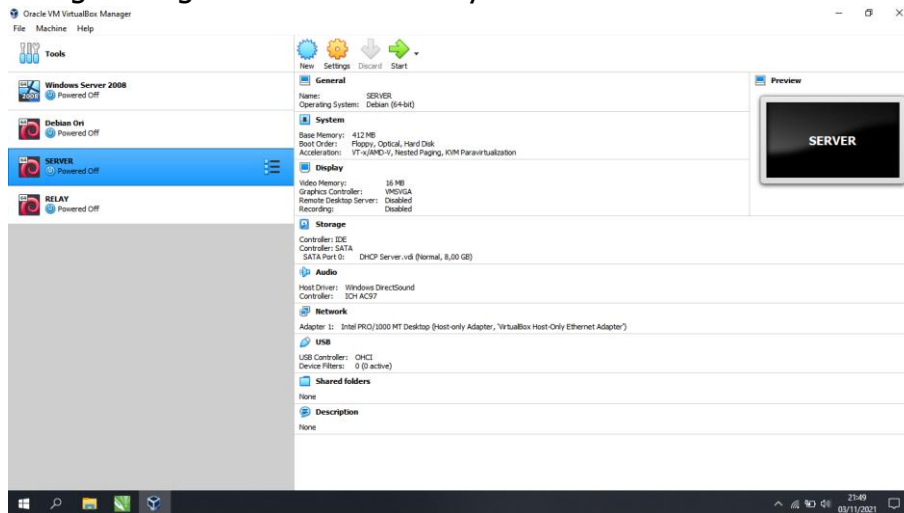**Konfigurasi DHCP Server & DHCP Relay**

Debian 10.x

By dimas gilang

1. Setting adapter pada server menjadi Host-Only Adapter untuk menghubungkan server dan relay.

2. Jalankan server dan setting IP address nya dengan perintah *nano /etc/network/interfaces* . Kemudian restart jaringan dengan perintah */etc/init.d/networking restart*.

3. Install DHCP server dengan perintah apt-get install isc-dhcp-server

```
root@dimasgilang:~# apt-get install isc-dhcp-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libirs-export161 libisccfg-export163 policycoreutils selinux-utils
Suggested packages:
  policykit-1 isc-dhcp-server-ldap
The following NEW packages will be installed:
  isc-dhcp-server libirs-export161 libisccfg-export163 policycoreutils selinux-utils
0 upgraded, 5 newly installed, 0 to remove and 0 not upgraded.
Need to get 0 B/1,615 kB of archives.
After this operation, 6,539 kB of additional disk space will be used.
Do you want to continue? [Y/n]
```

4. Konfigurasi interface yang digunakan untuk DHCP server dengan perintah /etc/default/isc-dhcp-server. Konfigurasi seperti gambar dibawah

```
  GNU nano 3.2                    /etc/default/isc-dhcp-server              Modified

# 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="enp0s3"
INTERFACESv6=""




^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo
^X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell    ^_ Go To Line  M-E Redo
```

5. Konfigurasi DHCP server dengan perintah /etc/dhcp/dhcpd.conf. cari bagian A Slightly dan ketik konfigurasi dibawahnya.

```
  GNU nano 3.2                    /etc/dhcp/dhcpd.conf                      Modified

# This is a very basic subnet declaration.

#subnet 192.168.11.0 netmask 255.255.255.0 {
#  range 192.168.11.1;
#  option routers 192.168.11.254;
#}

# 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;
#}

# A slightly different configuration for an internal subnet.
subnet 192.168.11.0 netmask 255.255.255.0 {
 option broadcast-address 192.168.11.255;
}

#network for dhcp-relay
subnet 172.16.11.0 netmask 255.255.255.0 {
  range 172.16.11.1 172.16.11.253;
  option domain-name-servers 172.16.11.254;
  option domain-name "dimasgilang.net";
  option routers 172.16.11.254;
  option broadcast-address 172.16.11.255;
  default-lease-time 600;
  max-lease-time 7200;
}

^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo
^X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell    ^_ Go To Line  M-E Redo
```

6. Routing dengan perintah route add -net (ip tujuan) netmask (netmask) gw (ip gateway). Kemudian ketik perintah ip route untuk melihat hasilnya. Contoh nya seperti gambar dibawah.

```
root@dimasgilang:~# route add -net 172.16.11.0 netmask 255.255.255.0 gw 192.168.11.1
root@dimasgilang:~# ip route
172.16.11.0/24 via 192.168.11.1 dev enp0s3
192.168.11.0/24 dev enp0s3 proto kernel scope link src 192.168.11.254
root@dimasgilang:~# _
```

