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NETWORK SEGMENTATION DENGAN VLAN & ROUTING INTERVLAN

1. Gunakan Aplikasi Cisco PacketTracer untuk menyelesaikan tugas berikut ini. Lengkapi konfigurasi masing masing perangkat/devices mulai dari PC, SWITCH dan ROUTER, sehingga semua PC dapat berkomunikasi baik sesama VLAN maupun antar VLAN.

Langkah yang harus dilakukan antara lain :

- Konfigurasi masing masing IP Address PC disetiap VLAN sesuai alamat Address/Netmask dan Gateway masing masing.
- Konfigurasi VLAN pada masing masing Switch. VLAN Access sesuai ID/Tag VLAN masing masing untuk setiap PC, sedangkan VLAN Trunk untuk koneksi antar VLAN
- Konfigurasi Routing InterVLAN menggunakan Router on Stick, memanfaatkan sebuah interface Router0. Sehingga setiap PC dapat berkomunikasi antar VLAN

Jelaskan langkah langkah dan cantumkan semua perintah atau konfigurasi yang anda lakukan saat mengerjakan.

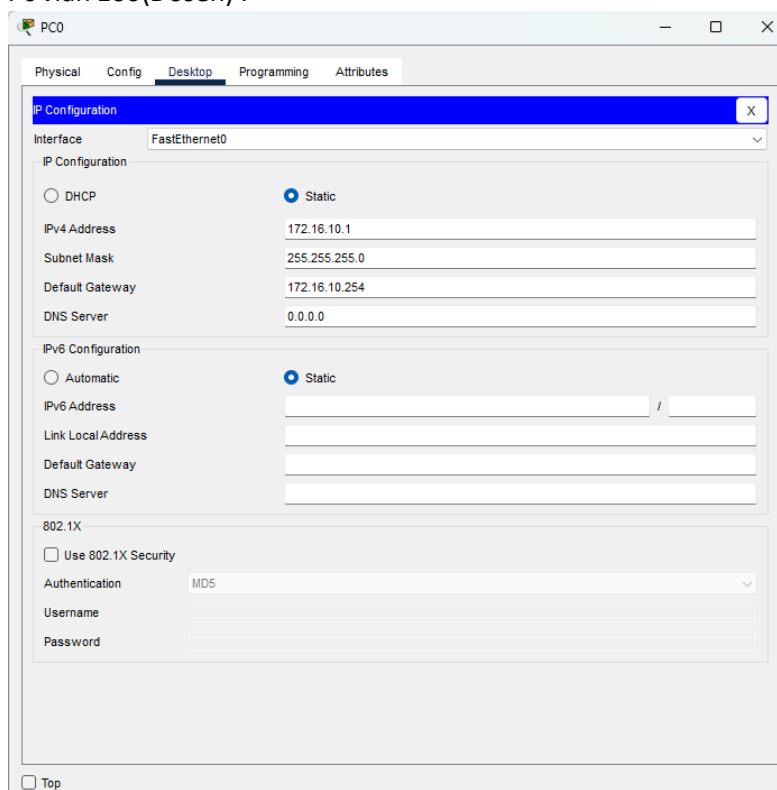
Lab dapat didownload di <https://josh.rootbrain.com/tugas/Tugas-LabVLAN-InterVLAN2.pkt>

Jawab :

A:

Konfigurasi IP,Subnet mask,gateway disetiap PC :

➤ Pc vlan 100(Dosen) :



PC2

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.16.10.2

Subnet Mask 255.255.255.0

Default Gateway 172.16.10.254

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC4

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.16.10.3

Subnet Mask 255.255.255.0

Default Gateway 172.16.10.254

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

➤ Pc vlan 200 (MHS) :

PC1

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.16.20.1

Subnet Mask 255.255.255.0

Default Gateway 172.16.20.254

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

PC6

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.16.20.2

Subnet Mask 255.255.255.0

Default Gateway 172.16.20.254

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Top

➤ Pc vlan 300 (Staf) :

The image displays two screenshots of a network simulator's configuration interface for two different PCs, PC3 and PC5. Both windows show the 'Desktop' tab with the 'P Configuration' dialog box open for the 'FastEthernet0' interface.

