

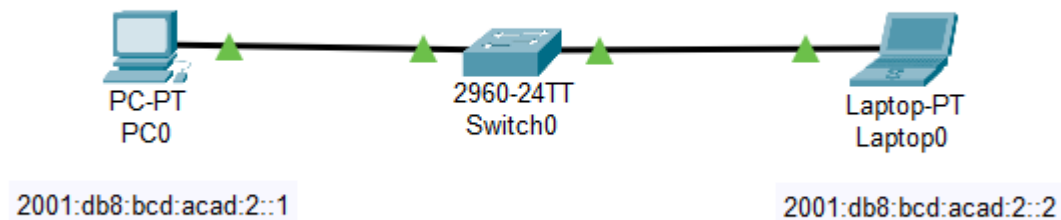
TUGAS STRUKTUR PERTEMUAN 8 E-LEARNING JARINGAN KOMPUTER

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1. Menentukan IP address versi 6



Desain simulasi testing ipv6 address

The screenshot shows a 'Command Prompt' window within the Cisco Packet Tracer interface. The window title is 'PC0'. The command line shows the execution of a ping command: 'C:\>ping 2001:db8:acad:2::2'. The output displays four successful replies from the destination address 2001:DB8:ACAD:2::2, each with 32 bytes of data, a time of 2ms, and a TTL of 128. Below the replies, the ping statistics are shown: 'Ping statistics for 2001:DB8:ACAD:2::2: Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 2ms, Average = 0ms'. The prompt 'C:\>' is visible at the bottom.

Tes Ping PC0 to Laptop

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 2001:db8:acad:2::2

Pinging 2001:db8:acad:2::2 with 32 bytes of data:

Reply from 2001:DB8:ACAD:2::2: bytes=32 time=2ms TTL=128
Reply from 2001:DB8:ACAD:2::2: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:ACAD:2::2: bytes=32 time<1ms TTL=128
Reply from 2001:DB8:ACAD:2::2: bytes=32 time<1ms TTL=128

Ping statistics for 2001:DB8:ACAD:2::2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>

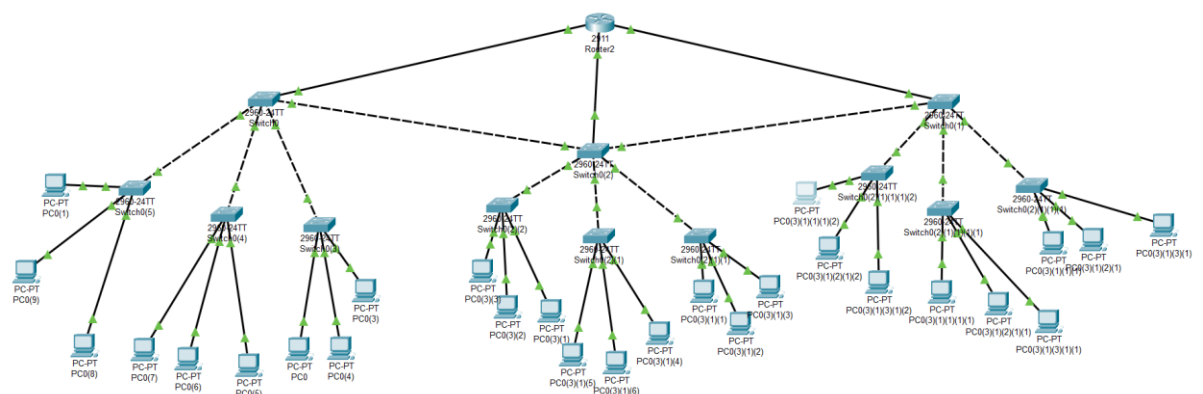
```

Tes ping Laptop to PC0

Analisis: kedua perangkat berada di satu jaringan IPv6 segment yang sama, jadi mereka bisa berkomunikasi langsung tanpa router.

Kesimpulan: Dengan menggunakan IPv6 address dalam satu segmen (2001:db8:acad:2::/64), kedua perangkat PC0 dan Laptop0 dapat saling berkomunikasi melalui switch tanpa perlu router. Hasil ping menunjukkan komunikasi dua arah berjalan sukses tanpa packet loss.

2. Subnetting F/V-LSM



1. Konfigurasi

Router DHCP Server untuk semua subnet

Subnet 1 (N3S1) 10.10.0.0 /18 – Gateway: 10.10.0.1

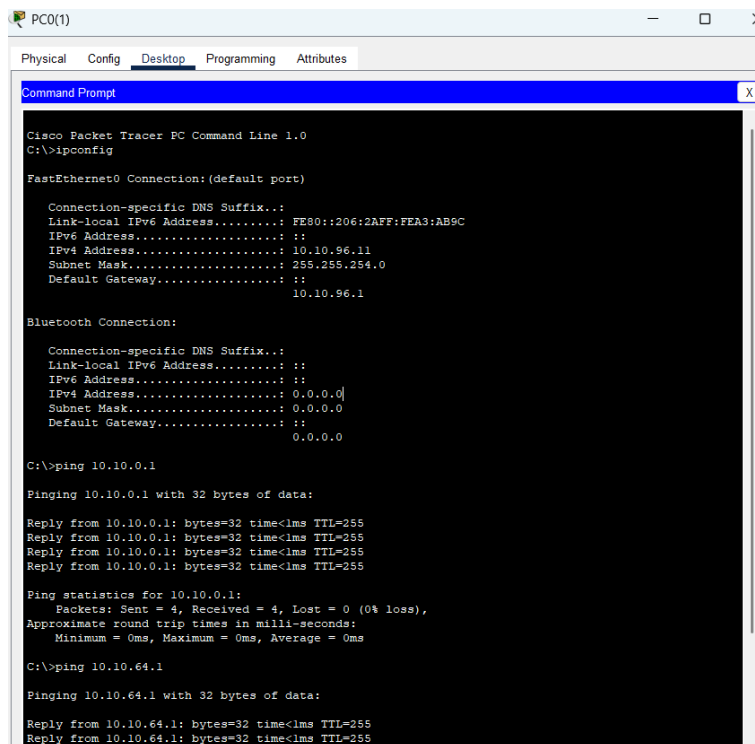
Subnet 2 (N3S2) 10.10.64.0 /19 – Gateway: 10.10.64.1

Subnet 3 (N3S3) 10.10.96.0 /23 – Gateway: 10.10.96.1

Total PC 27 unit (semua DHCP)

