

# **LAPORAN PRAKTIKUM**

## **JARINGAN KOMPUTER**

Dosen pengampu: Syaeful Machfud, S.kom, M.Kom



Disusun Oleh:

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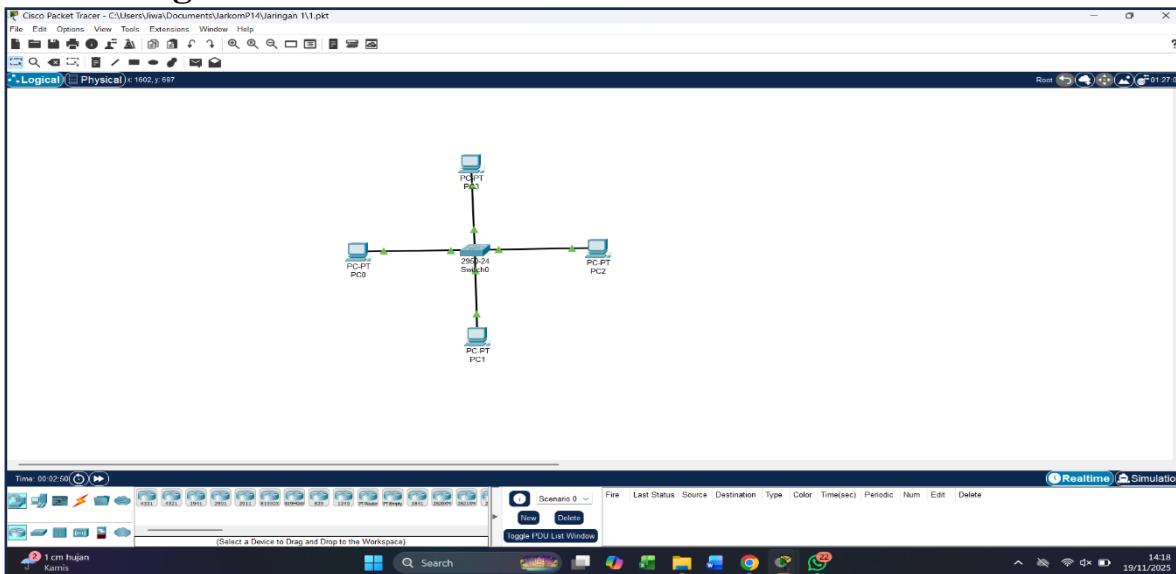
**PROGRAM STUDI TEKNIK INFORMATIKA**  
**FAKULTAS ILMU KOMPUTER**  
**PAMULANG**  
**2025**

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Tangerang Selatan-Banten

## 1.1 Tugas Praktikum

### 1. Jaringan 1



**Penjelasan:** Topologi terdiri dari 4 PC (PC0–PC3) yang terhubung ke 1 switch. Switch berfungsi sebagai perangkat layer 2 yang meneruskan frame ke perangkat dalam satu jaringan lokal (LAN). Awalnya setiap PC diberikan IP address:

- PC0 = 192.168.0.1
- PC1 = 192.168.0.2
- PC2 = 192.168.0.3
- PC3 = 192.168.0.4

Semua berada dalam satu subnet (255.255.255.0), sehingga keempat PC dapat saling berkomunikasi tanpa router.

Setelah itu IP address diubah menjadi:

- PC0 = 172.16.0.1
- PC1 = 172.16.0.2
- PC2 = 172.16.0.3
- PC3 = 172.16.0.4

Dengan subnet 255.255.255.0 semua PC masih tetap berada dalam satu jaringan, sehingga komunikasi tetap dapat berjalan normal.

Setelahnya, ada Pengujian PDU (Message / ICMP)

Pada tahap akhir, mengirimkan PDU (message) dari:

- PC0 → PC1
- PC0 → PC2
- PC0 → PC3

## Ping IP Address awal:

```
C:\>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 3ms, Average = 3ms

C:\>ping 192.168.0.2

Pinging 192.168.0.2 with 32 bytes of data:
Reply from 192.168.0.2: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 3ms, Average = 3ms

C:\>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:
Reply from 192.168.0.3: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 3ms, Average = 3ms

C:\>ping 192.168.0.4

Pinging 192.168.0.4 with 32 bytes of data:
Reply from 192.168.0.4: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

Ubah IP / IPConfig dari “192.168.0.(1,2,3,4)” menjadi  
“172.16.0.(1,2,3,4)” :

172.16.0.1