PC3 Configuration:

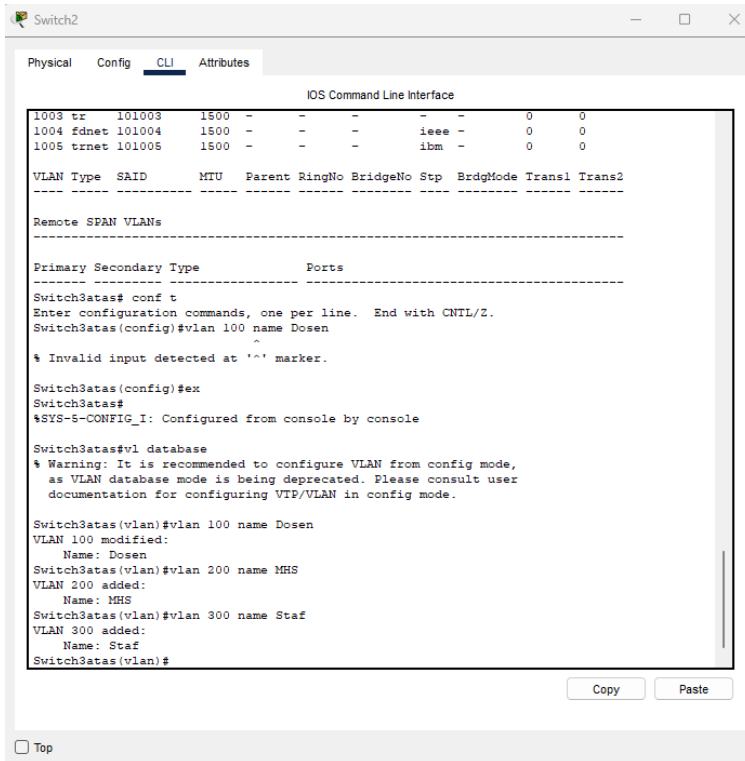
- Interface:** FastEthernet0
- IP Configuration:**
 - ☐ DHCP
 - ☒ Static
 - IPv4 Address: 172.16.30.1
 - Subnet Mask: 255.255.255.0
 - Default Gateway: 172.16.30.254
 - DNS Server: 0.0.0.0
- IPv6 Configuration:**
 - ☐ Automatic
 - ☒ Static
 - IPv6 Address: (empty)
 - Link Local Address: (empty)
 - Default Gateway: (empty)
 - DNS Server: (empty)
- 802.1X:**
 - ☐ Use 802.1X Security
 - Authentication: MD5
 - Username: (empty)
 - Password: (empty)

PC5 Configuration:

- Interface:** FastEthernet0
- IP Configuration:**
 - ☐ DHCP
 - ☒ Static
 - IPv4 Address: 172.16.30.2
 - Subnet Mask: 255.255.255.0
 - Default Gateway: 172.16.30.254
 - DNS Server: 0.0.0.0
- IPv6 Configuration:**
 - ☐ Automatic
 - ☒ Static
 - IPv6 Address: (empty)
 - Link Local Address: (empty)
 - Default Gateway: (empty)
 - DNS Server: (empty)
- 802.1X:**
 - ☐ Use 802.1X Security
 - Authentication: MD5
 - Username: (empty)
 - Password: (empty)

B :

Buat nama vlan pada switch 3 atas, pertama masuk ke vlan database lalu masukkan vlan dan nama yang kita pakai :



