

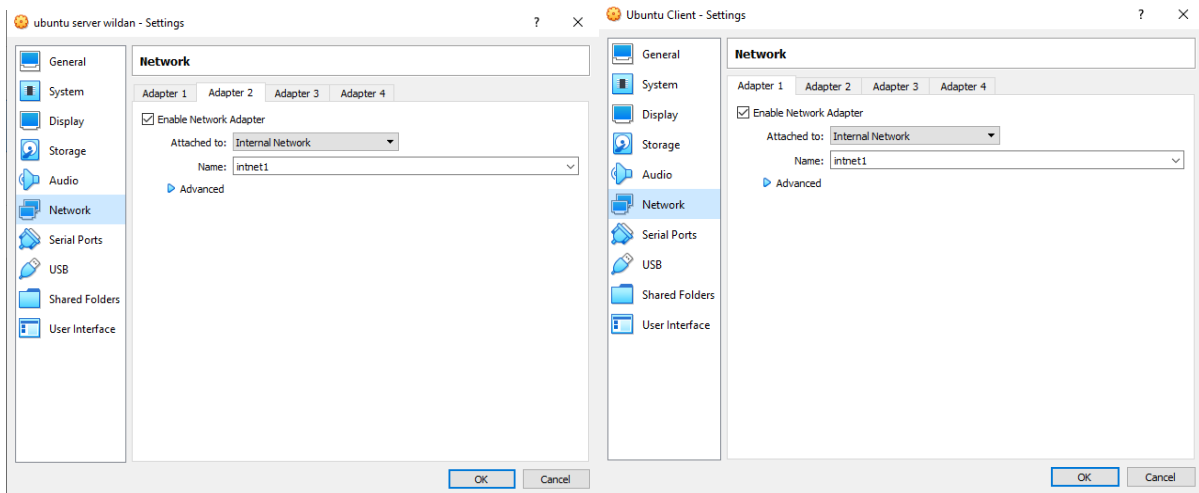
dokumentasi tentang instalasi DHCP Server

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Kelas: 11 TKJ 2

Dynamic Host Configuration Protocol (DHCP) adalah layanan jaringan yang memungkinkan komputer host untuk secara otomatis menetapkan pengaturan dari server sebagai lawan dari mengkonfigurasi secara manual setiap host jaringan. Komputer yang dikonfigurasi menjadi klien DHCP tidak memiliki kendali atas pengaturan yang mereka terima dari server DHCP, dan konfigurasi transparan bagi pengguna komputer.

1. Setting network Ubuntu server dan Ubuntu client di virtual box seperti pada gambar berikut. (Virtualbox>VirtualMachine>Setting>Network)



2. Buka Ubuntu server-nya dan login.
3. Masuk ke root dengan cara ketikkan perintah.

"sudo su" dan masukkan password

```
ubuntu server wildan [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
ubuntu@wildan login: wildan
Password:
Last login: Tue Mar 16 13:43:48 WIB 2021 on tty1
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 4.4.0-186-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

 * Introducing self-healing high availability clusters in MicroK8s.
   Simple, hardened, Kubernetes for production, from RaspberryPi to DC.
   https://microk8s.io/high-availability

95 packages can be updated.
72 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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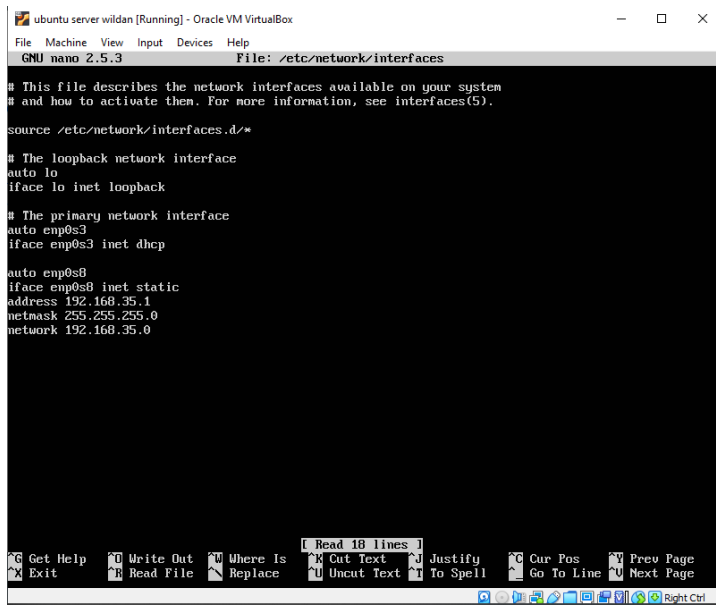
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

wildan@ubuntuwildan:~$ sudo su
[sudo] password for wildan:
root@ubuntuwildan:~#
```