7. Setting adapter pada Relay seperti gambar dibawah
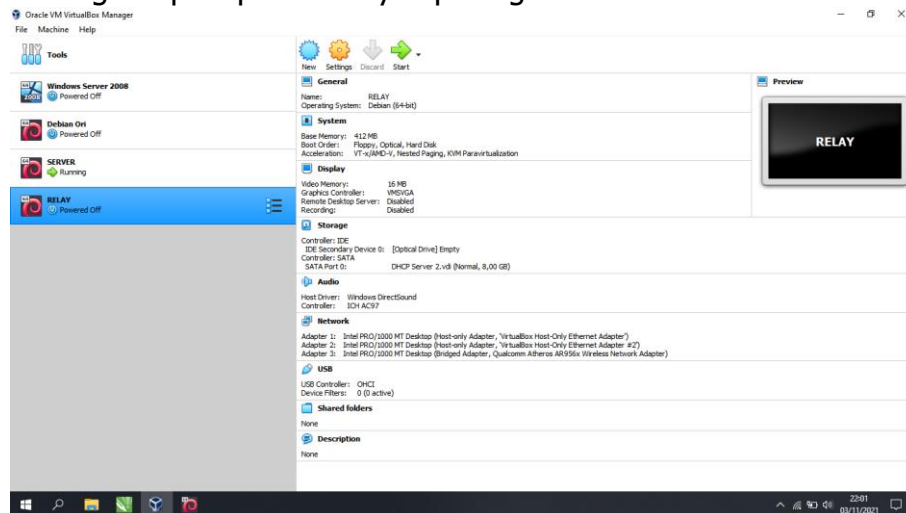
8. Setting IP address dengan perintah nano /etc/network/interfaces. Kemudian simpan konfigurasi dan jangan lupa untuk merestart jaringan dengan perintah/etc/init.d/networking restart

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto enp0s3
iface enp0s3 inet static
        address 192.168.11.1
        netmask 255.255.255.0

auto enp0s8
iface enp0s8 inet static
        address 172.16.11.254
        netmask 255.255.255.0

auto enp0s9
iface enp0s9 inet dhcp




root@dimasgilang:~# /etc/init.d/networking restart
[ ok ] Restarting networking (via systemctl): networking.service.
root@dimasgilang:~#
```
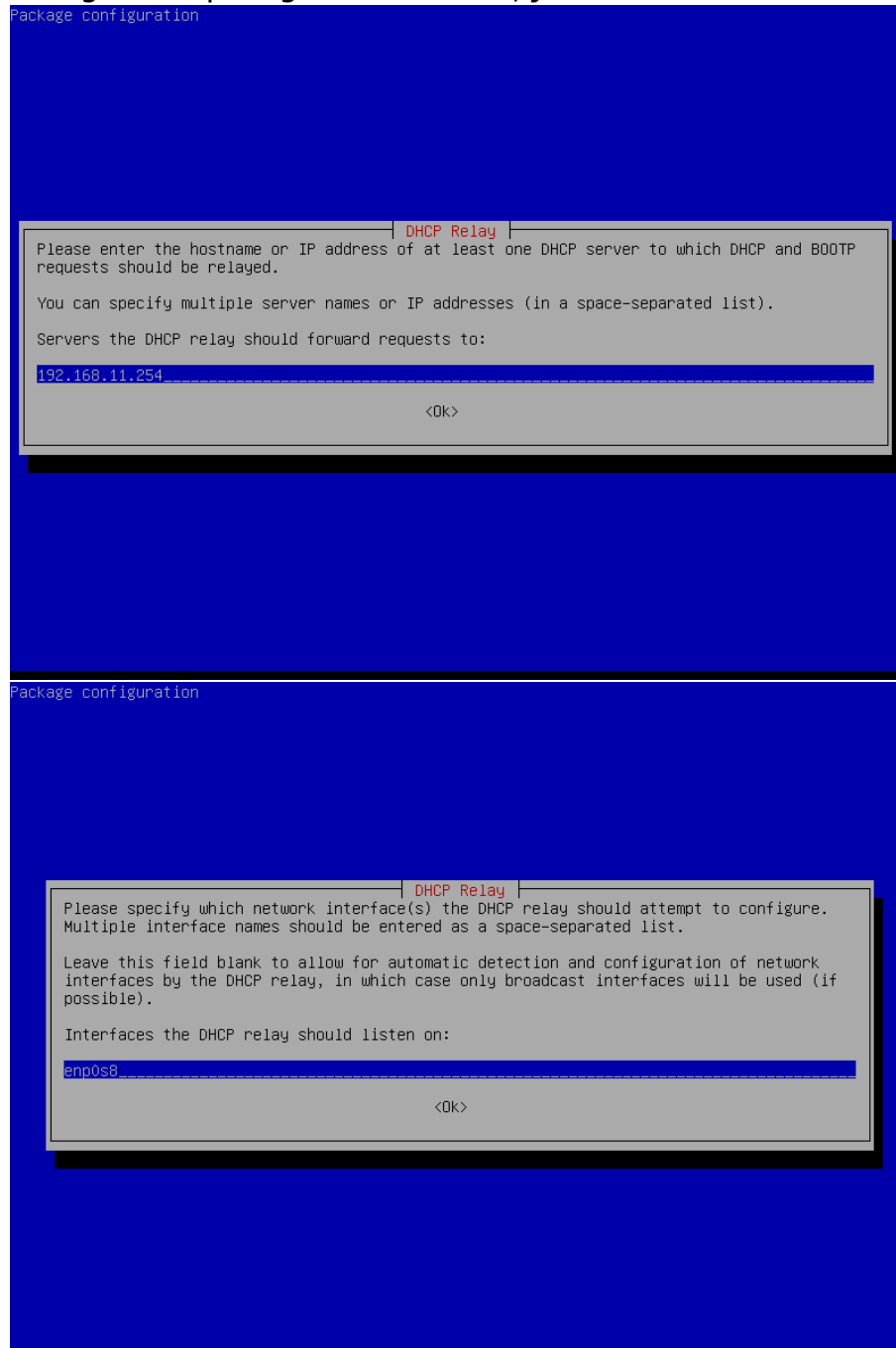
9. Install DHCP relay dengan perintah apt-get install isc-dhcp-relay. Saya menggunakan repository online untuk menginstall dhcp relay ini.

