

Jaringan Komputer

Identifikasi Hardware Jaringan



SIB 2A

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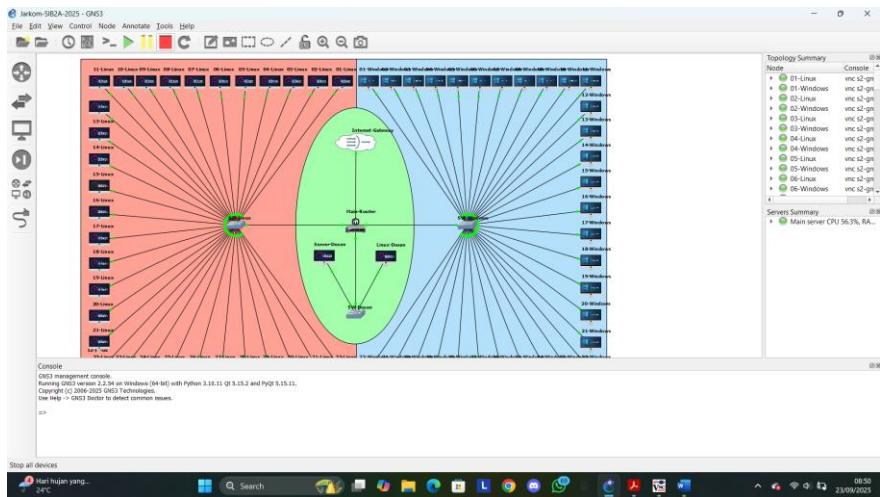
**PROGRAM STUDI SISTEM INFORMASI BISNIS JURUSAN
TEKNOLOGI INFORMASI**

POLITEKNIK NEGERI MALANG

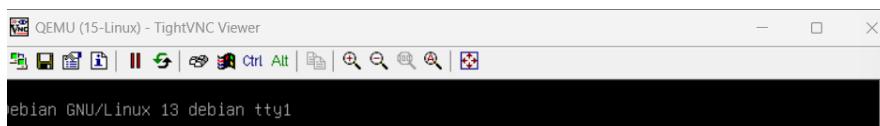
2025

PERSIAPAN PRAKTIKUM

1. Login ke gns3 dan masuk ke localhost polinema dengan port 80



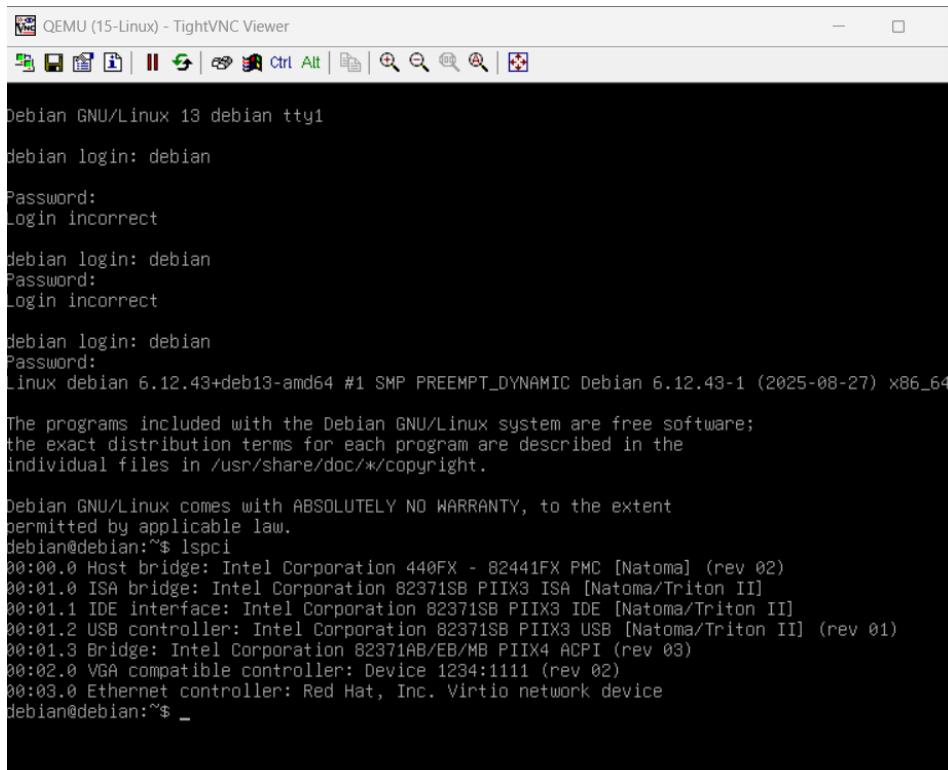
2. Lalu start 15, karna absen saya 15 dan klik 2x



