

## Assignments:08

**Module:- COSA(DHCP)      Name:- Prithviraj Nikam**

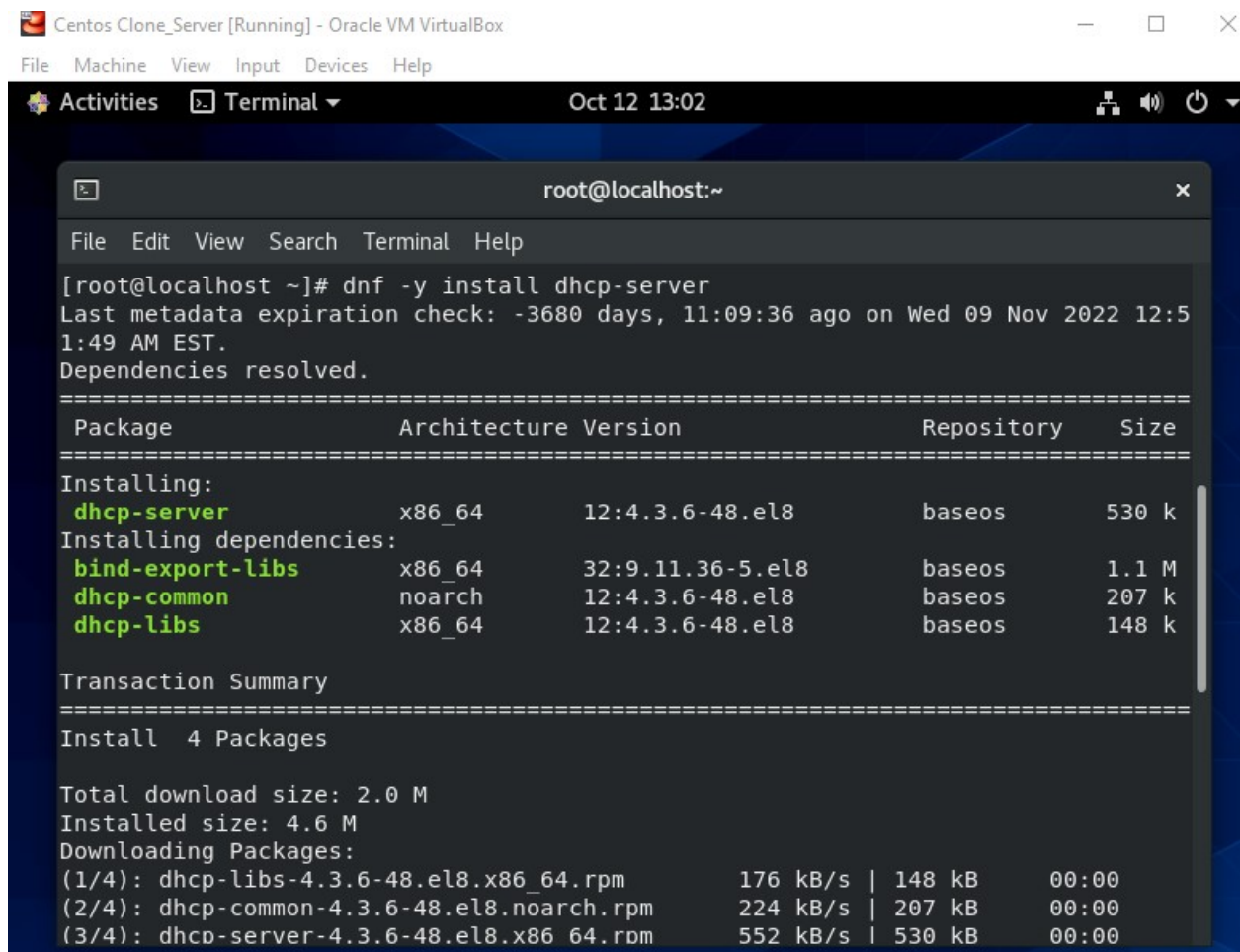
**Lab Assignment :-**

**Configure DHCP server through your Centos-8 (VM machine)**

**SERVER:-**

**Step-1:- Install DHCP server**

**Cmd:- # dnf -y install dhcp-server**

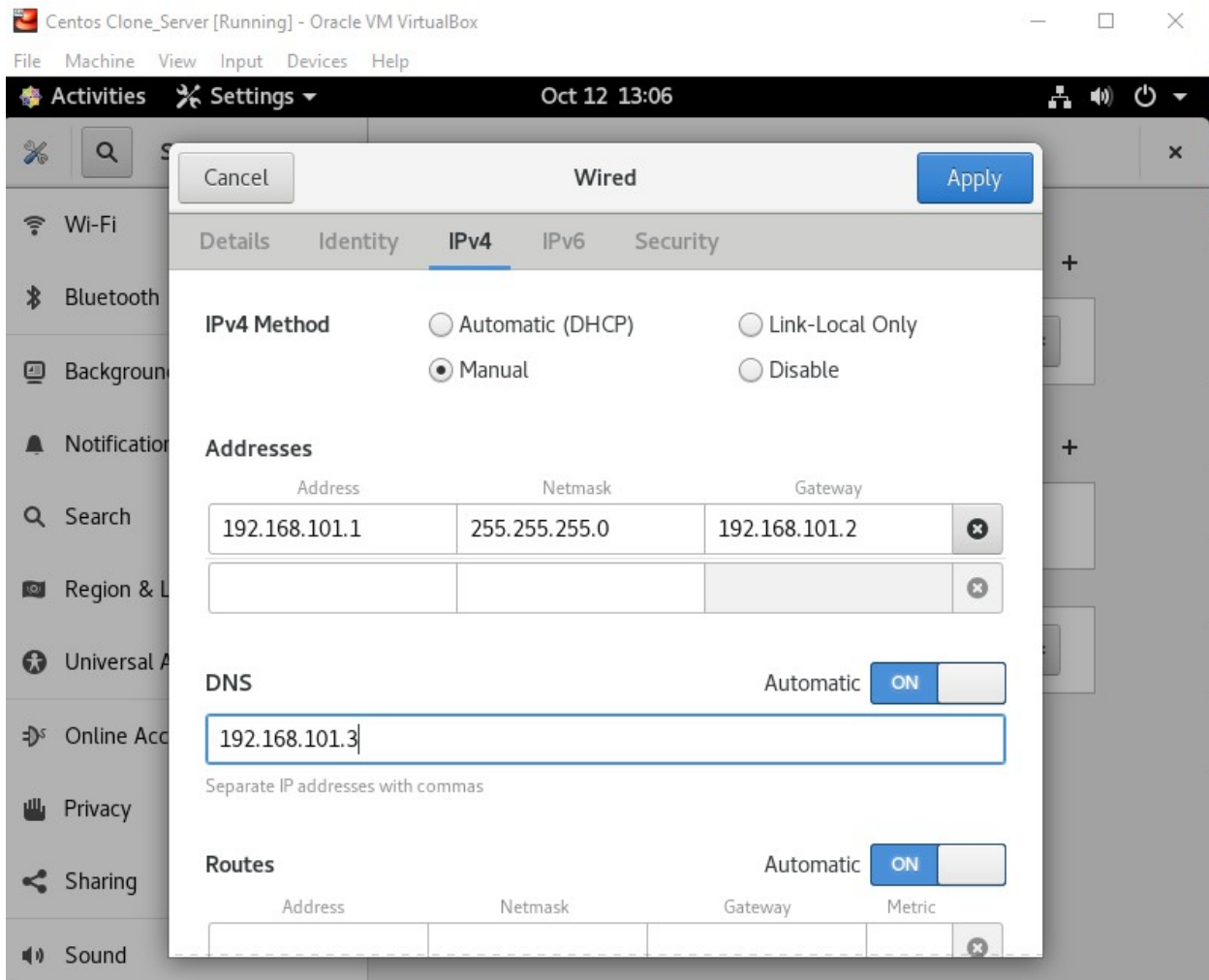


The screenshot shows a terminal window titled "Centos Clone\_Server [Running] - Oracle VM VirtualBox". The terminal output displays the command to install the DHCP server and its dependencies. It lists the packages to be installed, their architectures, versions, repositories, and sizes. A transaction summary follows, showing the total download and installed sizes, and a progress bar for downloading the packages.

```
[root@localhost ~]# dnf -y install dhcp-server
Last metadata expiration check: -3680 days, 11:09:36 ago on Wed 09 Nov 2022 12:51:49 AM EST.
Dependencies resolved.