```
root@dimasgilang:~# apt-get install isc-dhcp-relay
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libirs-export161 libisccfg-export163
The following NEW packages will be installed:
  isc-dhcp-relay libirs-export161 libisccfg-export163
0 upgraded, 3 newly installed, 0 to remove and 77 not upgraded.
Need to get 790 kB of archives.
After this operation, 1,294 kB of additional disk space will be used.
Do you want to continue? [Y/n] y_
```

10. Konfigurasi seperti gambar dibawah, jika muncul daemon kosongi saja

```
Package configuration




                        ┤ DHCP Relay ├
     Please enter the hostname or IP address of at least one DHCP server to which DHCP and BOOTP
     requests should be relayed.

     You can specify multiple server names or IP addresses (in a space-separated list).

     Servers the DHCP relay should forward requests to:

     192.168.11.254_____

                                           <Ok>


```

```
Package configuration




                        ┤ DHCP Relay ├
     Please specify which network interface(s) the DHCP relay should attempt to configure.
     Multiple interface names should be entered as a space-separated list.

     Leave this field blank to allow for automatic detection and configuration of network
     interfaces by the DHCP relay, in which case only broadcast interfaces will be used (if
     possible).

     Interfaces the DHCP relay should listen on:

     enp0s8_____

                                           <Ok>

```

11. Ketikan dhcrelay 192.168.11.254

12. Setting adapter client pada bagian IPv4, ubah dari static menjadi DHCP/automatically
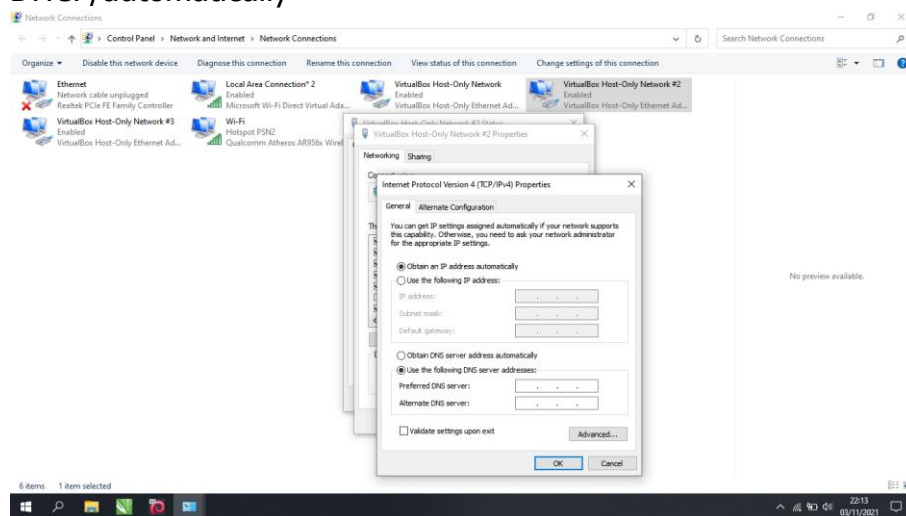
13. Kemudian lihat hasilnya pada menu status