```
Router#show running-config | section ip dhcp
ip dhcp excluded-address 10.10.0.1 10.10.0.10
ip dhcp excluded-address 10.10.64.1 10.10.64.10
ip dhcp excluded-address 10.10.96.1 10.10.96.10
ip dhcp pool N3S1
 network 10.10.0.0 255.255.192.0
 default-router 10.10.0.1
 dns-server 8.8.8.8
ip dhcp pool N3S2
 network 10.10.64.0 255.255.224.0
 default-router 10.10.64.1
 dns-server 8.8.8.8
ip dhcp pool N3S3
 network 10.10.96.0 255.255.254.0
 default-router 10.10.96.1
 dns-server 8.8.8.8
Router#%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.10.96.13.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.10.96.28.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.10.64.30.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 10.10.96.32.
```

2. Test ping



```
PC0(1)
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::206:2AFF:FEA3:AB9C
    IPv6 Address . . . . .: ::
    IPv4 Address. . . . .: 10.10.96.11
    Subnet Mask . . . . .: 255.255.254.0
    Default Gateway . . . . .: ::
                                10.10.96.1

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:\>ping 10.10.0.1

Pinging 10.10.0.1 with 32 bytes of data:

Reply from 10.10.0.1: bytes=32 time<1ms TTL=255
Reply from 10.10.0.1: bytes=32 time<1ms TTL=255
Reply from 10.10.0.1: bytes=32 time<1ms TTL=255
Reply from 10.10.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.10.64.1

Pinging 10.10.64.1 with 32 bytes of data:

Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
```

```
PC0(3)(1)(1)(2)
Physical Config Desktop Programming Attributes
Command Prompt X
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::2E0:B0FF:FE0D:DA71
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 10.10.64.35
    Subnet Mask . . . . .: 255.255.254.0
    Default Gateway . . . . .: ::
                                10.10.64.1

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:\>ping 10.10.0.1

Pinging 10.10.0.1 with 32 bytes of data:

Reply from 10.10.0.1: bytes=32 time<1ms TTL=255
Reply from 10.10.0.1: bytes=32 time<1ms TTL=255
Reply from 10.10.0.1: bytes=32 time<1ms TTL=255
Reply from 10.10.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 10.10.96.1

Pinging 10.10.96.1 with 32 bytes of data:

Reply from 10.10.96.1: bytes=32 time<1ms TTL=255
Reply from 10.10.96.1: bytes=32 time<1ms TTL=255
```

```
PC0(5)
Physical Config Desktop Programming Attributes
Command Prompt X
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address . . . . .: FE80::260:70FF:FE54:A96B
    IPv6 Address . . . . .: ::
    IPv4 Address . . . . .: 10.10.0.22
    Subnet Mask . . . . .: 255.255.192.0
    Default Gateway . . . . .: ::
                                10.10.0.1

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:\>ping 10.10.64.1

Pinging 10.10.64.1 with 32 bytes of data:

Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
Reply from 10.10.64.1: bytes=32 time=20ms TTL=255
Reply from 10.10.64.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.64.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 20ms, Average = 5ms

C:\>ping 10.10.64.1

Pinging 10.10.64.1 with 32 bytes of data:

Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
Reply from 10.10.64.1: bytes=32 time<1ms TTL=255
```

Kesimpulan

Konfigurasi DHCP pada router berhasil memberikan alamat IP secara otomatis ke seluruh PC di tiga subnet berbeda. Pengujian ping menunjukkan konektivitas yang stabil antar perangkat, menandakan bahwa proses routing antar subnet telah berfungsi dengan baik.