```
C:\>ipconfig

Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig

FastEthernet0 Connection:(default port)

Connection-specific DNS Suffix: .
Link-local IPv6 Address . . . . . : FE80::2E0:FF%PC1:7D92
IPv4 Address . . . . . : 172.16.0.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 0.0.0.0

Bluetooth Connection:

Connection-specific DNS Suffix: .
Link-local IPv6 Address . . . . . : 
IPv4 Address . . . . . : 0.0.0.0
Subnet Mask . . . . . : 0.0.0.0
Default Gateway . . . . . : 0.0.0.0

C:\>
```

172.16.0.2

C:\>ipconfig  
C:\>ipconfig /all  
FastEthernet0 Connection:(default port)  
Connection-specific DNS Suffix.:  
Link-local IPv6 Address.....: FE80::2E0:A3FF:FE05:3CA5  
IPv6 Address.....: ::  
IPv4 Address.....: 172.16.0.2  
Subnet Mask.....: 255.255.0.0  
Default Gateway.....: ::  
0.0.0.0  
Bluetooth Connection:  
Connection-specific DNS Suffix.:  
Link-local IPv6 Address.....: ::  
IPv6 Address.....: ::  
IPv4 Address.....: 0.0.0.0  
Subnet Mask.....: 0.0.0.0  
Default Gateway.....: ::  
0.0.0.0  
C:\>

172.16.0.3

C:\>ipconfig  
C:\>ipconfig /all  
FastEthernet0 Connection:(default port)  
Connection-specific DNS Suffix.:  
Link-local IPv6 Address.....: FE80::2E0:47FF:FE02:E5E5  
IPv6 Address.....: ::  
IPv4 Address.....: 172.16.0.3  
Subnet Mask.....: 255.255.0.0  
Default Gateway.....: ::  
0.0.0.0  
Bluetooth Connection:  
Connection-specific DNS Suffix.:  
Link-local IPv6 Address.....: ::  
IPv6 Address.....: ::  
IPv4 Address.....: 0.0.0.0  
Subnet Mask.....: 0.0.0.0  
Default Gateway.....: ::  
0.0.0.0  
C:\>

172.16.0.4

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all
C:\>ipconfig 172.16.0.4 255.255.0.0
C:\>ipconfig

FastEthernet0 Connection (default port)
Connection-specific DNS Suffix .:
Link-local IPv6 Address . . . . : FE80::201:63FF%PA4:22A3
IPv4 Address . . . . . : 172.16.0.4
Subnet Mask . . . . . : 255.255.0.0
Default Gateway . . . . . : 0.0.0.0

Sileooth Connection:
Connection-specific DNS Suffix .:
Link-local IPv6 Address . . . . : FE80::201:63FF%PA4:22A3
IPv4 Address . . . . . : 172.16.0.4
IPv4 Address . . . . . : 0.0.0.0
Subnet Mask . . . . . : 0.0.0.0
Default Gateway . . . . . : 0.0.0.0

C:\>
```

