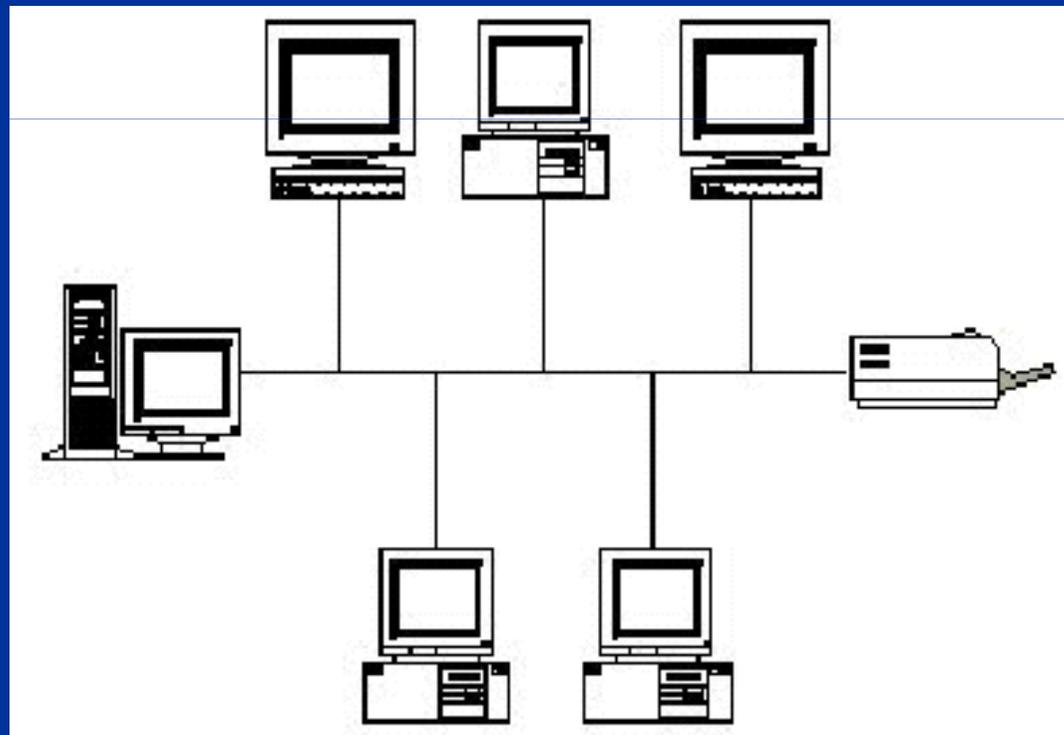


Jaringan Komputer

Apa itu Jaringan

- Kumpulan dua atau lebih dari komputer yang saling berhubungan satu sama lain



Kegunaan Jaringan

- Sharing resource (data, printer, dll)
- Efisiensi waktu
- Efisiensi tempat
- Efisiensi dana

Kerugian Jaringan

- Membutuhkan biaya tambahan
- Memungkinkan adanya serangan ke komputer kita
- Mengurangi human communication

Peralatan Jaringan Sederhana

- PC (komputer)
- LAN card
- Kabel UTP
- RJ 45
- Tang Crimping
- Multimeter
- Hub
- Switch