=====
Package                                Architecture Version                Repository              Size
=====
Installing:
dhcp-server                            x86_64          12:4.3.6-48.el8         baseos                   530 k
Installing dependencies:
bind-export-libs                       x86_64          32:9.11.36-5.el8        baseos                   1.1 M
dhcp-common                            noarch          12:4.3.6-48.el8         baseos                   207 k
dhcp-libs                              x86_64          12:4.3.6-48.el8         baseos                   148 k
Transaction Summary
=====
Install 4 Packages

Total download size: 2.0 M
Installed size: 4.6 M
Downloading Packages:
(1/4): dhcp-libs-4.3.6-48.el8.x86_64.rpm 176 kB/s | 148 kB 00:00
(2/4): dhcp-common-4.3.6-48.el8.noarch.rpm 224 kB/s | 207 kB 00:00
(3/4): dhcp-server-4.3.6-48.el8.x86_64.rpm 552 kB/s | 530 kB 00:00
```

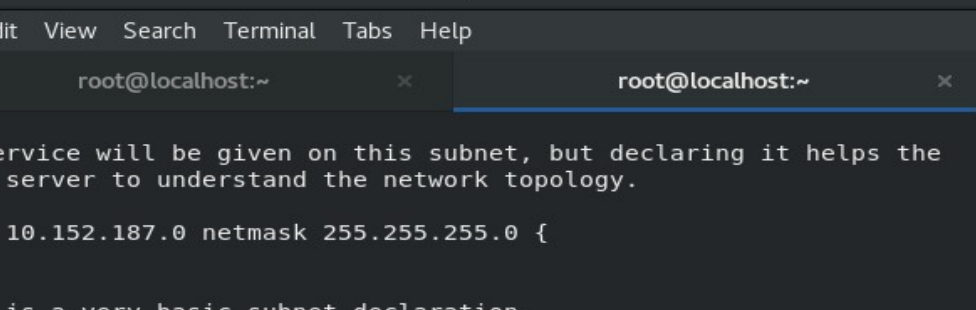
**Step-2:- configure Static ip address on DHCP server**



### Step -3:-Configure DHCP Server

A screenshot of a terminal window titled "root@localhost:~". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". Below the menu bar are two tabs, both labeled "root@localhost:~". The main area of the terminal displays the following text:

```
#  
# DHCP Server Configuration file.  
#   see /usr/share/doc/dhcp-server/dhcpd.conf.example  
#   see dhcpd.conf(5) man page  
#  
  
subnet 192.168.101.0 netmask 255.255.255.0{  
    range 192.168.101.4 192.168.101.203;  
    option routers 192.168.101.2;  
    domain-name-servers 192.168.101.3;  
    default-lease-time 600;  
    max-lease-time 7200;  
    option broadcast-address 192.168.101.255;  
}  
~  
~  
~  
~  
~  
~  
~  
~  
~  
~  
-- INSERT --
```

A cursor is visible at the bottom right of the terminal window.