## Ping setelah IPCConfig

```
Pinging 172.16.0.1 with 32 bytes of data:
Reply from 172.16.0.1: bytes=32 time=1ms TTL=128

Ping statistics for 172.16.0.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 1ms

C:\>ping 172.16.0.2

Pinging 172.16.0.2 with 32 bytes of data:
Request timed out.
Reply from 172.16.0.2: bytes=32 time=1ms TTL=128
Reply from 172.16.0.2: bytes=32 time=1ms TTL=128
Reply from 172.16.0.2: bytes=32 time=1ms TTL=128

Ping statistics for 172.16.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.16.0.3

Pinging 172.16.0.3 with 32 bytes of data:
Reply from 172.16.0.3: bytes=32 time=1ms TTL=128

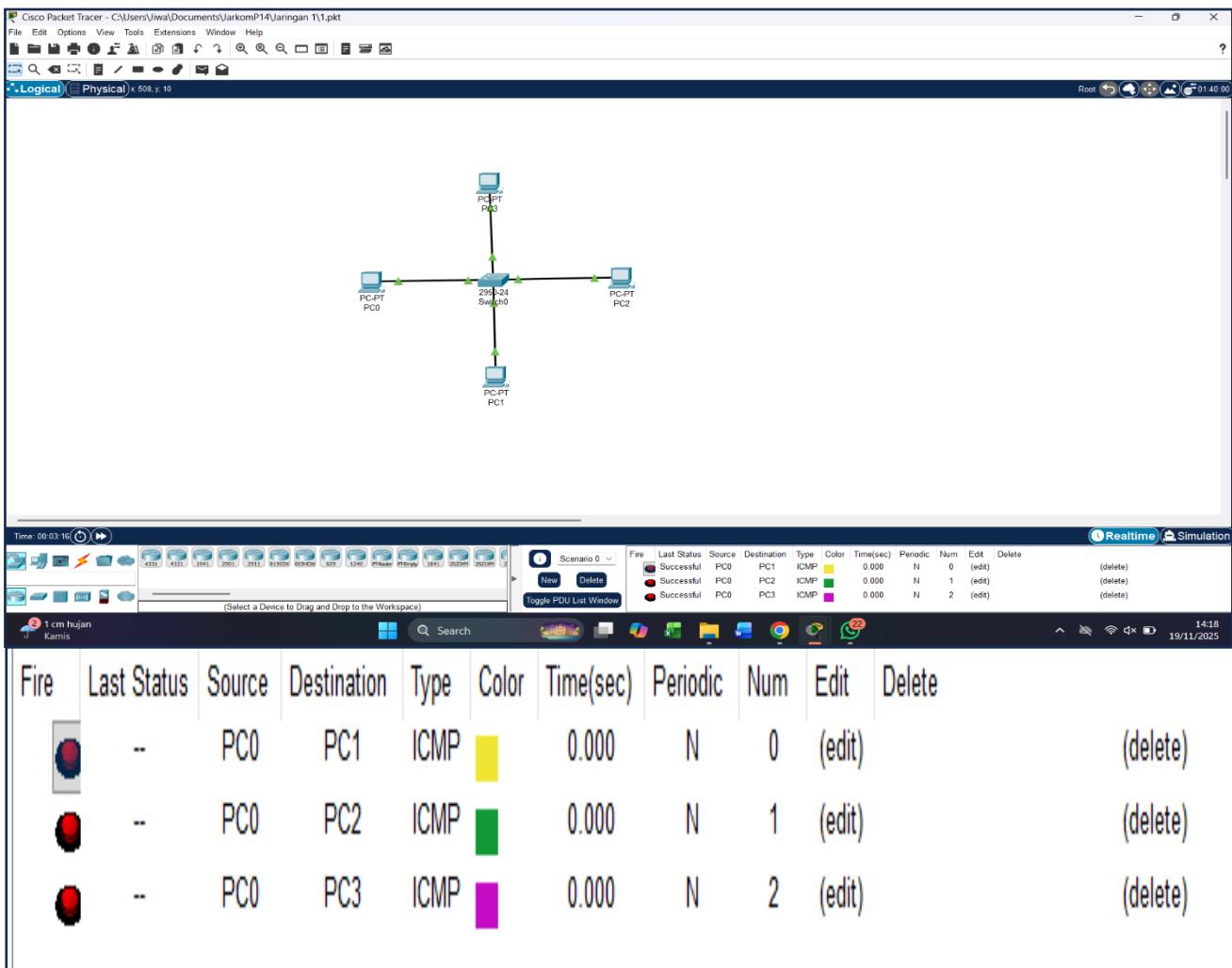
Ping statistics for 172.16.0.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 1ms

C:\>ping 172.16.0.4

Pinging 172.16.0.4 with 32 bytes of data:
Reply from 172.16.0.4: bytes=32 time=1ms TTL=128

Ping statistics for 172.16.0.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 1ms
```

