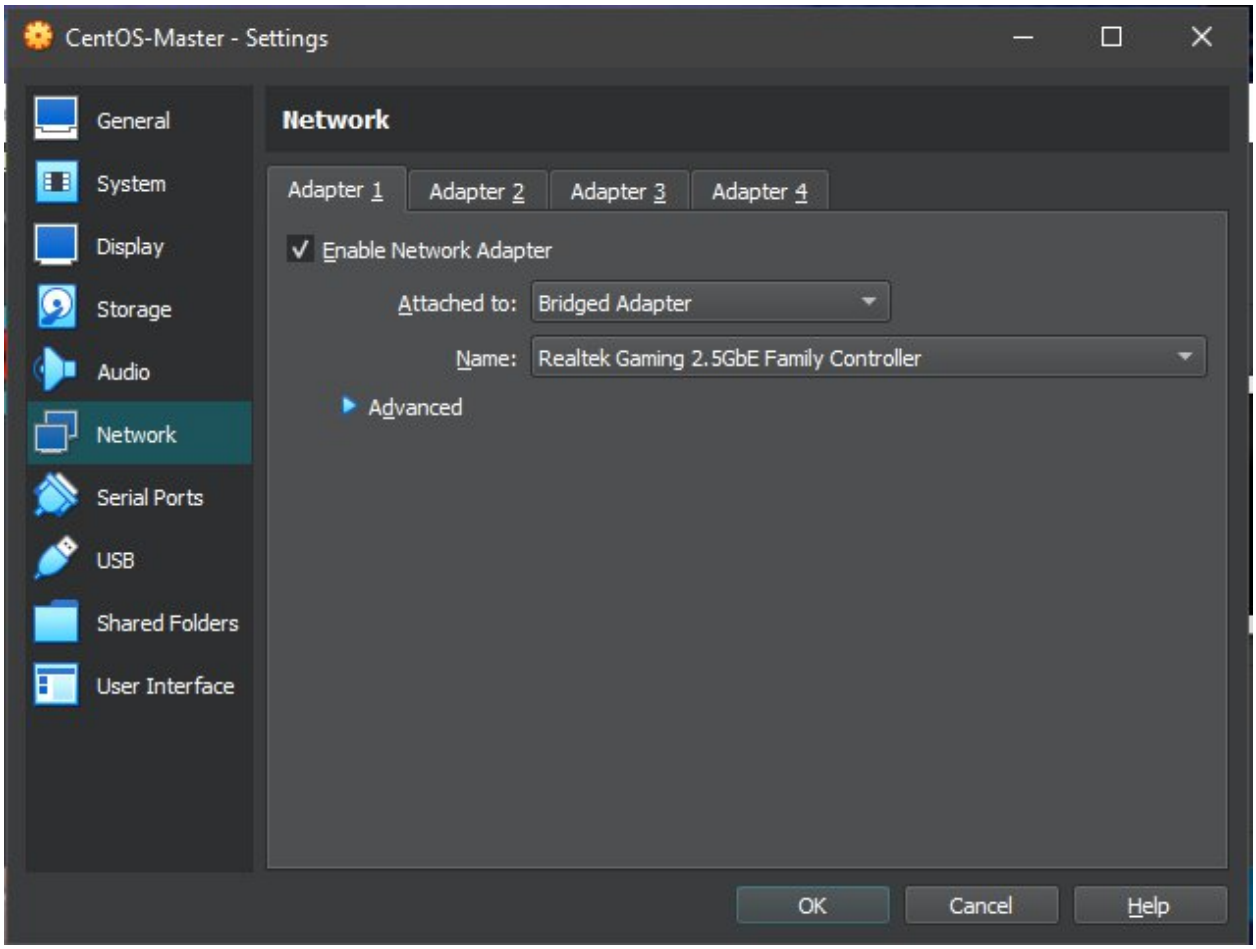