A. Identifikasi Perangkat Keras Jaringan

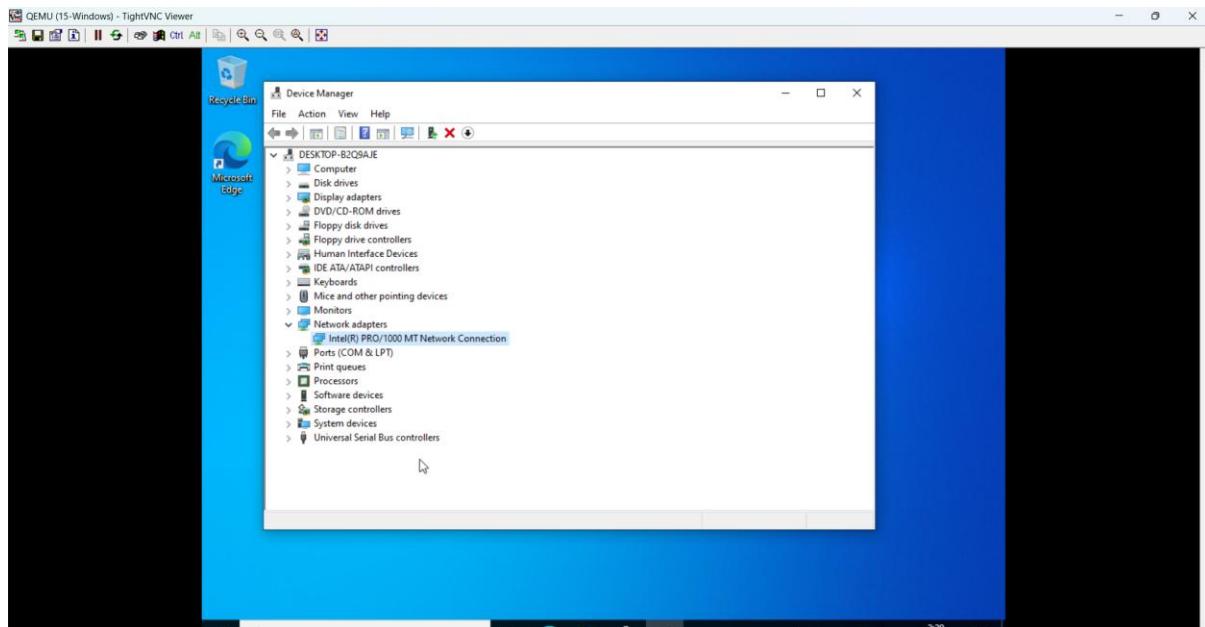
a) Identifikasi Pada Sistem Operasi Linux