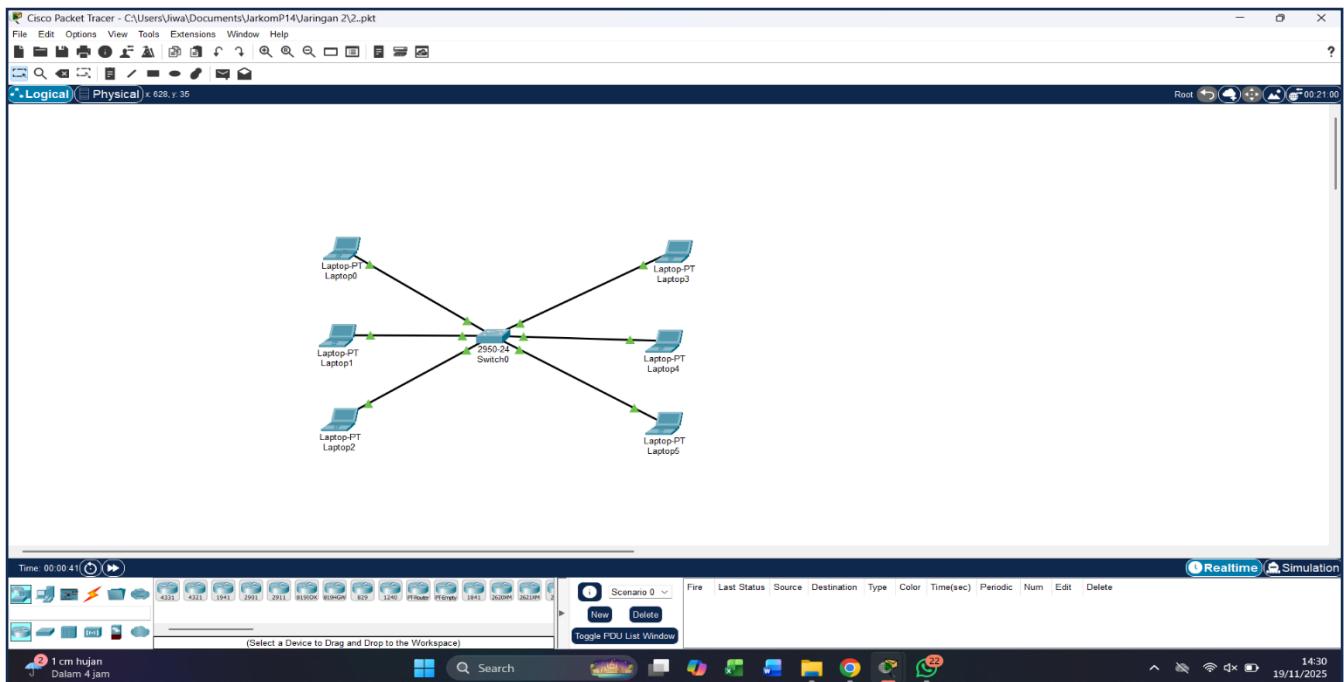
## PDU



## Kesimpulan

Jaringan dengan empat PC yang terhubung melalui satu switch berhasil bekerja dengan baik, baik saat menggunakan alamat IP awal 192.168.0.x maupun setelah diganti menjadi 172.16.0.x. Karena seluruh perangkat berada dalam satu subnet dan terkoneksi melalui switch, setiap PC dapat saling berkomunikasi tanpa memerlukan router. Pengujian menggunakan PDU dari PC0 ke PC1, PC2, dan PC3 juga menunjukkan bahwa semua pesan dapat terkirim dengan sukses. Hal ini membuktikan bahwa konfigurasi IP dan koneksi jaringan telah dilakukan dengan benar serta jaringan mampu berjalan secara optimal.

## 2. Jaringan 2



**Penjelasan:** Topologi jaringan terdiri dari enam laptop yang semuanya terhubung ke sebuah switch sebagai pusat koneksi. Pada awalnya setiap laptop memiliki alamat IP yang berbeda-beda dan berada pada tiga network yang berbeda, yaitu

- **Laptop 1 : 192.168.10.2**
- **Laptop 2 : 192.168.10.4**
- **Laptop 3 : 192.168.10.5**
- **Laptop 4 : 192.168.2.1**
- **Laptop 5 : 192.168.2.3**
- **Laptop 6 : 192.168.5.1**

Karena switch hanya berfungsi untuk menghubungkan perangkat dalam satu subnet, maka laptop yang berada pada network berbeda tidak dapat saling berkomunikasi. Untuk menyatukan seluruh laptop ke dalam satu jaringan, IP address pada Laptop 3, Laptop 4, dan Laptop 5 diubah menjadi

- 192.168.10.1
- 192.168.10.3
- 192.168.10.6

Setelah semua laptop berada dalam network yang sama, yaitu 192.168.10.0/24, seluruh perangkat dapat saling terhubung dan berkomunikasi tanpa memerlukan router.