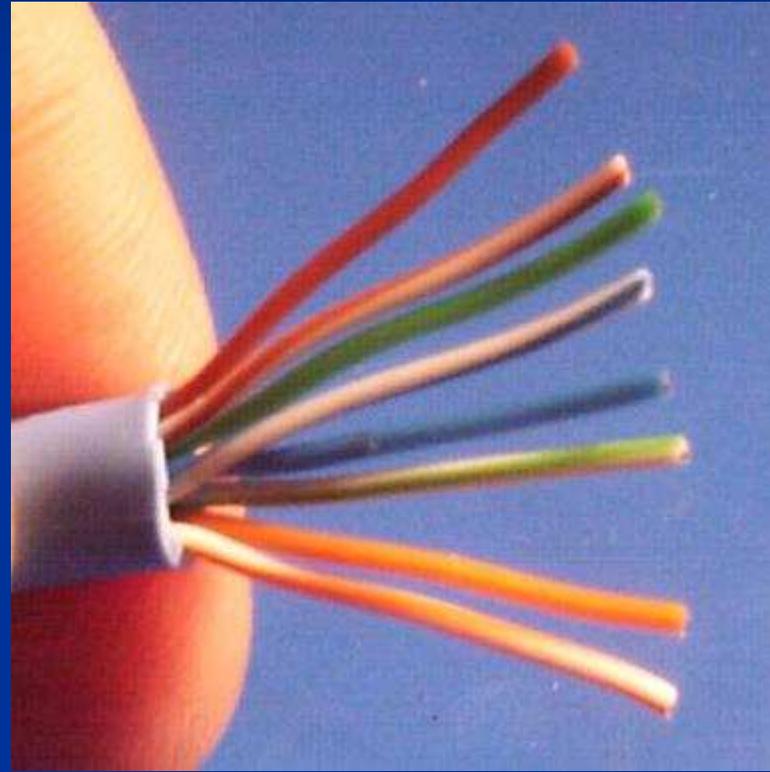
PC



LAN card



Kabel UTP

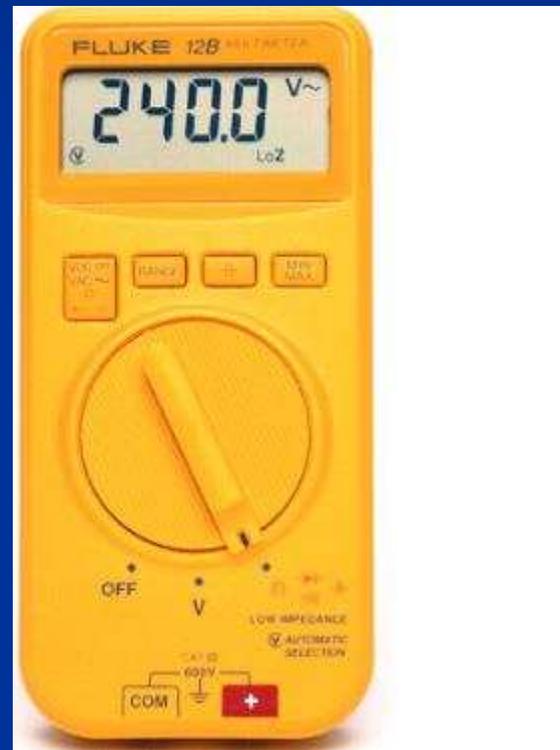


RJ 45



Tang Crimping

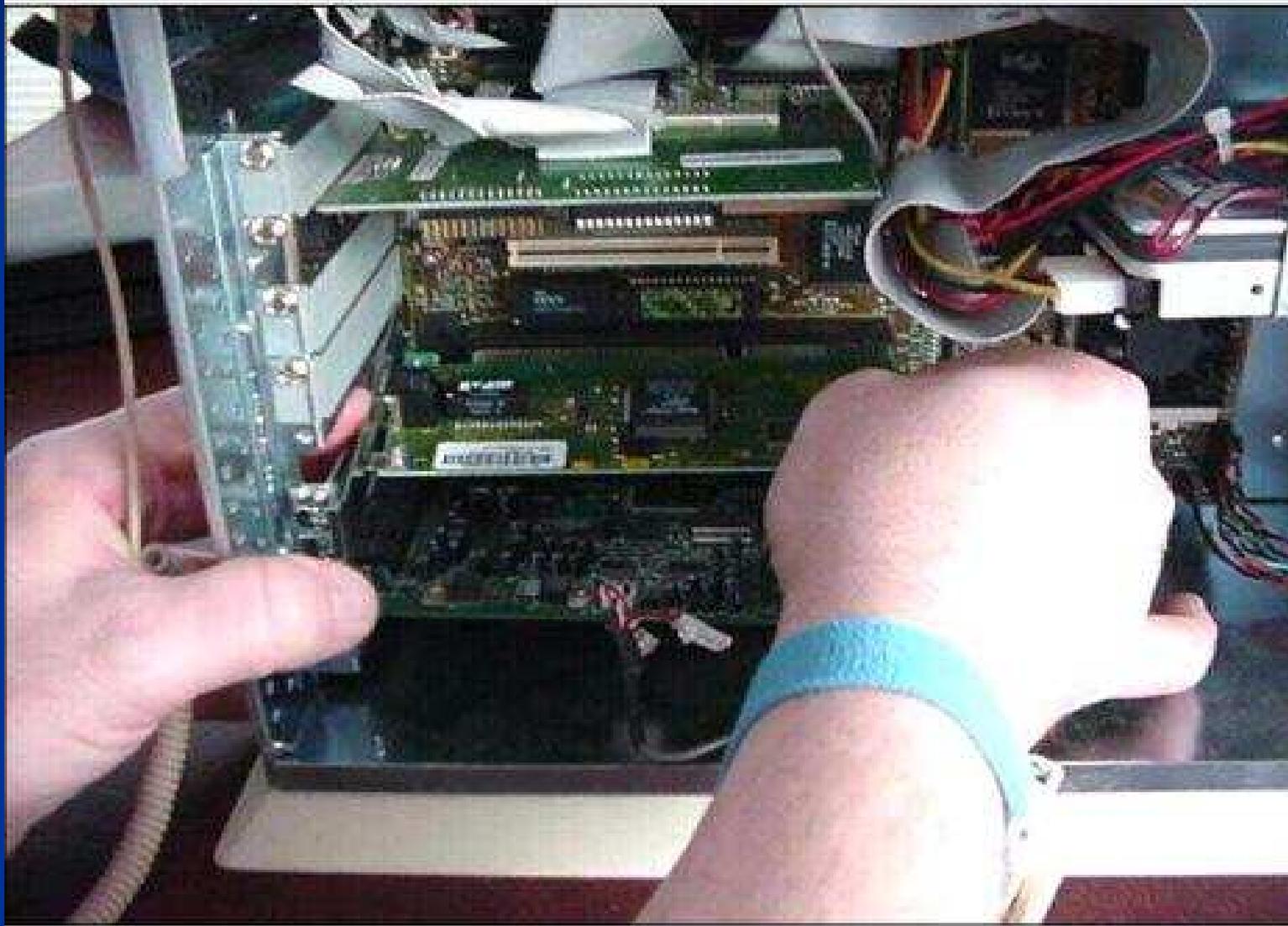
Multimeter



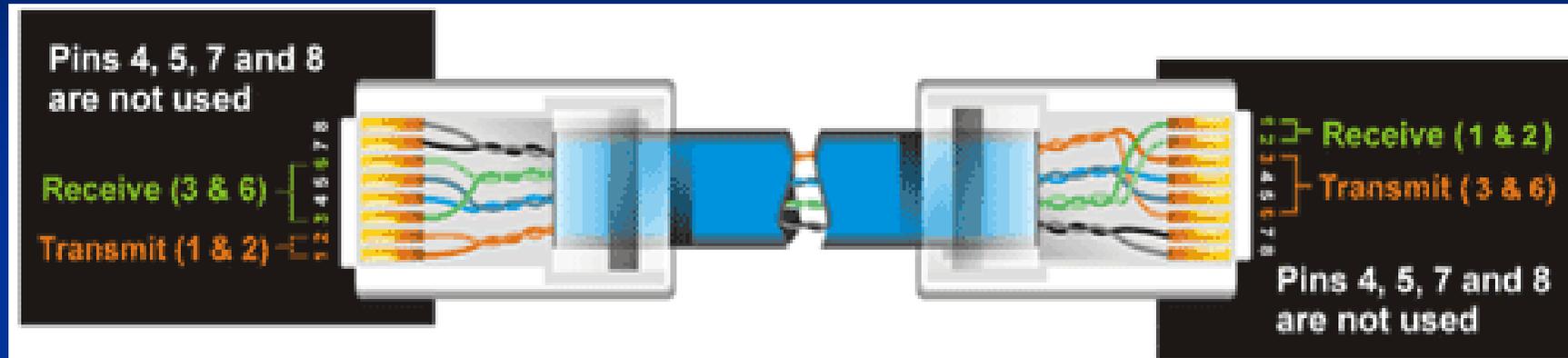
HUB

SWITCH

