

PRAKTIKUM JARINGAN KOMPUTER

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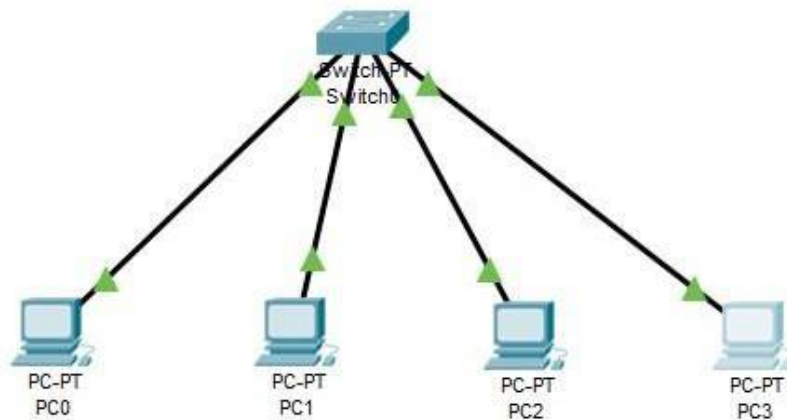
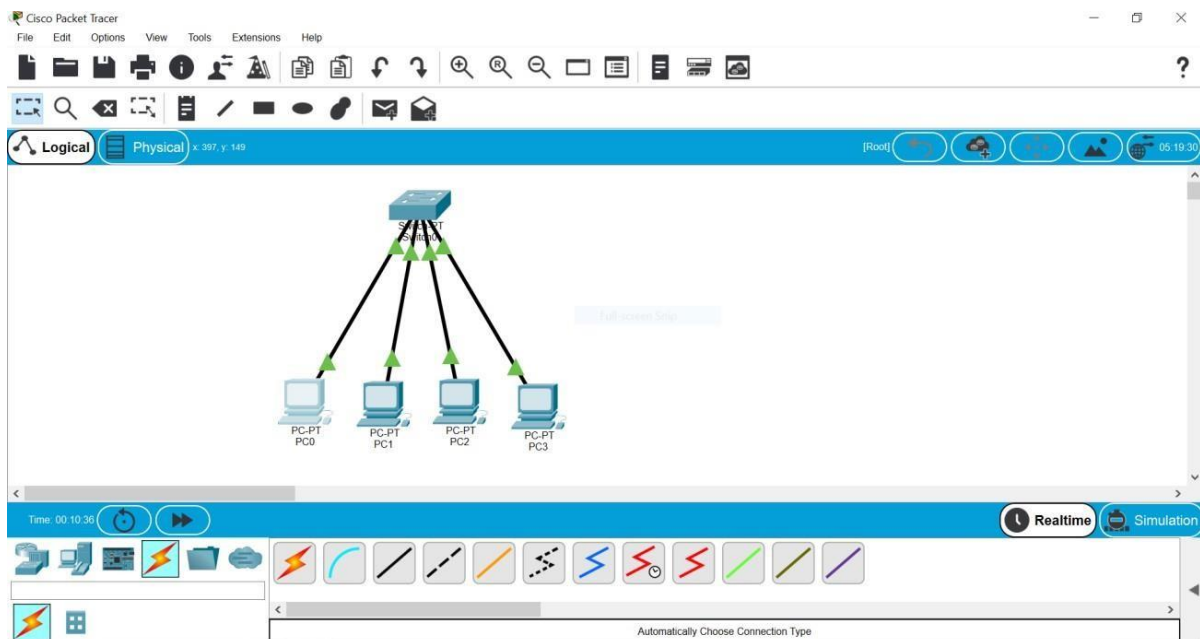
MODUL 3

SUBNETTING

KEGIATAN PRAKTIKUM

Kegiatan 1. Desain dan Konfigurasi Subnetting

Ada empat unit komputer yang terhubung melalui switch.