## Ping IP Address sebelum diubah

```
Laptop0
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\ping 192.168.10.2 with 32 bytes of data:
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.4 with 32 bytes of data:
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.5 with 32 bytes of data:
Reply from 192.168.10.5: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Top
1 cm hujan
Kamus
Search
15:29
19/11/2025
```

```
Laptop0
Physical Config Desktop Programming Attributes
Command Prompt
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.10.5 with 32 bytes of data:
Reply from 192.168.10.5: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.5:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.1
Pinging 192.168.2.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 192.168.2.3
Pinging 192.168.2.3 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.2.3:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 192.168.5.1
Pinging 192.168.5.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.5.1:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
```

## IPConfig beberapa Laptop (Laptop 3, 4, dan 5)

Laptop3

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig
C:\>ipconfig

FastEthernet0 Connection:(default port)
  Connection-specific DNS Suffix..: 
  Link-Local IPv6 Address.....: FE80::200:FF:FE00:1000
  IPv4 Address.....: 192.168.10.1
  Subnet Mask.....: 255.255.255.0
  Default Gateway.....: 0.0.0.0

Bluetooth Connection:
  Connection-specific DNS Suffix..: 
  Link-Local IPv6 Address.....: 
  IPv4 Address.....: 
  Subnet Mask.....: 0.0.0.0
  Default Gateway.....: 0.0.0.0

C:\>
```

Laptop4

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig
C:\>ipconfig

FastEthernet0 Connection:(default port)
  Connection-specific DNS Suffix..: 
  Link-Local IPv6 Address.....: FE80::201:63FF:FE59:5B80
  IPv4 Address.....: 
  Subnet Mask.....: 255.255.255.0
  Default Gateway.....: 0.0.0.0

Bluetooth Connection:
  Connection-specific DNS Suffix..: 
  Link-Local IPv6 Address.....: 
  IPv4 Address.....: 
  Subnet Mask.....: 0.0.0.0
  Default Gateway.....: 0.0.0.0

C:\>
```

Laptop5

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig
C:\>ipconfig

FastEthernet0 Connection:(default port)
  Connection-specific DNS Suffix..: 
  Link-Local IPv6 Address.....: FE80::200:FF:FE10:1071
  IPv4 Address.....: 192.168.10.6
  Subnet Mask.....: 255.255.255.0
  Default Gateway.....: 0.0.0.0

Bluetooth Connection:
  Connection-specific DNS Suffix..: 
  Link-Local IPv6 Address.....: 
  IPv4 Address.....: 
  Subnet Mask.....: 0.0.0.0
  Default Gateway.....: 0.0.0.0

C:\>
```

## Ping IP setelah Config

The image shows two side-by-side screenshots of Windows Command Prompt windows. Both windows have the title 'Command Prompt' and are running on a desktop environment with a taskbar at the bottom.

**Top Window (Left):**

```
C:\>ping 192.168.10.1

Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.2

Pinging 192.168.10.2 with 32 bytes of data:
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.3

Pinging 192.168.10.3 with 32 bytes of data:
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.4

Pinging 192.168.10.4 with 32 bytes of data:
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