1. Login Debian lalu jalankan perintah `lspci`



b) Identifikasi Pada Sistem Operasi Windows

1. Melihat NIC pada network adapter



Pengaturan Alamat IP Secara Dinamis

a) Pengaturan Pada Sistem Operasi Linux

1. Mengecek IP pada linux

```
QEMU (15-Linux) - TightVNC Viewer

Debian GNU/Linux 13 debian tty1

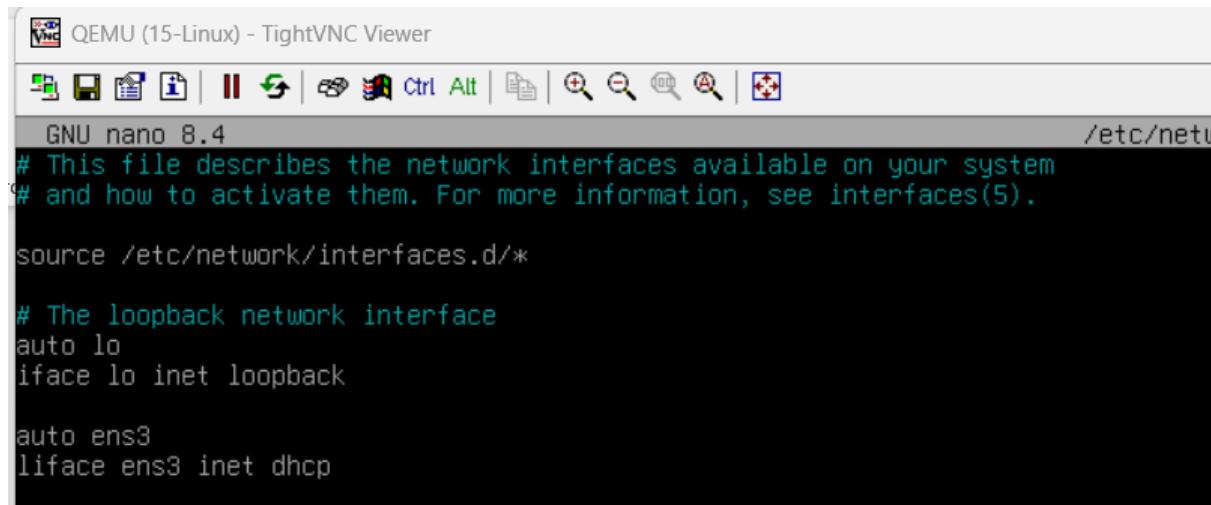
debian login: debian
Password:
Linux debian 6.12.43+deb13-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.12.43-1 (2025-08-27) x86_64

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

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
debian@debian:~$ ip a
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: ens3: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 0c:f6:de:67:00:00 brd ff:ff:ff:ff:ff:ff
        altname enp0s3
        altname enx0cf6de670000
debian@debian:~$ sudo nano /etc/network/interfaces
```

The terminal session shows the user logging in as "debian" and running the "ip a" command to view network interfaces. It also shows the user running "sudo nano /etc/network/interfaces" to edit the network configuration file.