PC0

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 201.222.5.1

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::209:7CFF:FEB1:44BA

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

PC1

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 201.222.5.2

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:F9FF:FED8:691A

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

PC2

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 201.222.5.9

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::20D:BDFF:FE55:BDA2

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

PC3

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 201.222.5.10

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80:201:97FF:FEE2:5B60

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 201.222.5.2

Pinging 201.222.5.2 with 32 bytes of data:

Reply from 201.222.5.2: bytes=32 time=1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128

Ping statistics for 201.222.5.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 201.222.5.10

Pinging 201.222.5.10 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 201.222.5.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 201.222.5.9

Pinging 201.222.5.9 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 201.222.5.9:
```

☐ Top

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Pinging 201.222.5.2 with 32 bytes of data:

Reply from 201.222.5.2: bytes=32 time=1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128

Ping statistics for 201.222.5.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 201.222.5.10

Pinging 201.222.5.10 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 201.222.5.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 201.222.5.9

Pinging 201.222.5.9 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

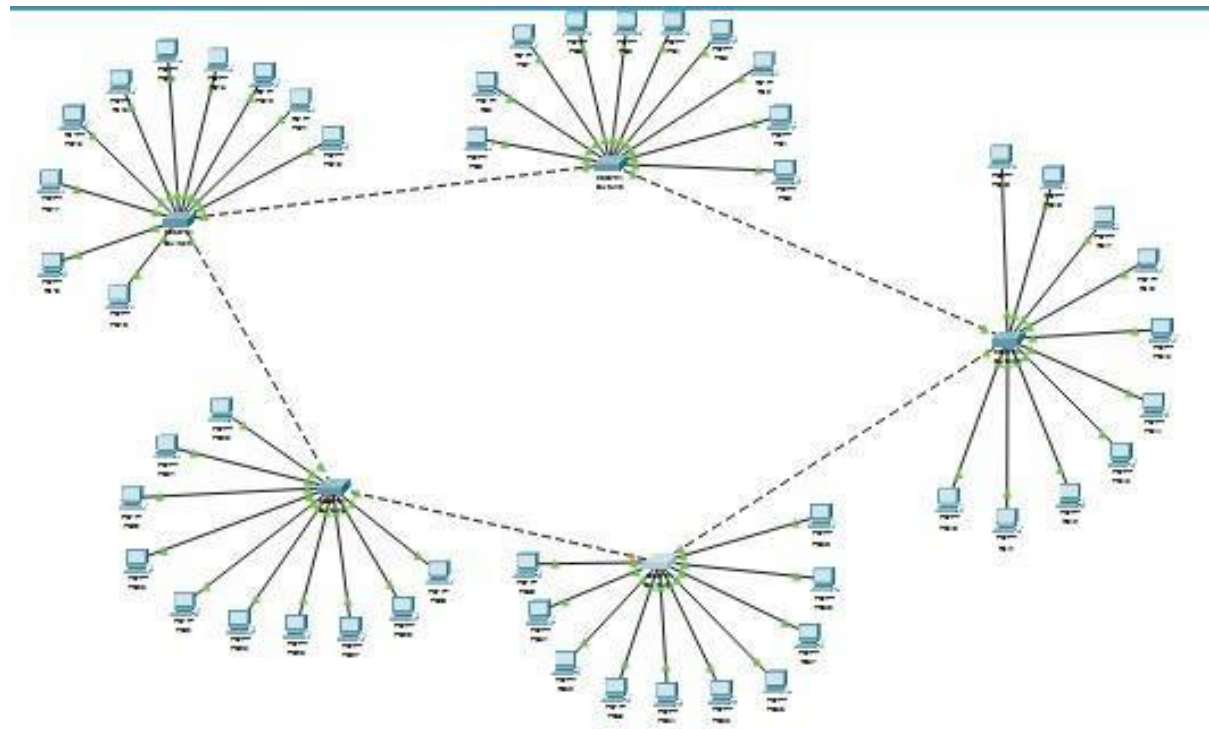
Ping statistics for 201.222.5.9:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

☐ Top

PC0 ketika dihubungkan dengan PC1 terhubung karena network addressnya sama, sedangkan PC0 dihubungkan ke PC3 atau PC4 tidak terhubung karena network addressnya berbeda.

TUGAS MODUL



Network ID 202.155.19.0 dengan subnet mask default 255.255.255.0

11111111.11111111.11111111.00000000

255.255.255.0

- 1) Jumlah subnet: $2^x = 2^0 = 1$ subnet
- 2) Jumlah host: $2^y - 2 = 2^8 - 2 = 256 - 2 = 254$ host
- 3) Blok subnet: $256 - 0 = 256$
- 4) Table subnet:

Network	202.155.19.0
Host pertama	202.155.19.1
Host terakhir	202.155.19.254
Broadcast	202.155.19.255

Memberikan IP Address pada semua PC

PC0

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address: 202.155.19.1

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::203:E4FF:FE84:53B

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

PC49

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address: 202.155.19.254

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::2E0:F7FF:FE39:286D

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

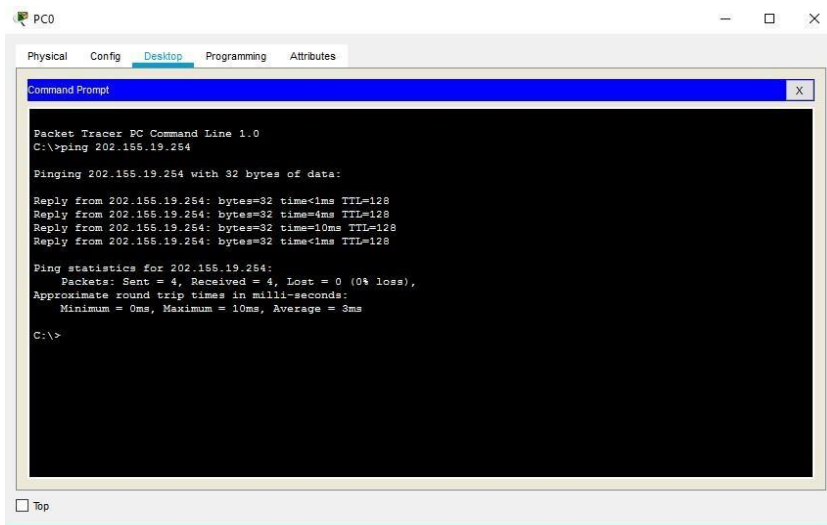
Authentication: MD5

Username:

Password:

☐ Top

Melakukan ping di PC 0 dengan IP Address PC 49



The screenshot shows a Packet Tracer window for PC0. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the execution of the 'ping 202.155.19.254' command. The output indicates that the ping was successful, with 4 packets sent and 4 received, all with a TTL of 128 and an average round trip time of 3ms.