**Bottom Window (Right):**

```
Reply From 192.168.10.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.4

Pinging 192.168.10.4 with 32 bytes of data:
Reply from 192.168.10.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.5

Pinging 192.168.10.5 with 32 bytes of data:
Reply from 192.168.10.5: bytes=32 time<1ms TTL=128

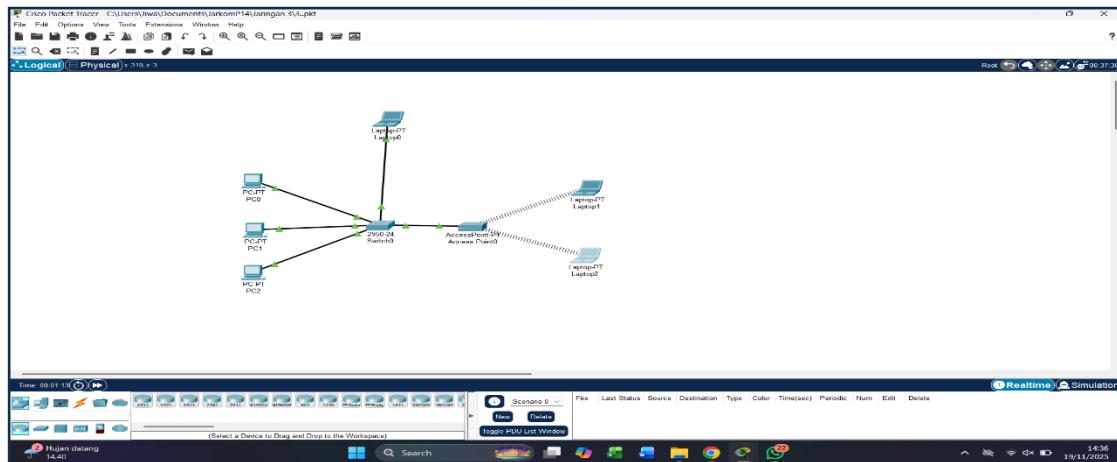
Ping statistics for 192.168.10.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

## Kesimpulan

Dari percobaan ini dapat disimpulkan bahwa perangkat yang berada dalam jaringan yang sama harus memiliki IP address dalam satu subnet agar dapat saling berkomunikasi melalui switch. Pada konfigurasi awal, beberapa laptop tidak dapat berkomunikasi karena IP-nya berada di network yang berbeda. Setelah mengubah seluruh IP laptop menjadi berada pada subnet 192.168.10.0/24, koneksi antar perangkat menjadi normal dan semua laptop dapat saling mengirim pesan dengan baik. Hal ini menunjukkan bahwa keseragaman subnet adalah hal penting dalam membangun jaringan LAN sederhana.

### 3. Jaringan 3



**Penjelasan :** Jaringan pada gambar merupakan sebuah LAN sederhana yang terdiri dari enam perangkat, yaitu tiga PC dan tiga laptop. Ketiga PC dan 1 Laptop terhubung langsung ke switch 2950-24 menggunakan kabel UTP, sementara dua laptop terhubung secara nirkabel melalui sebuah Access Point yang juga dihubungkan ke switch.

Dengan desain tersebut, seluruh perangkat baik yang menggunakan koneksi kabel maupun wireless berkumpul pada satu pusat komunikasi, sehingga membentuk topologi jaringan star (bintang).

Setiap perangkat diberikan alamat IP dalam rentang 10.0.0.25 hingga 10.0.0.30, yang merupakan bagian dari jaringan kelas A dan berada pada satu subnet yang sama. Karena tidak ada router dalam jaringan ini, komunikasi antar perangkat berlangsung secara langsung melalui switch tanpa proses routing.

#### Proses ping tiap IP address

```
PC0 Physical Config Utilities Programming Attributes
Command Prompt
C:\> ping 10.0.0.25 with 32 bytes of data:
Pinging 10.0.0.25 with 32 bytes of data:
Reply from 10.0.0.25 bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.25:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\> ping 10.0.0.30
Pinging 10.0.0.30 with 32 bytes of data:
Reply from 10.0.0.30 bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.30:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\> ping 10.0.0.26
Pinging 10.0.0.26 with 32 bytes of data:
Reply from 10.0.0.26 bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.26:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\> ping 10.0.0.27
Pinging 10.0.0.27 with 32 bytes of data:
Reply from 10.0.0.27 bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.27:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\> ping 10.0.0.28
Pinging 10.0.0.28 with 32 bytes of data:
Reply from 10.0.0.28 bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.28:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

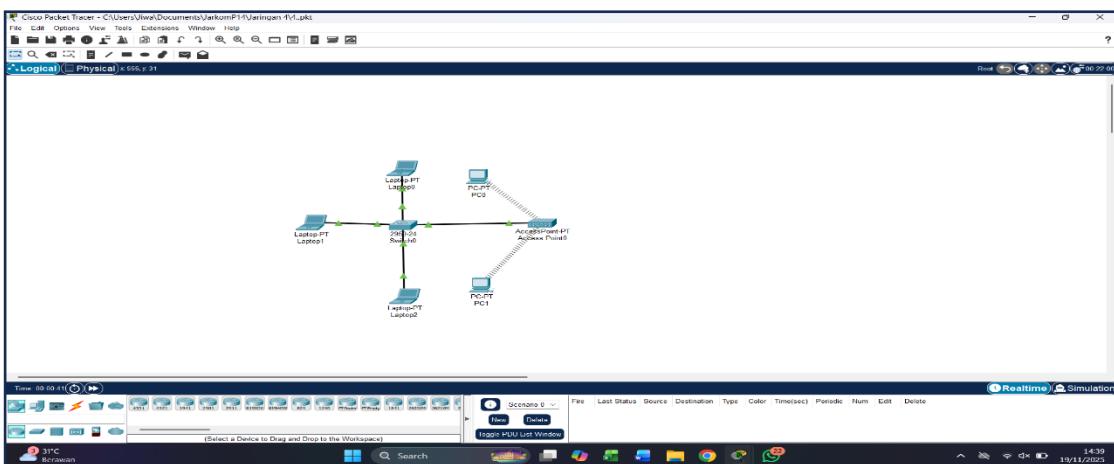
```

PC0
Physical Device Libraries Programming Utilities
[Windows Taskbar]
C:\Windows\system32\cmd.exe - Microsoft Windows Command Line Version 2.0
C:\Windows\system32>ping 10.0.0.25
Pinging 10.0.0.25 with 32 bytes of data:
Reply from 10.0.0.25 bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.25:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milliseconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\Windows\system32>