Pasang LAN card ke PC



Aturan Pengkabelan (1)

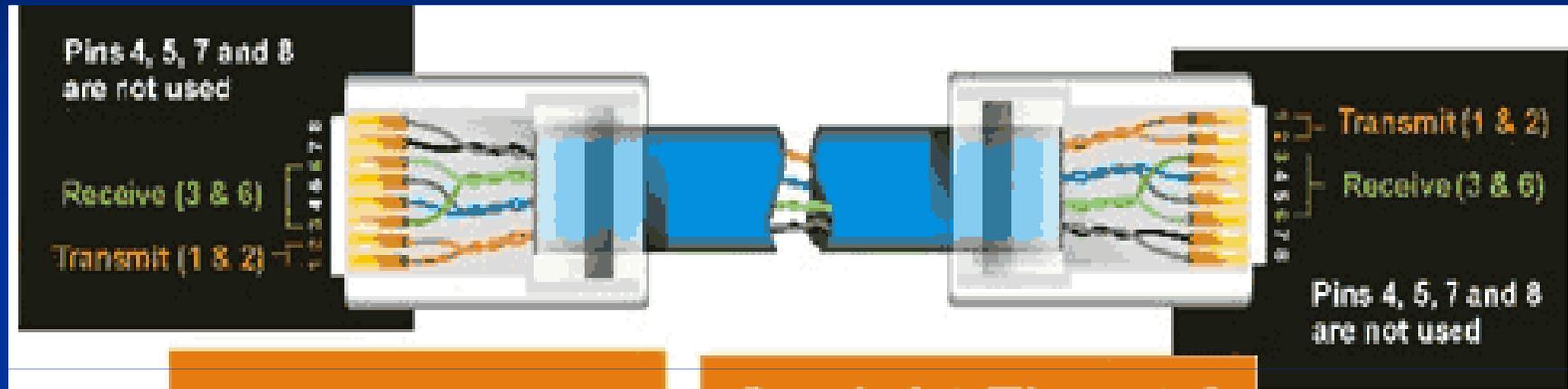


Pin number	Wire Color
Pin 1 ==>	Orange/White
Pin 2 ==>	Orange
Pin 3 ==>	Green/White
Pin 4 ==>	Blue
Pin 5 ==>	Blue/White
Pin 6 ==>	Green
Pin 7 ==>	Brown/White
Pin 8 ==>	Brown