2. Menjalankan editor teks nano



QEMU (15-Linux) - TightVNC Viewer

GNU nano 8.4 /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

auto ens3
iface ens3 inet dhcp
```

3. Mengecek ulang ip

```
debian@debian:~$ sudo systemctl restart networking
debian@debian:~$ ip a
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: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 0c:f6:de:67:00:00 brd ff:ff:ff:ff:ff:ff
        altname enp0s3
        altname enx0cf6de670000
        inet 10.10.10.29/24 brd 10.10.10.255 scope global dynamic noprefixroute ens3
            valid_lft 1792sec preferred_lft 1567sec
        inet6 fe80::e869:90ce:f877:719f/64 scope link
            valid_lft forever preferred_lft forever
debian@debian:~$
```

4. Mengecek ip route

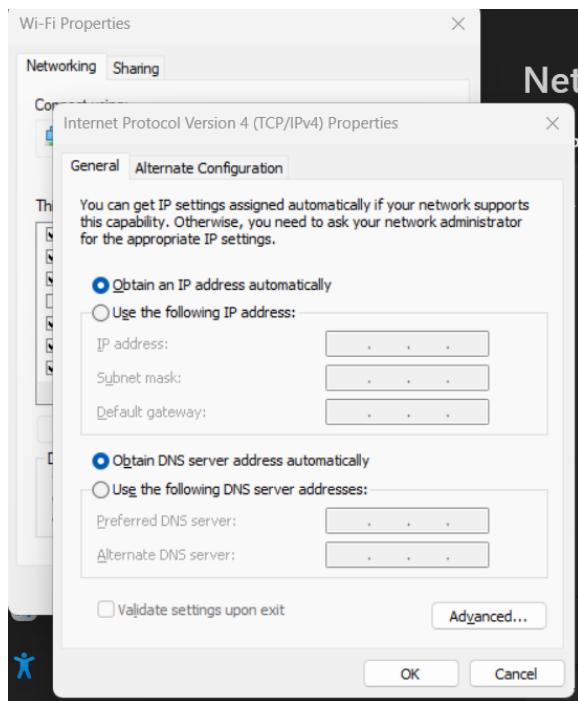
```
debian@debian:~$ sudo ip route
default via 10.10.10.1 dev ens3 proto dhcp src 10.10.10.29 metric 1002
10.10.10.0/24 dev ens3 proto dhcp scope link src 10.10.10.29 metric 1002
debian@debian:~$
```

5. Melihat isi dari resolv.conf

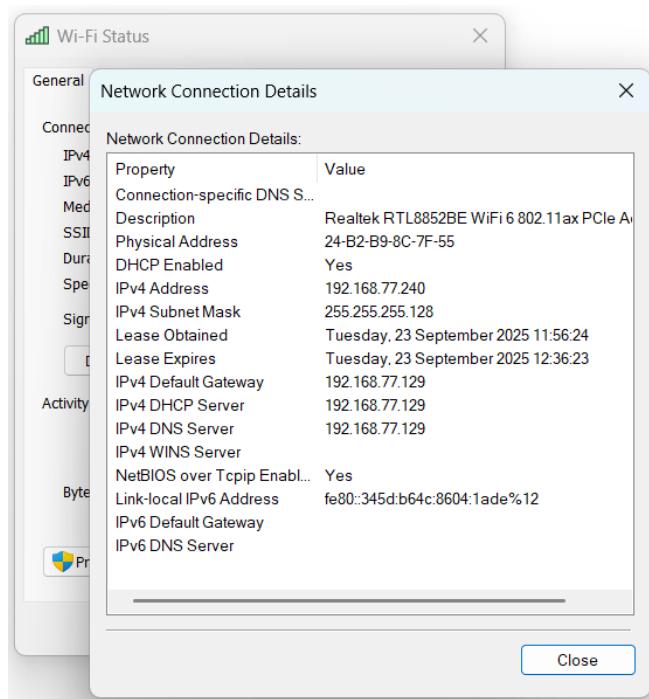
```
debian@debian:~$ cat /etc/resolv.conf
# Generated by dhcpcd from ens3.dhcp
# /etc/resolv.conf.head can replace this line
nameserver 10.10.10.1
# /etc/resolv.conf.tail can replace this line
```

b) Pengaturan Pada Sistem Operasi Windows

1. “Internet Protocol (TCP/IP) Properties” pilih tab “General” dan pilih opsi “Obtain an IP address automatically” untuk mendapatkan pengaturan alamat IP dan Gateway secara otomatis



2. menekan tombol “Details”. Maka akan muncul alamat DNS dan detail pengaturan yang diterapkan pada komputer windows



C. Pengaturan Alamat IP Secara Statis

a) Pengaturan Pada Sistem Operasi Linux

1. Membuka isi file interface

```
debian@debian:~$ cat /etc/resolv.conf
# Generated by dhcpcd from ens3.dhcp
# /etc/resolv.conf.head can replace this line
nameserver 10.10.10.1
# /etc/resolv.conf.tail can replace this line
debian@debian:~$ sudo nano /etc/network/interfaces
[sudo] password for debian:
```

2. Menambahkan Alamat Alamat

```
source /etc/network/interfaces.d/*
# The loopback network interface
auto lo
iface lo inet loopback