```
Packet Tracer PC Command Line 1.0
C:\>ping 202.155.19.254

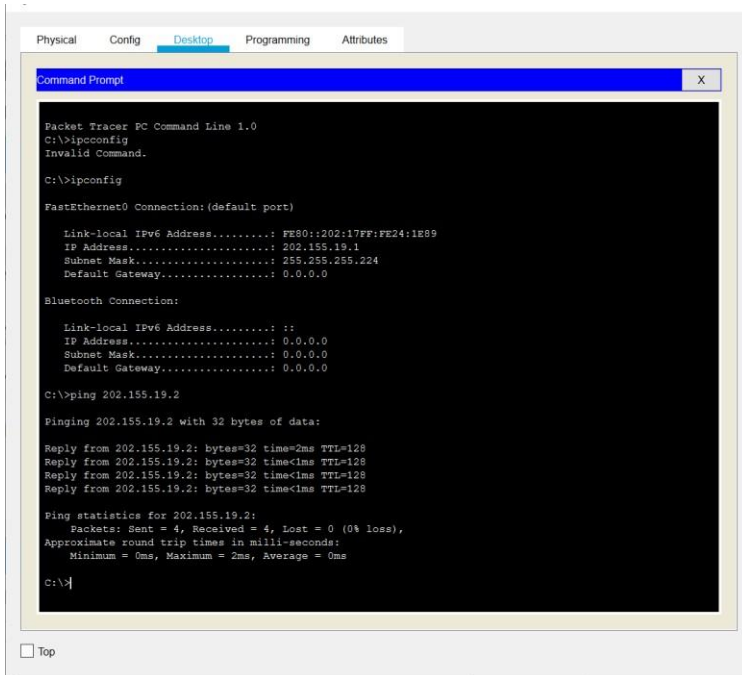
Pinging 202.155.19.254 with 32 bytes of data:

Reply from 202.155.19.254: bytes=32 time<1ms TTL=128
Reply from 202.155.19.254: bytes=32 time<1ms TTL=128
Reply from 202.155.19.254: bytes=32 time<1ms TTL=128
Reply from 202.155.19.254: bytes=32 time<1ms TTL=128

Ping statistics for 202.155.19.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 3ms