Crossed-Over		
Wire		Becomes
1	→	3
2	→	6
3	→	1
6	→	2

Pin number	Wire Color
Pin 1 ==>	Green/White
Pin 2 ==>	Green
Pin 3 ==>	Orange/White
Pin 4 ==>	Blue
Pin 5 ==>	Blue/White
Pin 6 ==>	Orange
Pin 7 ==>	Brown/White
Pin 8 ==>	Brown

Aturan Pengkabelan (2)



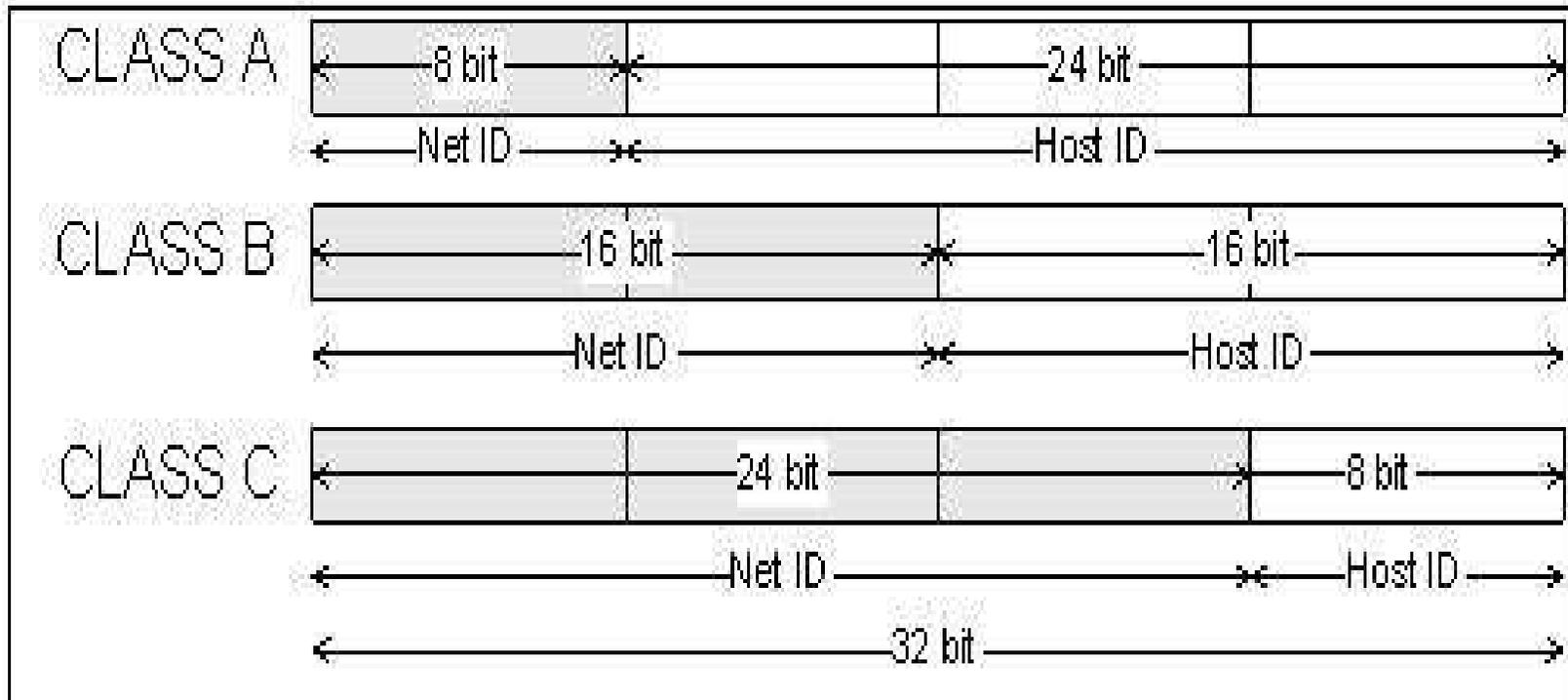
Pin number	Wire Color
Pin 1 ==>	Orange/White
Pin 2 ==>	Orange
Pin 3 ==>	Green/White
Pin 4 ==>	Blue
Pin 5 ==>	Blue/White
Pin 6 ==>	Green
Pin 7 ==>	Brown/White
Pin 8 ==>	Brown