```

**Kesimpulan:** Jaringan yang dibangun merupakan LAN sederhana dengan enam perangkat yang berada dalam satu subnet IP kelas A (10.0.0.25–10.0.0.30). Switch berfungsi sebagai pusat penghubung perangkat kabel, sementara Access Point menghubungkan perangkat wireless ke LAN yang sama. Karena seluruh perangkat berada dalam satu jaringan dan tidak menggunakan router, proses komunikasi antar host berlangsung langsung dan efisien. Topologi star yang digunakan juga memudahkan pengelolaan dan perluasan jaringan.

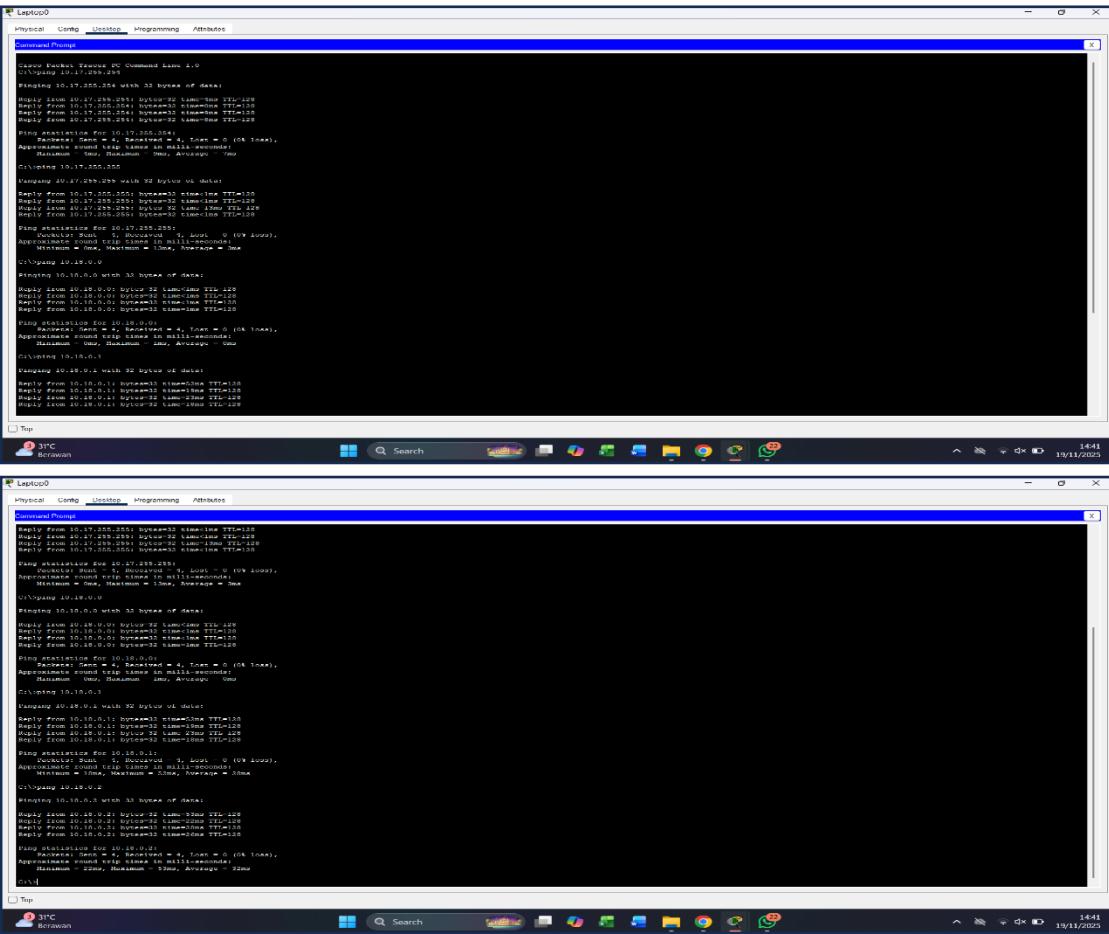
#### 4. Jaringan 4



**Penjelasan :** Jaringan pada gambar terdiri dari lima perangkat, yaitu tiga laptop dan dua PC yang terhubung melalui sebuah switch dan satu Access Point. Laptop0, Laptop1, dan Laptop2 tersambung langsung ke switch menggunakan kabel UTP, sementara dua PC (PC0 dan PC1) terhubung secara nirkabel melalui Access Point yang kemudian terhubung ke switch.