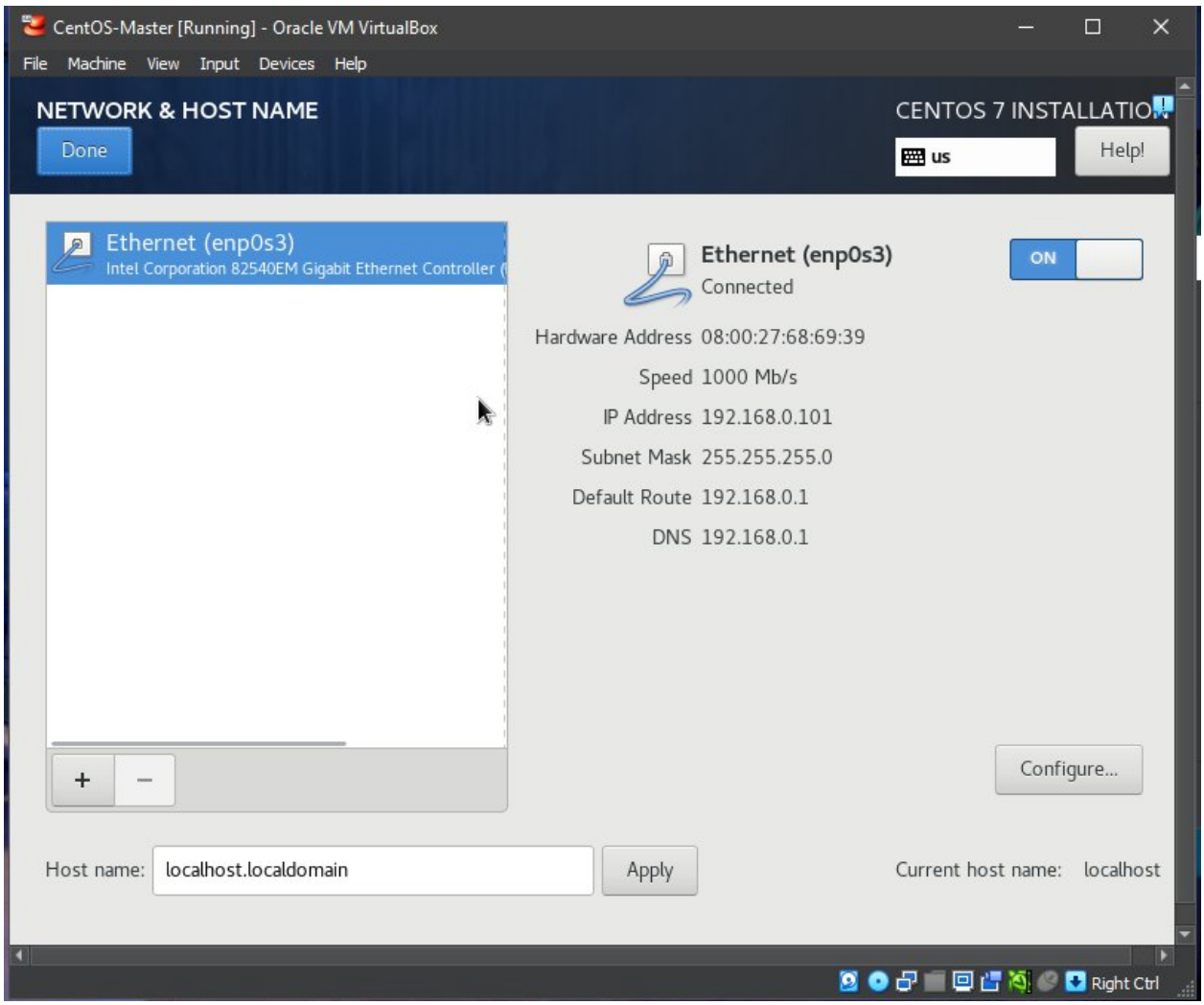
Name: Md. Samin Irtiza ID:00-30084