Straight-Through		
Wire		Becomes
1	→	1
2	→	2
3	→	3
6	→	6

Kegunaan IP dan Subnetmask

- Identitas dari komputer agar bisa terhubung dengan komputer yang lain
- Terdiri dari 32 bit yang direpresentasikan dalam 4 group (W X Y Z)
- Terdiri dari 3 kelas (A, B, C)

Pembagian Kelas Jaringan



Gambar 3.1 Pembagian kelas IP

Kelas – kelas IP

Kelas	Network ID	Host ID	Default Subnet Mask
A	W.	X.Y.Z	255.0.0.0
B	W.X	Y.Z	255.255.0.0
C	W.X.y	Z	255.255.255.0

Jumlah Network

Kelas	Range	Jumlah Maksimum	Default Subnet Mask
A	1 - 126	127	16777214
B	128 - 191	16384	65534
C	192 - 223	2097152	254

Kenapa harus memakai subnetmask berbeda ???

- Teknologi yang berbeda dalam jaringan
- Kongesti yang berbeda, sebuah LAN dengan 254 host akan memiliki performansi yang kurang baik dibandingkan 62 host
- Perbedaan group dalam satu organisasi yang berbeda wewenangnya

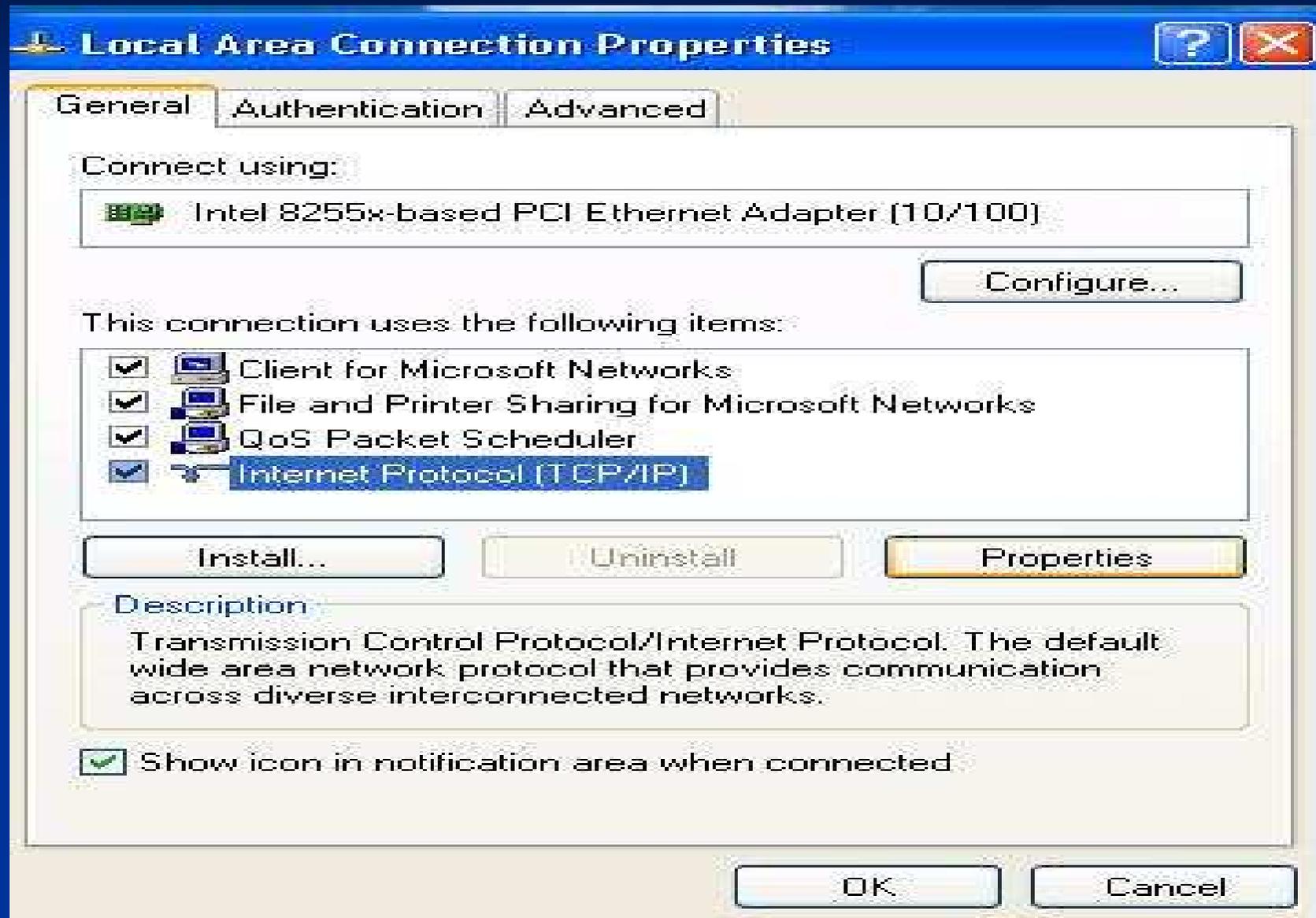
Pemberian nomor IP (1)



Pemberian nomor IP (2)



Pemberian nomor IP (3)



Pemberian nomor IP (4)

Internet Protocol (TCP/IP) Properties [?] [X]

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address:	192 . 168 . 1 . 10
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192 . 168 . 1 . 1

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server:	
Alternate DNS server:	

Advanced...