auto ens3
iface ens3 inet static
    address 10.10.10.25
    netmask 255.255.255.0
    gateway 10.10.10.1
```

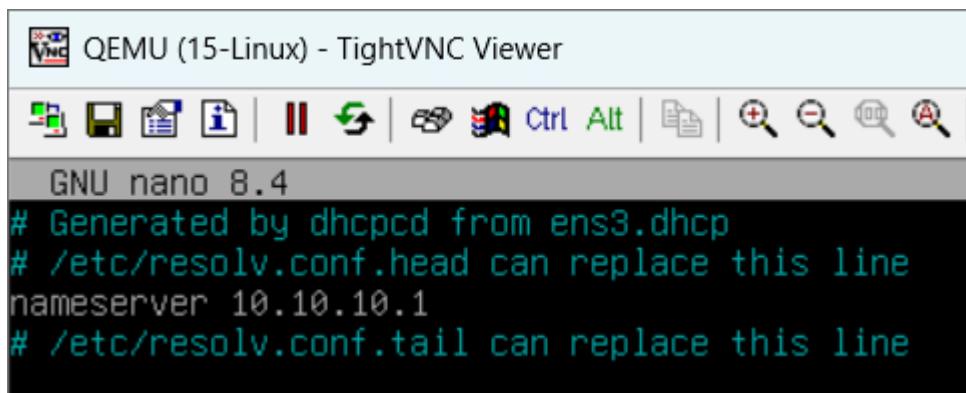
3. Lalu mengecek ip a Kembali untuk ngecek apakah sudah di konfigurasi

```
debian@debian:~$ sudo systemctl restart networking
debian@debian:~$ ip a
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: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 0c:f6:de:67:00:00 brd ff:ff:ff:ff:ff:ff
        altname enp0s3
        altname enx0cf6de670000
        inet 10.10.10.25/24 brd 10.10.10.255 scope global ens3
            valid_lft forever preferred_lft forever
debian@debian:~$
```

4. Mengecek ip route

```
debian@debian:~$ ip route
default via 10.10.10.1 dev ens3 onlink
10.10.10.0/24 dev ens3 proto kernel scope link src 10.10.10.25
debian@debian:~$
```

5. Membuka teks nano resolv.conf dan mengubah seperti no 2



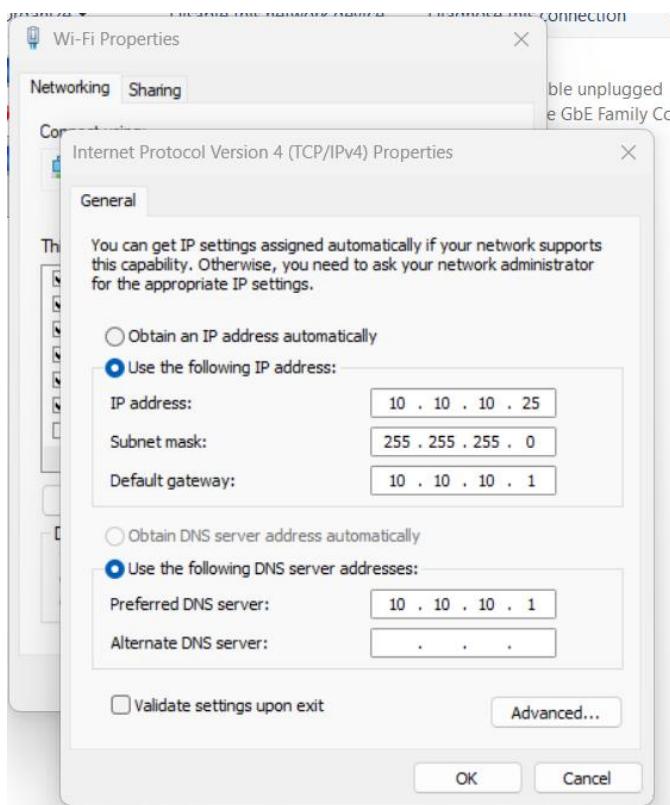
```
GNU nano 8.4
# Generated by dhcpcd from ens3.dhcp
# /etc/resolv.conf.head can replace this line
nameserver 10.10.10.1
# /etc/resolv.conf.tail can replace this line
```

6. melakukan pengecekan ulang

```
debian@debian:~$ cat /etc/resolv.conf
# Generated by dhcpcd from ens3.dhcp
# /etc/resolv.conf.head can replace this line
nameserver 10.10.10.1
# /etc/resolv.conf.tail can replace this line
debian@debian:~$
```

b) Pengaturan Pada Sistem Operasi Windows

1. Mengubah ip pada windows



2. Mengecek pada jendela local area connection status