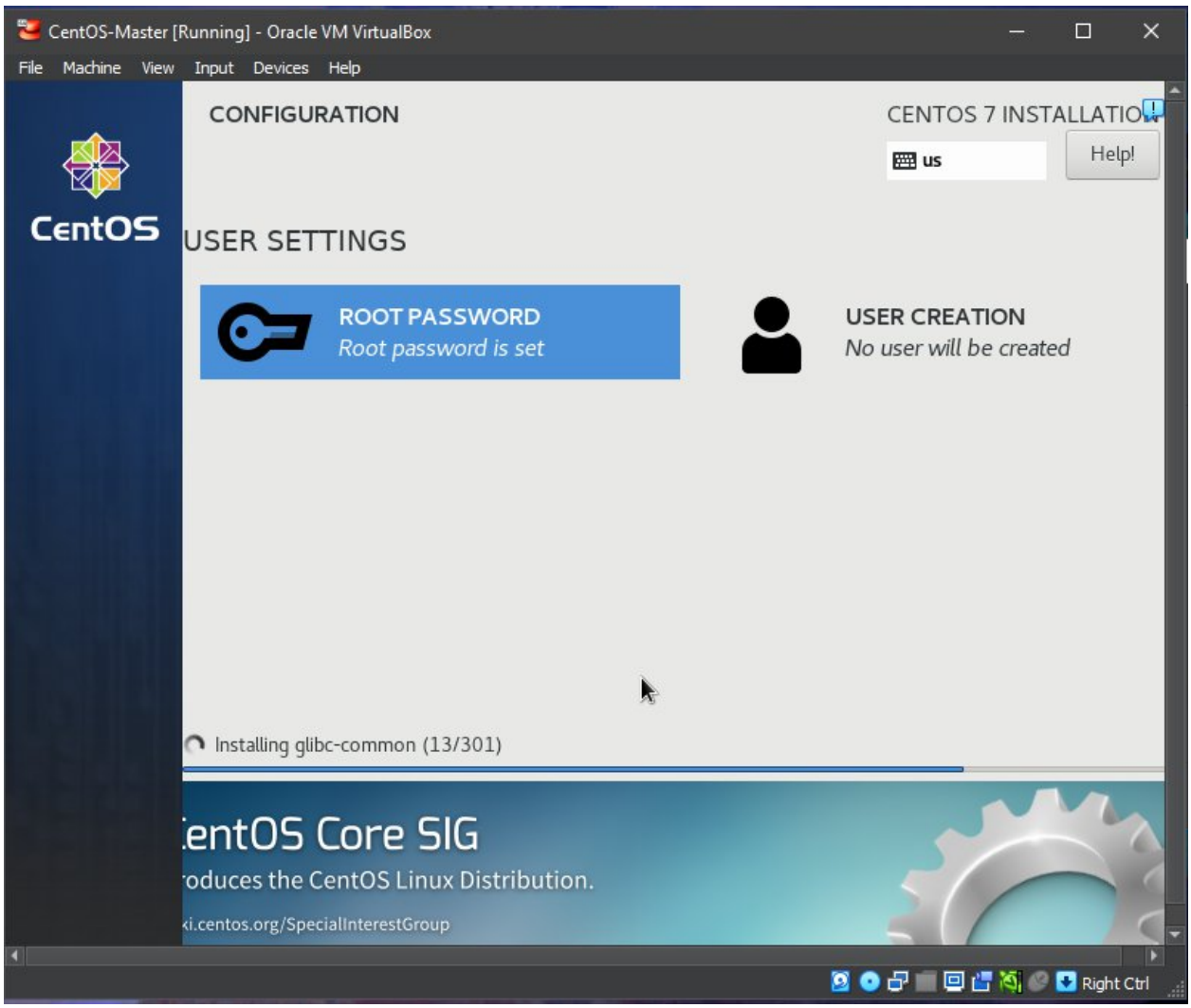





Create Virtual Machine
Virtual Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select an existing one. Alternatively you can create a virtual machine without a virtual hard disk.
Create a Virtual Hard Disk Now
Disk Size:
10.00 GB
4.00 MB
2.00 TB
Pre-allocate Full Size
Use an Existing Virtual Hard Disk File
Empty
Do Not Add a Virtual Hard Disk
Help
Back
Next
Cancel


CentOS-Master - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Network
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Enable Network Adapter
Attached to:
Bridged Adapter
Name:
Realtek Gaming 2.5GbE Family Controller
Advanced
OK
Cancel
Help