OK Cancel

Testing koneksi

```
Command Prompt
D:\>ipconfig /all

Windows IP Configuration

Host Name . . . . . : scorpion
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : eepis-its.edu

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . : eepis-its.edu
Description . . . . . : Realtek RTL8139 Family PCI Fast Ethernet
NIC
Physical Address. . . . . : 00-50-BA-B4-6A-02
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IP Address. . . . . : 10.252.102.251
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 10.252.102.1
DHCP Server . . . . . : 10.252.102.4
DNS Servers . . . . . : 202.154.62.227
                        202.154.62.228
Lease Obtained. . . . . : Thursday, August 11, 2005 9:50:13 AM
Lease Expires . . . . . : Friday, August 12, 2005 9:50:13 AM

D:\>ping 10.252.102.1

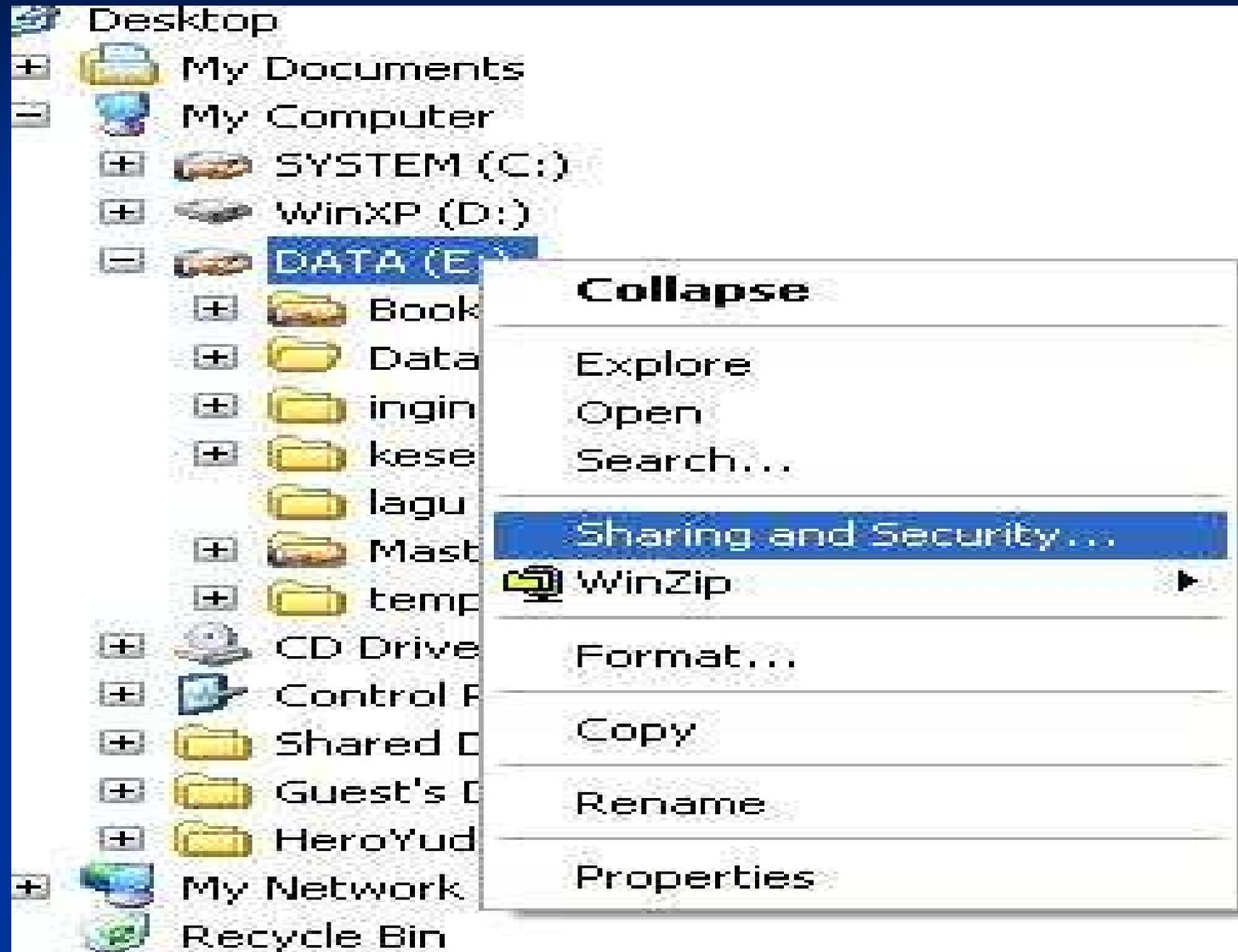
Pinging 10.252.102.1 with 32 bytes of data:

Reply from 10.252.102.1: bytes=32 time<1ms TTL=255
Reply from 10.252.102.1: bytes=32 time=1ms TTL=255
Reply from 10.252.102.1: bytes=32 time<1ms TTL=255
Reply from 10.252.102.1: bytes=32 time<1ms TTL=255

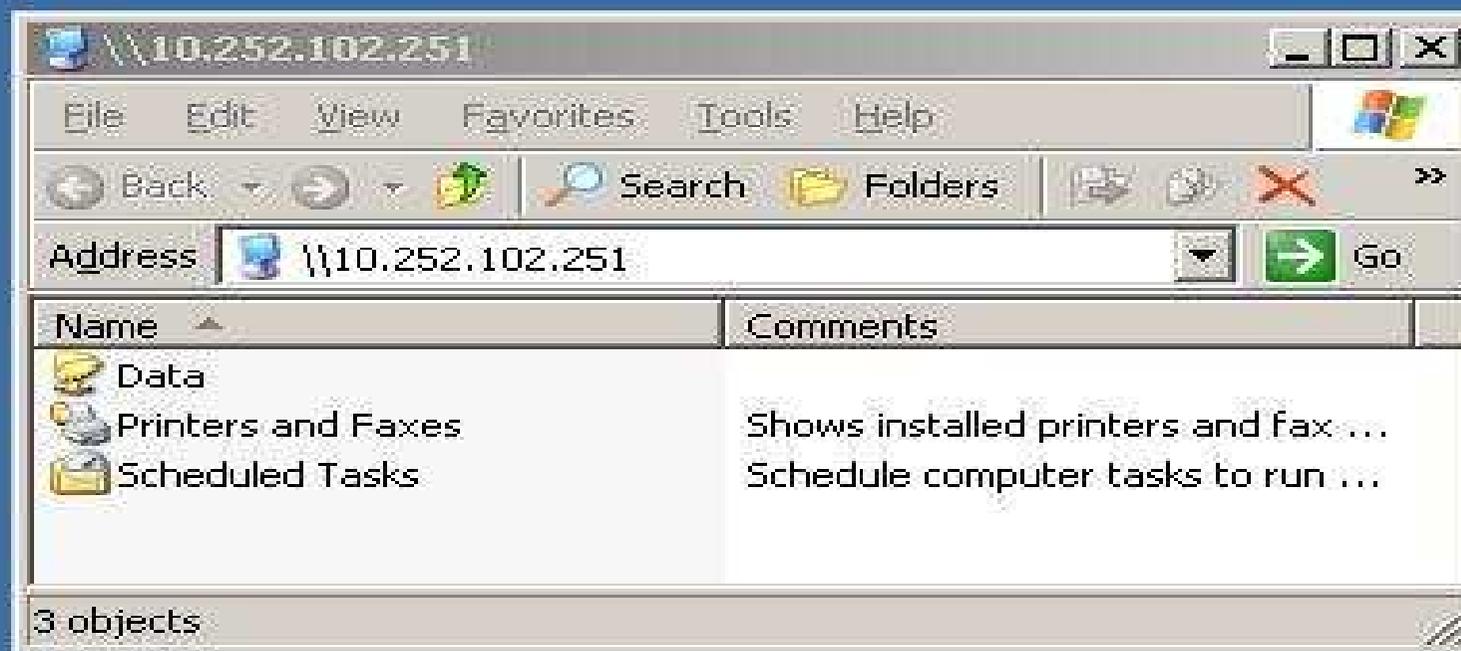
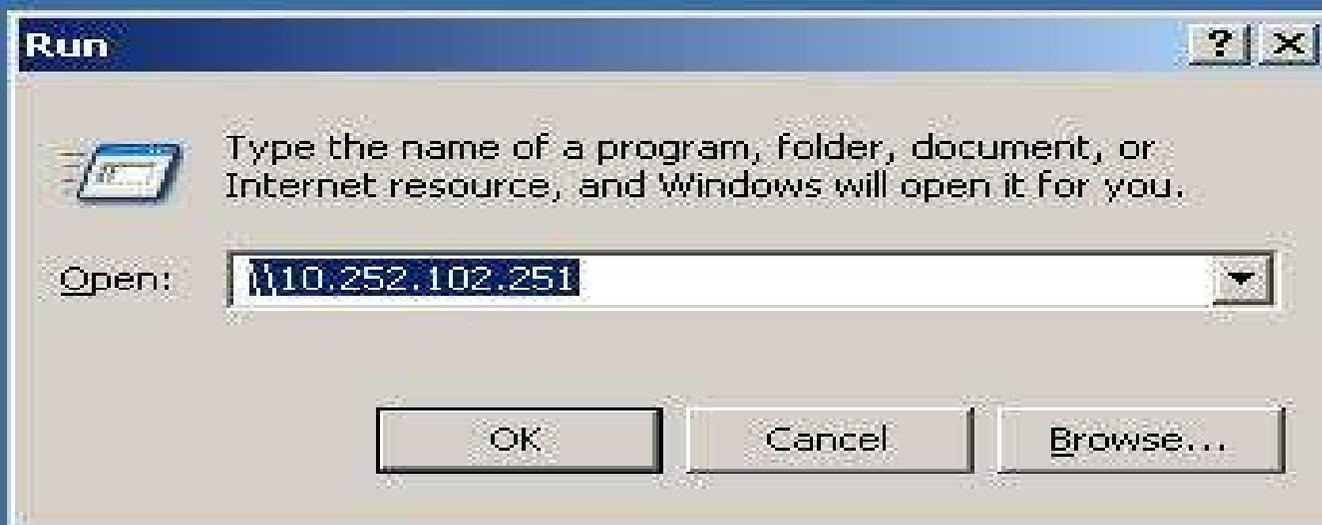
Ping statistics for 10.252.102.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

D:\>
```