4. Masuk ke network interface dengan cara ketikkan perintah.

Sudo nano /etc/network/interfaces

5. Setting network interface seperti gambar berikut.



```
ubuntu server wildan [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
GNU nano 2.5.3 File: /etc/network/interfaces

# 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

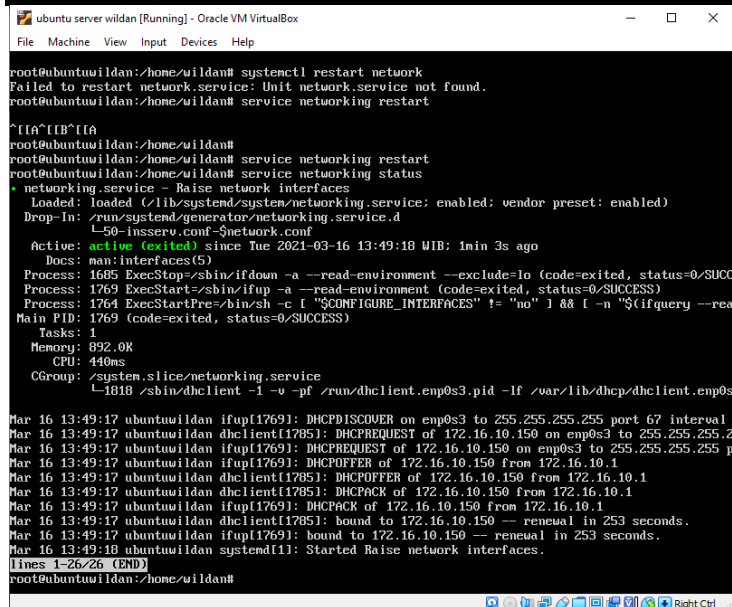
# The primary network interface
auto enp0s3
iface enp0s3 inet dhcp

auto enp0s8
iface enp0s8 inet static
address 192.168.35.1
netmask 255.255.255.0
network 192.168.35.0
```