CentOS-Master [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
NETWORK & HOST NAME
Done
CENTOS 7 INSTALLATION
us
Help!
Ethernet (enp0s3)
Intel Corporation 82540EM Gigabit Ethernet Controller
Ethernet (enp0s3)
Connected
ON
Hardware Address 08:00:27:68:69:39
Speed 1000 Mb/s
IP Address 192.168.0.101
Subnet Mask 255.255.255.0
Default Route 192.168.0.1
DNS 192.168.0.1
Configure...
Host name: localhost.localdomain
Apply
Current host name: localhost
Right Ctrl



Master Setup

```
[root@localhost ~]# yum install vim curl wget open-vm-tools -y
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: bd.mirror.vanehost.com
 * extras: mirrors.hostever.com
 * updates: bd.mirror.vanehost.com
Package 2:vim-enhanced-7.4.629-8.el7_9.x86_64 already installed and latest version
Package curl-7.29.0-59.el7_9.1.x86_64 already installed and latest version
Package wget-1.14-18.el7_6.1.x86_64 already installed and latest version
Package open-vm-tools-11.0.5-3.el7_9.4.x86_64 already installed and latest version
Nothing to do
[root@localhost ~]# vim /etc/selinux/config
[root@localhost ~]# systemctl stop firewalld
[root@localhost ~]# systemctl disable firewalld
[root@localhost ~]# vim /etc/hostname
```

```
[root@localhost ~]# vim /etc/hostname
[root@localhost ~]# hostname -bF /etc/hostname
[root@localhost ~]# exit
logout
Connection to 192.168.0.107 closed.

 13/05/2023  23:31.35  /home/mobaxterm  ssh root@192.168.0.107
root@192.168.0.107's password:
X11 forwarding request failed on channel 0
Last login: Sat May 13 23:18:18 2023 from 192.168.0.106
[root@ansible-master ~]#
```

```
2. root@ansible-master:~
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6

# additional IPs
192.168.0.50 ansible-master.localdomain         ansible-master
192.168.0.51 centosclient-1.localdomain         centosclient-1
192.168.0.52 ubuntuclient-1.localdomain         ubuntuclient-1
~
~
~
~
~
~
~
~
~
```

```
[root@ansible-master ~]# useradd ansible
[root@ansible-master ~]# su - ansible
[ansible@ansible-master ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ansible/.ssh/id_rsa):
Created directory '/home/ansible/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ansible/.ssh/id_rsa.
Your public key has been saved in /home/ansible/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:JS6nQwRAu46/PFag7cgm8MY1Fj1EvcSmu2MoDlkSrJA ansible@ansible-master.localdomai
n
The key's randomart image is:
+---[RSA 2048]----+
| .o....o         |
|.. . .. =        |
|E..  o.+...      |
|o.....+..o       |
|ooo. .ooS        |
|o*. =..+         |
|*=.+ oo.         |
|o*O . +.         |
|o+=+ . .         |
+----[SHA256]-----+
[ansible@ansible-master ~]$
```