The screenshot shows a terminal window titled "root@localhost:~". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". Below the menu bar, there are two tabs, both titled "root@localhost:~". The active tab is the one on the right. The terminal content is as follows:

```
# No service will be given on this subnet, but declaring it helps the
# DHCP server to understand the network topology.

subnet 10.152.187.0 netmask 255.255.255.0 {
}

# This is a very basic subnet declaration.

subnet 10.254.239.0 netmask 255.255.255.224 {
    range 10.254.239.10 10.254.239.20;
    option routers rtr-239-0-1.example.org, rtr-239-0-2.example.org;
}

# This declaration allows BOOTP clients to get dynamic addresses,
# which we don't really recommend.

subnet 10.254.239.32 netmask 255.255.255.224 {
    range dynamic-bootp 10.254.239.40 10.254.239.60;
    option broadcast-address 10.254.239.31;
    option routers rtr-239-32-1.example.org;
}
```

## Step-4:- restart DHCP service

```
root@localhost:~  
File Edit View Search Terminal Tabs Help  
root@localhost:~ x root@localhost:~ x [icon] v  
[root@localhost ~]# vi /etc/dhcp/dhcpd.conf  
[root@localhost ~]# systemctl restart dhcpd.service  
[root@localhost ~]# systemctl status dhcpd.service  
● dhcpd.service - DHCPv4 Server Daemon  
   Loaded: loaded (/usr/lib/systemd/system/dhcpd.service; disabled; vendor preset: enabled)  
   Active: active (running) since Fri 2012-10-12 13:28:10 EDT; 43s ago  
     Docs: man:dhcpd(8)  
           man:dhcpd.conf(5)  
  Main PID: 37024 (dhcpd)  
    Status: "Dispatching packets..."  
   Tasks: 1 (limit: 11222)  
  Memory: 4.9M  
   CGroup: /system.slice/dhcpd.service  
           └─37024 /usr/sbin/dhcpd -f -cf /etc/dhcp/dhcpd.conf -user dhcpd -gro  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: ** Ignoring requests on vir  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: you want, please write a  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: in your dhcpd.conf file  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: to which interface virbr  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]:  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: Listening on LPF/enp0s3/08:  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: Sending on LPF/enp0s3/08:  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: Sending on Socket/fallbac  
Oct 12 13:28:10 localhost.localdomain dhcpd[37024]: Server starting service.
```

## Step-5:- check DHCP service status

```
root@localhost:~  
File Edit View Search Terminal Tabs Help  
root@localhost:~ x root@localhost:~ x [icon] v  
Active Internet connections (servers and established)  
Proto Recv-Q Send-Q Local Address           Foreign Address         State  
PID/Program name  
udp        0      0 192.168.122.1:53        0.0.0.0:*  
1599/dnsmasq  
udp        0      0 0.0.0.0:67             0.0.0.0:*  
37024/dhcpd  
udp        0      0 0.0.0.0:67             0.0.0.0:*  
1599/dnsmasq  
udp        0      0 0.0.0.0:111            0.0.0.0:*  
1/systemd  
udp        0      0 0.0.0.0:50336          0.0.0.0:*  
795/avahi-daemon: r  
udp        0      0 0.0.0.0:5353           0.0.0.0:*  
795/avahi-daemon: r  
udp        0      0 127.0.0.1:323          0.0.0.0:*  
34406/chronyd  
udp6       0      0 :::43947               :::*  
795/avahi-daemon: r  
udp6       0      0 :::111                 :::*  
1/systemd  
udp6       0      0 :::5353                :::*  
795/avahi-daemon: r  
--More--
```

**Client:-**

**Step-1:- to check DHCP connection**

```
root@localhost:~  
File Edit View Search Terminal Help  
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.101.4 netmask 255.255.255.0 broadcast 192.168.101.255  
    inet6 fe80::a00:27ff:feb8:ee1 prefixlen 64 scopeid 0x20<link>  
    ether 08:00:27:b8:0e:e1 txqueuelen 1000 (Ethernet)  
    RX packets 433694 bytes 377029169 (359.5 MiB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 127658 bytes 9151497 (8.7 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 8894 bytes 768115 (750.1 KiB)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 8894 bytes 768115 (750.1 KiB)  
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0  
  
virbr0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500  
    inet 192.168.122.1 netmask 255.255.255.0 broadcast 192.168.122.255  
    ether 52:54:00:15:d4:8a txqueuelen 1000 (Ethernet)  
    RX packets 0 bytes 0 (0.0 B)  
    RX errors 0 dropped 0 overruns 0 frame 0  
    TX packets 0 bytes 0 (0.0 B)
```