6. Ketik-kn perintah untuk melihat status network interface.

Service networking restart

Service networking status



```
ubuntu server wildan [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

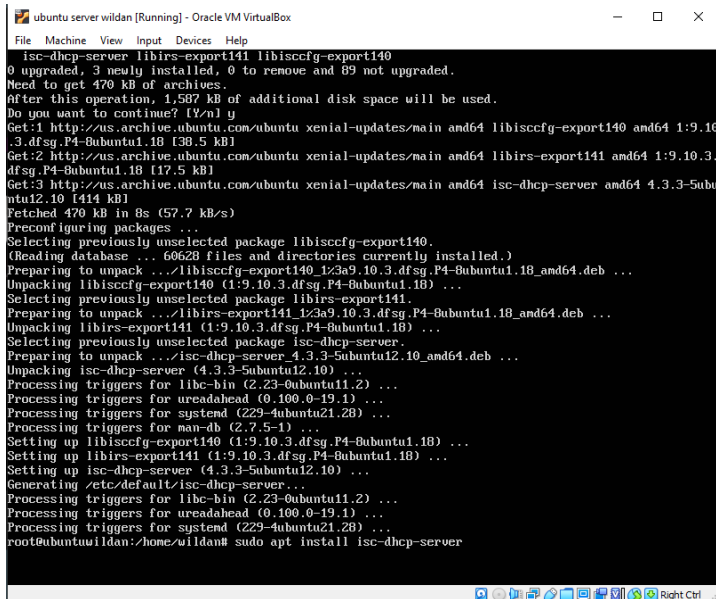
root@ubuntuwildan:/home/wildan# systemctl restart network
Failed to restart network.service: Unit network.service not found.
root@ubuntuwildan:/home/wildan# service networking restart

^[[A^[[B^[[IA
root@ubuntuwildan:/home/wildan#
root@ubuntuwildan:/home/wildan# service networking restart
root@ubuntuwildan:/home/wildan# service networking status
* networking.service - Raise network interfaces
   Loaded: loaded (/lib/systemd/system/networking.service; enabled; vendor preset: enabled)
   Drop-In: /run/systemd/generator/networking.service.d
            └─50-insserv.conf-$network.conf
   Active: active (exited) since Tue 2021-03-16 13:49:18 WIB; 1min 3s ago
   Docs: man:interfaces(5)
   Process: 1685 ExecStop=/sbin/ifdown -a --read-environment --exclude=lo (code=exited, status=0/SUCCESS)
   Process: 1769 ExecStart=/sbin/ifup -a --read-environment (code=exited, status=0/SUCCESS)
   Process: 1764 ExecStartPre=/bin/sh -c [ "$CONFIGURE_INTERFACES" != "no" ] && [ -n "$(ifquery --rea
Main PID: 1769 (code=exited, status=0/SUCCESS)
   Tasks: 1
   Memory: 892.0K
   CPU: 440ms
   CGroup: /system.slice/networking.service
           └─1818 /sbin/dhclient -1 -v -pf /run/dhclient.enp0s3.pid -lf /var/lib/dhcp/dhclient.enp0s

Mar 16 13:49:17 ubuntuwildan ifup[1769]: DHCPDISCOVER on enp0s3 to 255.255.255.255 port 67 interval
Mar 16 13:49:17 ubuntuwildan dhclient[1785]: DHCPREQUEST of 172.16.10.150 on enp0s3 to 255.255.255.2
Mar 16 13:49:17 ubuntuwildan ifup[1769]: DHCPREQUEST of 172.16.10.150 on enp0s3 to 255.255.255.2
Mar 16 13:49:17 ubuntuwildan ifup[1769]: DHCPOFFER of 172.16.10.150 from 172.16.10.1
Mar 16 13:49:17 ubuntuwildan dhclient[1785]: DHCPOFFER of 172.16.10.150 from 172.16.10.1
Mar 16 13:49:17 ubuntuwildan dhclient[1785]: DHCPACK of 172.16.10.150 from 172.16.10.1
Mar 16 13:49:17 ubuntuwildan ifup[1769]: DHCPACK of 172.16.10.150 from 172.16.10.1
Mar 16 13:49:17 ubuntuwildan dhclient[1785]: bound to 172.16.10.150 -- renewal in 253 seconds.
Mar 16 13:49:17 ubuntuwildan ifup[1769]: bound to 172.16.10.150 -- renewal in 253 seconds.
Mar 16 13:49:18 ubuntuwildan systemd[1]: Started Raise network interfaces.
lines 1-26/26 (END)
root@ubuntuwildan:/home/wildan#
```