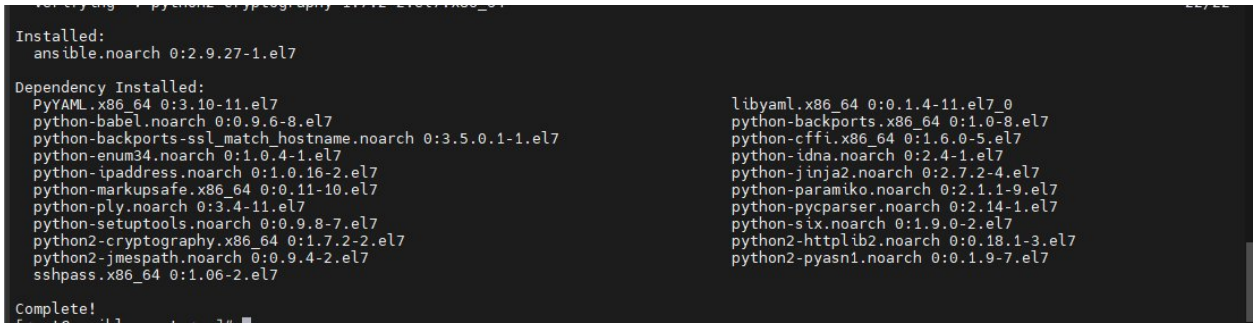
CentOS Client Setup

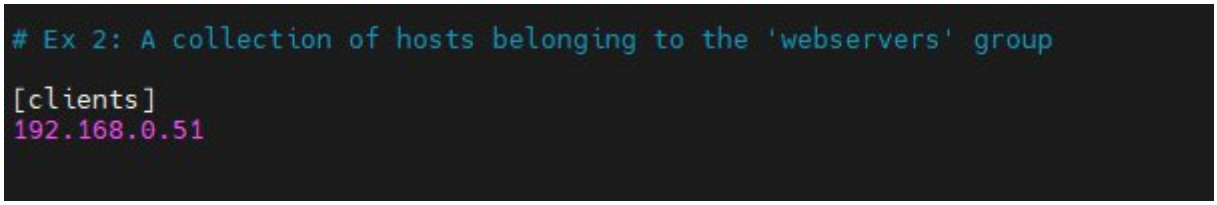
```
[ansible@localhost ~]$ cd .ssh/
[ansible@localhost .ssh]$ vim authorized_keys
-bash: vim: command not found
[ansible@localhost .ssh]$ vi authorized_keys
[ansible@localhost .ssh]$
```

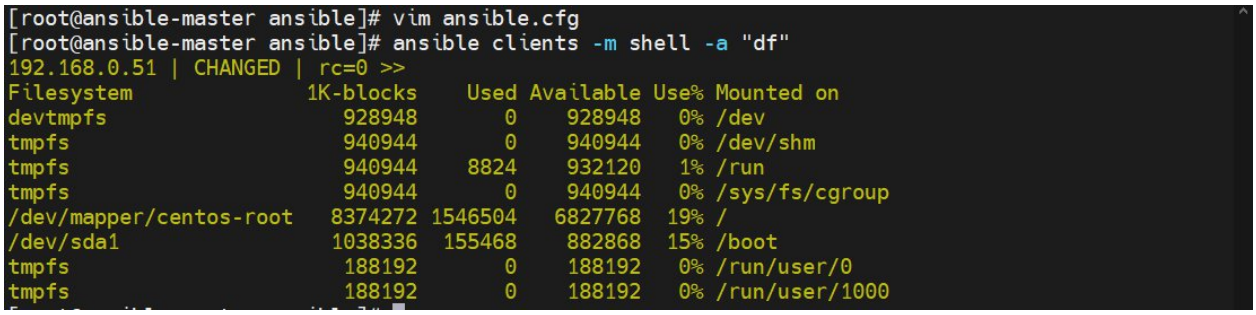

```
[root@centosclient-1 ~]# vim /etc/hosts
[root@centosclient-1 ~]# cat /etc/hosts
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
# additional IPs
192.168.0.50 ansible-master.localdomain         ansible-master
192.168.0.51 centosclient-1.localdomain         centosclient-1
192.168.0.52 ubuntuclient-1.localdomain         ubuntuclient-1
```

```
[root@centosclient-1 ~]# vim /etc/sudoers.d/ansible
[root@centosclient-1 ~]# cat /etc/sudoers.d/ansible
ansible         ALL=(ALL)       NOPASSWD: ALL

[root@centosclient-1 ~]#
```

Ansible Setup







Ubuntu Client Setup

Netplan static ip addressing setup

```
network:
  version: 2
  renderer: networkd
  ethernets:
    enp0s3: # Replace with your network interface name.
      dhcp4: no
      addresses:
        - 192.168.0.52/24
      gateway4: 192.168.0.1
      nameservers:
        addresses:
          - 1.1.1.1
          - 8.8.8.8
```

```
samin@ubuntu-client:/etc/netplan$ sudo netplan apply
samin@ubuntu-client:/etc/netplan$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 100
0
    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: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group defaul
t qlen 1000
    link/ether 08:00:27:00:87:c7 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.52/24 brd 192.168.0.255 scope global enp0s3
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe00:87c7/64 scope link
       valid_lft forever preferred_lft forever
samin@ubuntu-client:/etc/netplan$
```

```
samin@ubuntu-client:~$ sudo useradd ansible
samin@ubuntu-client:~$ sudo vim /etc/sudoers
```

```
samin@ubuntu-client:~$ cat /etc/sudoers.d/ansible
ansible ALL=(ALL)       NOPASSWD:ALL
samin@ubuntu-client:~$
```

