

DHCP SERVER

Step 1:- Check the IP Address of VM1-Ubuntu

Syntax:-ip addr

```
navjot@navjot:~$ 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 noprefixroute
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:a3:48:51 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 192.168.152.128/24 metric 100 brd 192.168.152.255 scope global dynamic ens33
        valid_lft 1674sec preferred_lft 1674sec
    inet6 fe80::20c:29ff:fea3:4851/64 scope link
        valid_lft forever preferred_lft forever
navjot@navjot:~$
```

Step 2:- Install Dhcp Server

Syntax:-sudo apt install -y isc-dhcp-server

```
navjot@navjot:~$ sudo apt install -y isc-dhcp-server
[sudo] password for navjot:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  isc-dhcp-common
Suggested packages:
  isc-dhcp-server-ldap policycoreutils
The following NEW packages will be installed:
  isc-dhcp-common isc-dhcp-server
0 upgraded, 2 newly installed, 0 to remove and 35 not upgraded.
Need to get 1,281 kB of archives.
After this operation, 4,281 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 isc-dhcp-server amd64 4.4.3-P1-4ubuntu2 [1,236 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu noble/universe amd64 isc-dhcp-common amd64 4.4.3-P1-4ubuntu2 [45.8 kB]
Fetched 1,281 kB in 6s (222 kB/s)
Preconfiguring packages ...
Selecting previously unselected package isc-dhcp-server.
(Reading database ... 80432 files and directories currently installed.)
Preparing to unpack .../isc-dhcp-server_4.4.3-P1-4ubuntu2_amd64.deb ...
Unpacking isc-dhcp-server (4.4.3-P1-4ubuntu2) ...
Selecting previously unselected package isc-dhcp-common.
Preparing to unpack .../isc-dhcp-common_4.4.3-P1-4ubuntu2_amd64.deb ...
Unpacking isc-dhcp-common (4.4.3-P1-4ubuntu2) ...
Setting up isc-dhcp-server (4.4.3-P1-4ubuntu2) ...
```

Step 3:- Open The Dhcp Server file.

Syntax:-sudo nano /etc/default/isc-dhcp-server

```
navjot@navjot:~$ sudo nano /etc/default/isc-dhcp-server
```

Step 4:- In the INTERFACESv4=name the interface (**ens33**)

```
GNU nano 7.2 /etc/default/isc-dhcp-server *
# Defaults for isc-dhcp-server (sourced by /etc/init.d/isc-dhcp-server)

# Path to dhcpd's config file (default: /etc/dhcp/dhcpd.conf).
#DHCPDv4_CONF=/etc/dhcp/dhcpd.conf
#DHCPDv6_CONF=/etc/dhcp/dhcpd6.conf

# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
#DHCPDv4_PID=/var/run/dhcpd.pid
#DHCPDv6_PID=/var/run/dhcpd6.pid

# Additional options to start dhcpd with.
# Don't use options -cf or -pf here; use DHCPD_CONF/ DHCPD_PID instead
#OPTIONS=""

# On what interfaces should the DHCP server (dhcpd) serve DHCP requests?
# Separate multiple interfaces with spaces, e.g. "eth0 eth1".
INTERFACESv4="ens33"
INTERFACESv6=""
```

Step 5:-Open The Dhcp Config File

Syntax:-**sudo nano /etc/dhcp/dhcpd.conf**

```
navjot@navjot:~$ sudo nano /etc/dhcp/dhcpd.conf
```

Step 6:- Do the Following Changes As Shown in Fig below and then save the file :-

```
# option definitions common to all supported networks...
option domain-name "example.org";
option domain-name-servers server.example.org;
```

```
# A slightly different configuration for an internal subnet.
subnet 192.168.152.0 netmask 255.255.255.0 {
    range 192.168.152.20 192.168.152.254;
    option domain-name-servers server.example.org;
    option domain-name "example.org";
    option subnet-mask 255.255.255.0;
    option routers 192.168.152.1;
    option broadcast-address 192.168.152.255;
    default-lease-time 600;
    max-lease-time 7200;
}
```

Step 7:-Restart dhcp server

Syntax:-`sudo systemctl restart isc-dhcp-server`

```
navjot@navjot:~$ sudo systemctl restart isc-dhcp-server
```