7. Install dhcp server dengan mengetikkan perintah.

Sudo apt install isc-dhcp-server

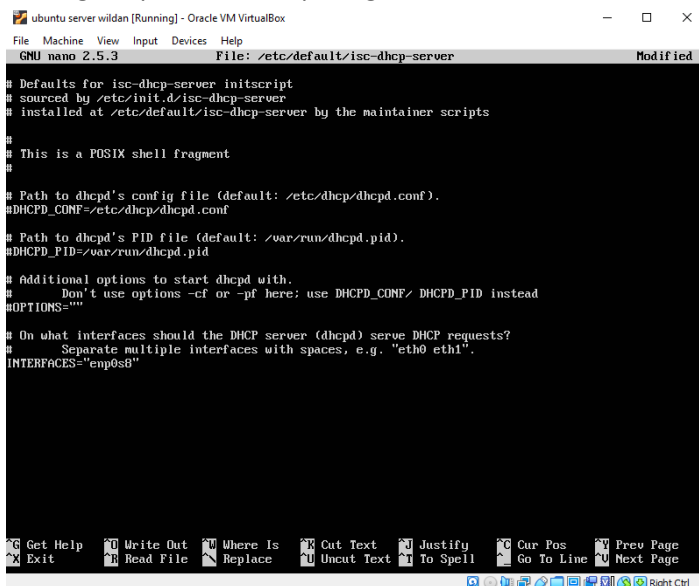


```
isc-dhcp-server libirs-export141 libiscfg-export140
0 upgraded, 3 newly installed, 0 to remove and 89 not upgraded.
Need to get 470 kB of archives.
After this operation, 1,587 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libiscfg-export140 amd64 1:9.10.3.dfsg.P4-8ubuntu1.18 [38.5 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libirs-export141 amd64 1:9.10.3.dfsg.P4-8ubuntu1.18 [17.5 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 isc-dhcp-server amd64 4.3.3-5ubuntu12.10 [44 kB]
Patched 470 kB in 8s (57.7 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libiscfg-export140.
(Reading database ... 60628 files and directories currently installed.)
Preparing to unpack .../libiscfg-export140_1:9.10.3.dfsg.P4-8ubuntu1.18_amd64.deb ...
Unpacking libiscfg-export140 (1:9.10.3.dfsg.P4-8ubuntu1.18) ...
Selecting previously unselected package libirs-export141.
Preparing to unpack .../libirs-export141_1:9.10.3.dfsg.P4-8ubuntu1.18_amd64.deb ...
Unpacking libirs-export141 (1:9.10.3.dfsg.P4-8ubuntu1.18) ...
Selecting previously unselected package isc-dhcp-server.
Preparing to unpack .../isc-dhcp-server_4.3.3-5ubuntu12.10_amd64.deb ...
Unpacking isc-dhcp-server (4.3.3-5ubuntu12.10) ...
Processing triggers for libc-bin (2.23-0ubuntu11.2) ...
Processing triggers for ureadahead (0.100.0-19.1) ...
Processing triggers for systemd (229-4ubuntu21.28) ...
Processing triggers for man-db (2.7.5-1) ...
Setting up libiscfg-export140 (1:9.10.3.dfsg.P4-8ubuntu1.18) ...
Setting up libirs-export141 (1:9.10.3.dfsg.P4-8ubuntu1.18) ...
Setting up isc-dhcp-server (4.3.3-5ubuntu12.10) ...
Generating /etc/default/isc-dhcp-server...
Processing triggers for libc-bin (2.23-0ubuntu11.2) ...
Processing triggers for ureadahead (0.100.0-19.1) ...
Processing triggers for systemd (229-4ubuntu21.28) ...
root@ubuntuwilldan:/home/wildan# sudo apt install isc-dhcp-server
```

8. Masuk ke dhcp interface dengan cara ketikkan perintah.

Sudo nano /etc/default/isc-dhcp-server

9. Setting dhcp interface seperti gambar berikut.



```
GNU nano 2.5.3 File: /etc/default/isc-dhcp-server Modified

# Defaults for isc-dhcp-server initscript
# sourced by /etc/init.d/isc-dhcp-server
# installed at /etc/default/isc-dhcp-server by the maintainer scripts
#
# This is a POSIX shell fragment
#
# Path to dhcpd's config file (default: /etc/dhcp/dhcpd.conf).
#DHCPD_CONF=/etc/dhcp/dhcpd.conf
#
# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
#DHCPD_PID=/var/run/dhcpd.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".
INTERFACES="enp0s0"
```