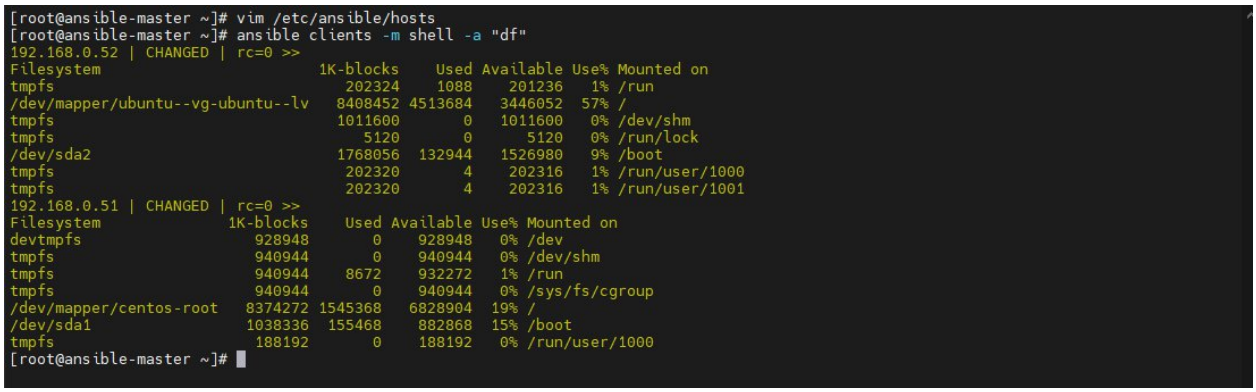
SSH key adding

```
ansible@ubuntu-client:~/.ssh$ vim authorized_keys
ansible@ubuntu-client:~/.ssh$ ls -la
total 12
drwx------ 2 ansible ansible 4096 May 14 11:03 .
drwxr-x--- 4 ansible ansible 4096 May 14 11:03 ..
-rw------- 1 ansible ansible  417 May 14 11:03 authorized_keys
```

Adding ubuntu client to /etc/ansible/hosts

```
# Ex 1: Ungrouped hosts, specify before any group headers.

## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10

# Ex 2: A collection of hosts belonging to the 'webservers' group

[clients]
192.168.0.51
192.168.0.52

## [webservers]
## alpha.example.org
## beta.example.org
## 192.168.1.100
## 192.168.1.110
```

Now Ad-Hoc commands can be executed on both CentOS and Ubuntu clients:



```
[root@ansible-master ~]# vim /etc/ansible/hosts
[root@ansible-master ~]# ansible clients -m shell -a "df"
192.168.0.52 | CHANGED | rc=0 >>
Filesystem                         1K-blocks    Used Available Use% Mounted on
tmpfs                                 202324    1088    201236   1% /run
/dev/mapper/ubuntu--vg-ubuntu--lv    8408452 4513684   3446052  57% /
tmpfs                                1011600       0   1011600   0% /dev/shm
tmpfs                                   5120       0      5120   0% /run/lock
/dev/sda2                            1768056  132944   1526980   9% /boot
tmpfs                                 202320       4    202316   1% /run/user/1000
tmpfs                                 202320       4    202316   1% /run/user/1001
192.168.0.51 | CHANGED | rc=0 >>
Filesystem              1K-blocks    Used Available Use% Mounted on
devtmpfs                   928948       0    928948   0% /dev
tmpfs                      940944       0    940944   0% /dev/shm
tmpfs                      940944    8672    932272   1% /run
tmpfs                      940944       0    940944   0% /sys/fs/cgroup
/dev/mapper/centos-root   8374272 1545368   6828904  19% /
/dev/sda1                 1038336  155468    882868  15% /boot
tmpfs                      188192       0    188192   0% /run/user/1000
[root@ansible-master ~]#
```