Sharing Data



Ambil Data Sharing



Koneksi Internet via Modem



Koneksi Internet via Modem

New Connection Wizard



Welcome to the New Connection Wizard

This wizard helps you:

- Connect to the Internet.
- Connect to a private network, such as your workplace network.
- Set up a home or small office network.

To continue, click Next.

< Back

Next >

Cancel

Koneksi Internet via Modem

New Connection Wizard

Network Connection Type

What do you want to do?



- Connect to the Internet**
Connect to the Internet so you can browse the Web and read email.
- Connect to the network at my workplace**
Connect to a business network (using dial-up or VPN) so you can work from home, a field office, or another location.
- Set up a home or small office network**
Connect to an existing home or small office network or set up a new one.
- Set up an advanced connection**
Connect directly to another computer using your serial, parallel, or infrared port, or set up this computer so that other computers can connect to it.

< Back

Next >

Cancel

Koneksi Internet via Modem

New Connection Wizard

Network Connection

How do you want to connect to the network at your workplace?



Create the following connection:

Dial-up connection

Connect using a modem and a regular phone line or an Integrated Services Digital Network (ISDN) phone line.

Virtual Private Network connection

Connect to the network using a virtual private network (VPN) connection over the Internet.

< Back

Next >

Cancel

Koneksi Internet via Modem

New Connection Wizard

Select a Device

This is the device that will be used to make the connection.



You have more than one dial-up device on your computer.

Select the devices to use in this connection:

-  Modem - Lucent Technologies Soft Modem AMR (COM3)
-  Modem - Nokia CDMA 1xRTT 3G Packet Data Modem (COM4)

< Back

Next >

Cancel

Koneksi Internet via Modem

New Connection Wizard

Phone Number to Dial

What is the phone number you will use to make this connection?



Type the phone number below.

Phone number:

You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.

< Back

Next >

Cancel

Koneksi Internet via Modem

Connect TELKOM



User name:

Password:

Save this user name and password for the following users:

- Me only
- Anyone who uses this computer

Dial:

Koneksi internet via jaringan

The image shows a screenshot of the 'Internet Protocol (TCP/IP) Properties' dialog box, specifically the 'General' tab. The window title is 'Internet Protocol (TCP/IP) Properties' and it has standard Windows window controls (minimize, maximize, close). The 'General' tab is selected, and the 'Alternate Configuration' tab is also visible. The main text reads: 'You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.' There are two radio button options: 'Obtain an IP address automatically' (which is selected) and 'Use the following IP address:'. Below the second option are three text boxes for 'IP address:', 'Subnet mask:', and 'Default gateway:'. There are also two radio button options for DNS: 'Obtain DNS server address automatically' (selected) and 'Use the following DNS server addresses:'. Below the second option are two text boxes for 'Preferred DNS server:' and 'Alternate DNS servers:'. At the bottom right of the dialog is an 'Advanced...' button. At the very bottom are 'OK' and 'Cancel' buttons.

Internet Protocol (TCP/IP) Properties

General | Alternate Configuration

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address: [. . .]

Subnet mask: [. . .]

Default gateway: [. . .]

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server: [. . .]

Alternate DNS servers: [. . .]

Advanced...

OK Cancel

Sekian

Terima Kasih