Seluruh perangkat berada pada blok alamat IP kelas A, namun terbagi menjadi dua kelompok alamat: Laptop0 dan Laptop1 menggunakan IP 10.17.255.254 dan 10.17.255.255, sedangkan Laptop2, PC0, dan PC1 menggunakan rentang 10.18.0.0 – 10.18.0.2.

## Ping IP Address



The image shows two side-by-side screenshots of Microsoft Windows Command Prompt windows. Both windows are titled "Laptop0" and show the results of a ping command. The top window shows pings to 10.17.255.255, and the bottom window shows pings to 10.18.0.11. Both windows display a series of reply messages from the target IP address, showing round-trip times (TTL) and sequence numbers. The command used in both cases is "ping <IP> -n 4". The results indicate successful communication between the local machine and the target host.

```
Laptop0
Physical Config Usenet Programming Attributes
Command Prompt

C:\>ping 10.17.255.255 with 32 bytes of data
Reply from 10.17.255.255: bytes=32 time<1ms TTL=128
Ping statistics for 10.17.255.255:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>ping 10.18.0.11 with 32 bytes of data
Reply from 10.18.0.11: bytes=32 time<1ms TTL=128
Ping statistics for 10.18.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>
```

```
Laptop0
Physical Config Usenet Programming Attributes
Command Prompt

C:\>ping 10.17.255.255
Reply from 10.17.255.255: bytes=32 time<1ms TTL=128
Ping statistics for 10.17.255.255:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>ping 10.18.0.11
Ping to 10.18.0.11 with 32 bytes of data:
Reply From 10.18.0.11: bytes=32 time<1ms TTL=128
Ping statistics for 10.18.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>
```

**Kesimpulan:** Jaringan ini merupakan LAN sederhana yang menggabungkan tiga laptop dan dua PC melalui switch dan Access Point dalam satu topologi star. Seluruh perangkat berada pada jaringan fisik yang sama, meskipun menggunakan dua rentang IP yang berbeda, yaitu 10.17.255.x dan 10.18.0.x. Dengan pengaturan subnet mask yang sesuai, seluruh perangkat tetap dapat saling berkomunikasi tanpa memerlukan router. Desain jaringan ini menunjukkan bagaimana koneksi kabel dan wireless dapat digabungkan secara efisien dalam satu lingkungan LAN yang terpusat dan mudah diakses.

## **1.2 KESIMPULAN AKHIR**

Dari keseluruhan jaringan yang telah dibuat, dapat disimpulkan bahwa setiap topologi menggunakan pendekatan LAN berbasis switch dengan kombinasi perangkat kabel dan nirkabel (access point). Semua jaringan memakai topologi star, di mana switch menjadi pusat koneksi utama yang menghubungkan seluruh PC maupun laptop. Pada seluruh desain, Access Point digunakan untuk memperluas jangkauan koneksi ke perangkat wireless tanpa mengubah struktur dasar jaringan.

Setiap jaringan juga menggunakan alamat IP kelas A ataupun kelas C, tergantung kebutuhan skenario. Meskipun beberapa jaringan menggunakan rentang IP yang berbeda-beda, seluruh perangkat tetap dapat berkomunikasi selama berada dalam satu subnet atau konfigurasi subnet mask yang sesuai. Selain itu, seluruh desain tidak menggunakan router, sehingga komunikasi berlangsung sepenuhnya dalam satu jaringan lokal tanpa proses routing antar subnet.

Secara keseluruhan, jaringan-jaringan ini menunjukkan bagaimana perangkat kabel dan wireless dapat digabungkan dalam satu LAN yang sederhana namun efektif. Desain yang digunakan menekankan kemudahan konfigurasi, kemudahan perluasan jaringan, serta efisiensi komunikasi antar semua host dalam lingkungan jaringan lokal.