10. Masuk ke dhcp setting dengan cara ketikkan perintah.

Sudo nano /etc/dhcp/dhcpd.conf

11. Setting dhcp seperti gambar berikut.

```
ubuntu server wildan [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
GNU nano 2.5.3 File: /etc/dhcp/dhcpd.conf Modified

# 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;
#}

# A slightly different configuration for an internal subnet.
subnet 192.168.35.0 netmask 255.255.255.0 {
 range 192.168.35.5 192.168.35.30;
# option domain-name-servers ns1.internal.example.org;
# option domain-name "internal.example.org";
option subnet-mask 255.255.255.0;
option routers 192.168.35.254;
option broadcast-address 192.168.35.255;
default-lease-time 600;
max-lease-time 7200;
}

# Hosts which require special configuration options can be listed in
# host statements. If no address is specified, the address will be
# allocated dynamically (if possible), but the host-specific information
```

12. Ketik-kn perintah untuk melihat status dhcp server.

Service isc-dhcp-server restart

Service isc-dhcp-server status

```
ubuntu server wildan [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

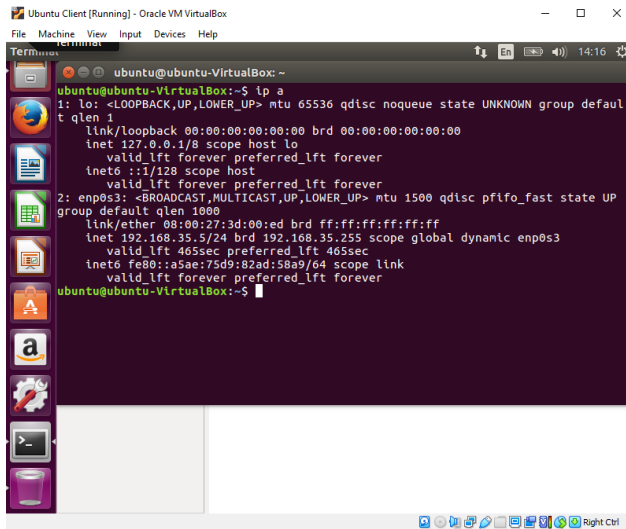
root@ubuntuwildan:/home/wildan# service isc-dhcp-server restart
root@ubuntuwildan:/home/wildan# service isc-dhcp-server status
isc-dhcp-server.service - ISC DHCP IPv4 server
Loaded: loaded (/lib/systemd/system/isc-dhcp-server.service; enabled; vendor preset: enabled)
Active: active (running) since Tue 2021-03-16 14:10:43 WIB; 24s ago
Docs: man:dhcpd(8)
Main PID: 3097 (dhcpd)
Tasks: 1
Memory: 9.0M
CPU: 10ms
CGroup: /system.slice/isc-dhcp-server.service
└─3097 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/

Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: For info, please visit https://www.isc.org/software/dhcp/
Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: Wrote 0 leases to leases file.
Mar 16 14:10:43 ubuntuwildan sh[3097]: Wrote 0 leases to leases file.
Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: Listening on LPF/enp0s8/08:00:27:e8:2d:9a/192.168.35.0/24
Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: Listening on LPF/enp0s8/08:00:27:e8:2d:9a/192.168.35.0/24
Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: Sending on LPF/enp0s8/08:00:27:e8:2d:9a/192.168.35.0/24
Mar 16 14:10:43 ubuntuwildan sh[3097]: Sending on LPF/enp0s8/08:00:27:e8:2d:9a/192.168.35.0/24
Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: Sending on Socket/fallback/fallback-net
Mar 16 14:10:43 ubuntuwildan sh[3097]: Sending on Socket/fallback/fallback-net
Mar 16 14:10:43 ubuntuwildan dhcpd[3097]: Server starting service.
lines 1-21/21 (END)
```

13. Buka Ubuntu client.

14. Ketik-kn perintah untuk cek ip Ubuntu client.

Ip a



15. Ketik perintah di Ubuntu client untuk mengecek hasil dari dhcp server.

Ping 192.168.35.1