C:\>
```

Melakukan ping dari PC Divisi 1 ke PC Divisi 1



The screenshot shows a Packet Tracer window for PC0. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the execution of the 'ipconfig' command, which displays the network configuration for the PC. The configuration shows a Link-local IPv6 Address of FE80::202:17FF:FE24:1E89, an IP Address of 202.155.19.1, a Subnet Mask of 255.255.255.224, and a Default Gateway of 0.0.0.0. The command prompt then shows the execution of the 'ping 202.155.19.2' command. The output indicates that the ping was successful, with 4 packets sent and 4 received, all with a TTL of 128 and an average round trip time of 0ms.

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

C:\>ipconfig

FastEthernet0 Connection: (default port)

    Link-local IPv6 Address . . . . . : FE80::202:17FF:FE24:1E89
    IP Address . . . . . : 202.155.19.1
    Subnet Mask . . . . . : 255.255.255.224
    Default Gateway . . . . . : 0.0.0.0

Bluetooth Connection:

    Link-local IPv6 Address . . . . . : ::
    IP Address . . . . . : 0.0.0.0
    Subnet Mask . . . . . : 0.0.0.0
    Default Gateway . . . . . : 0.0.0.0

C:\>ping 202.155.19.2

Pinging 202.155.19.2 with 32 bytes of data:

Reply from 202.155.19.2: bytes=32 time=2ms TTL=128
Reply from 202.155.19.2: bytes=32 time<1ms TTL=128
Reply from 202.155.19.2: bytes=32 time<1ms TTL=128
Reply from 202.155.19.2: bytes=32 time<1ms TTL=128

Ping statistics for 202.155.19.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>
```

Dapat terhubung karena network addressnya sama.

Melakukan ping dari PC Divisi 1 ke PC Divisi 2

```
C:\>ping 202.155.19.33

Pinging 202.155.19.33 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 202.155.19.33:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

Terjadi Request Timed Out karena network addressnya berbeda.

Melakukan ping dari PC Divisi 1 ke PC Divisi 3

```
C:\>ping 202.155.19.65

Pinging 202.155.19.65 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 202.155.19.65:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

Terjadi Request Timed Out karena network addressnya berbeda.

Melakukan ping dari PC Divisi 1 ke PC Divisi 4

```
C:\>ping 202.155.19.97

Pinging 202.155.19.97 with 32 bytes of data:

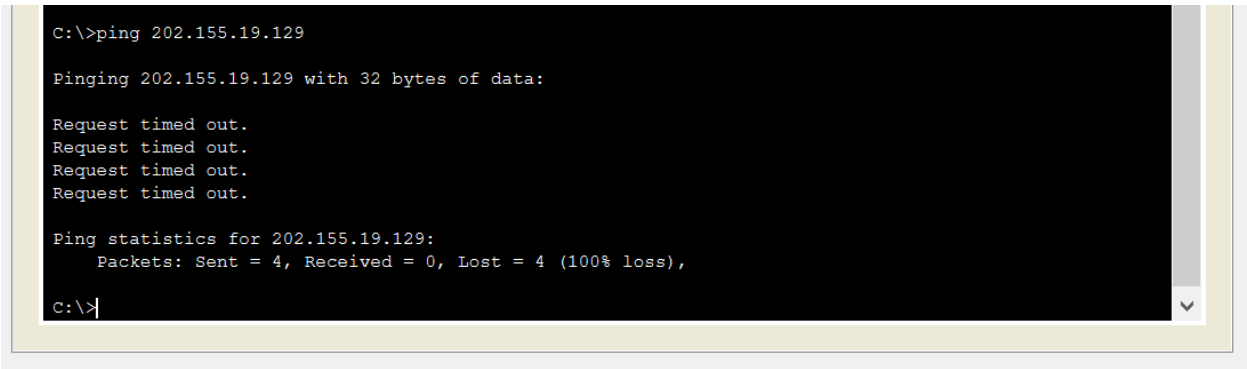
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 202.155.19.97:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

Terjadi Request Timed Out karena network addressnya berbeda.

Melakukan ping dari PC Divisi 1 ke PC Divisi 5



```
C:\>ping 202.155.19.129

Pinging 202.155.19.129 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 202.155.19.129:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

The screenshot shows a Windows command prompt window with a black background and white text. The user has entered the command 'ping 202.155.19.129'. The output shows four 'Request timed out.' messages, followed by ping statistics indicating a 100% loss of packets. The cursor is at the end of the command line 'C:\>|'.

Terjadi Request Timed Out karena network addressnya berbeda