Step 8:-Check the status of dhcp server

Syntax:-`sudo systemctl status isc-dhcp-server`

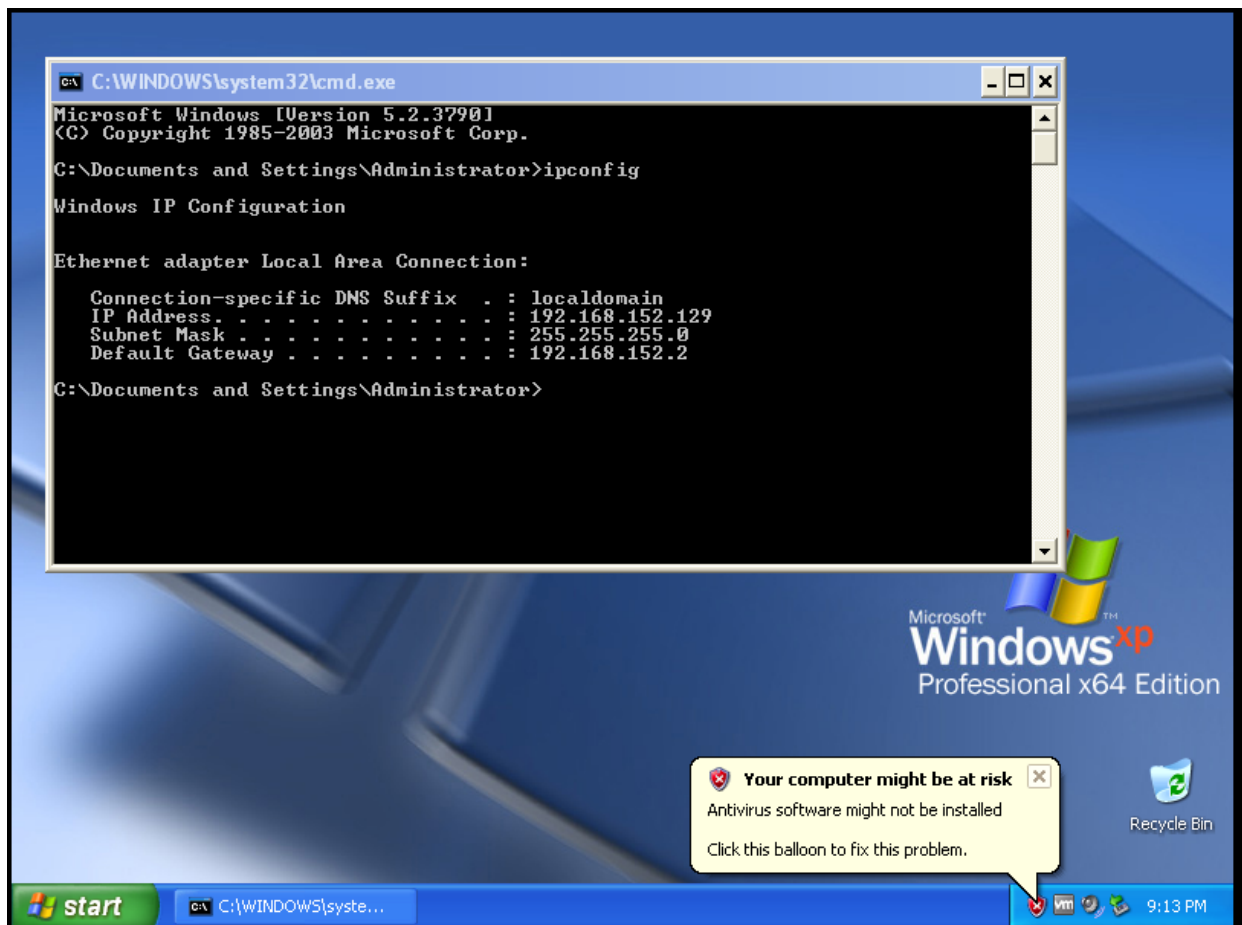
```
navjot@navjot:~$ sudo systemctl status isc-dhcp-server
```

```
navjot@navjot:~$ sudo systemctl restart isc-dhcp-server
navjot@navjot:~$ sudo systemctl status isc-dhcp-server
• isc-dhcp-server.service - ISC DHCP IPv4 server
   Loaded: loaded (/usr/lib/systemd/system/isc-dhcp-server.service; enabled; preset: enabled)
   Active: active (running) since Sun 2024-06-23 15:25:20 UTC; 1min 35s ago
     Docs: man:dhcpd(8)
   Main PID: 1952 (dhcpd)
    Tasks: 1 (limit: 4556)
   Memory: 3.8M (peak: 3.9M)
      CPU: 35ms
   CGroup: /system.slice/isc-dhcp-server.service
           └─1952 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/dhcpd.conf ens33

Jun 23 15:25:20 navjot dhcpd[1952]: PID file: /run/dhcp-server/dhcpd.pid
Jun 23 15:25:20 navjot dhcpd[1952]: Wrote 0 leases to leases file.
Jun 23 15:25:20 navjot sh[1952]: Wrote 0 leases to leases file.
Jun 23 15:25:20 navjot dhcpd[1952]: Listening on LPF/ens33/00:0c:29:a3:48:51/192.168.152.0/24
Jun 23 15:25:20 navjot sh[1952]: Listening on LPF/ens33/00:0c:29:a3:48:51/192.168.152.0/24
Jun 23 15:25:20 navjot sh[1952]: Sending on LPF/ens33/00:0c:29:a3:48:51/192.168.152.0/24
Jun 23 15:25:20 navjot sh[1952]: Sending on Socket/fallback/fallback-net
Jun 23 15:25:20 navjot dhcpd[1952]: Sending on LPF/ens33/00:0c:29:a3:48:51/192.168.152.0/24
Jun 23 15:25:20 navjot dhcpd[1952]: Sending on Socket/fallback/fallback-net
Jun 23 15:25:20 navjot dhcpd[1952]: Server starting service.
navjot@navjot:~$ _
```

Step 9:- Check the IP Address of VM2-Windows 7

Syntax:-**ipconfig**



Step 10:- Check the lease list from the dhcp server

Syntax:-**dhcp-lease-list**