The screenshot shows the CLI interface of Switch2. The 'CLI' tab is selected. The interface displays the following commands and output:

```
Switch3atas# conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch3atas(config)#vlan 100 name Dosen
^
% Invalid input detected at '^' marker.

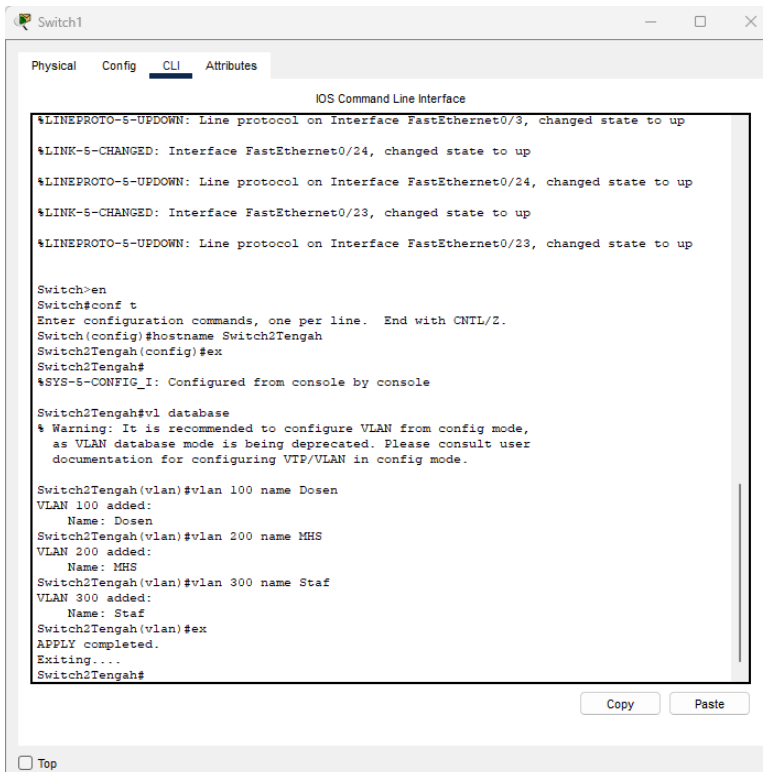
Switch3atas(config)#ex
Switch3atas#
%SYS-5-CONFIG_I: Configured from console by console

Switch3atas#vl database
% Warning: It is recommended to configure VLAN from config mode,
as VLAN database mode is being deprecated. Please consult user
documentation for configuring VTP/VLAN in config mode.

Switch3atas(vlan)#vlan 100 name Dosen
VLAN 100 modified:
  Name: Dosen
Switch3atas(vlan)#vlan 200 name MHS
VLAN 200 added:
  Name: MHS
Switch3atas(vlan)#vlan 300 name Staf
VLAN 300 added:
  Name: Staf
Switch3atas(vlan)#
```

Below the terminal output, there are 'Copy' and 'Paste' buttons. At the bottom left, there is a 'Top' button.

Buat nama vlan pada switch 2 tengah :



The screenshot shows the CLI interface of Switch1. The 'CLI' tab is selected. The interface displays the following commands and output:

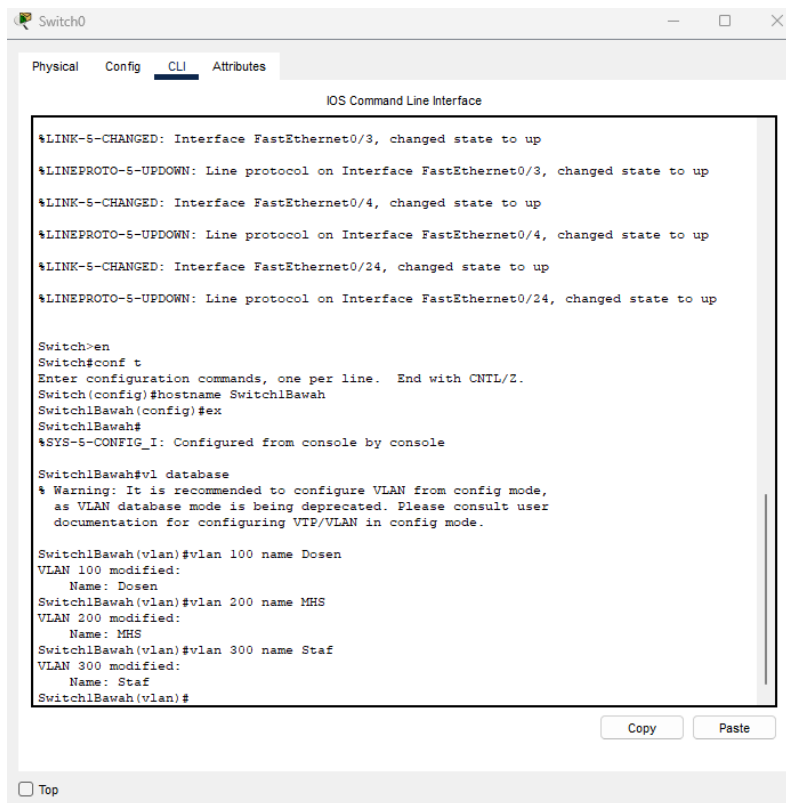
```
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname Switch2Tengah
Switch2Tengah(config)#ex
Switch2Tengah#
%SYS-5-CONFIG_I: Configured from console by console

Switch2Tengah#vl database
% Warning: It is recommended to configure VLAN from config mode,
as VLAN database mode is being deprecated. Please consult user
documentation for configuring VTP/VLAN in config mode.

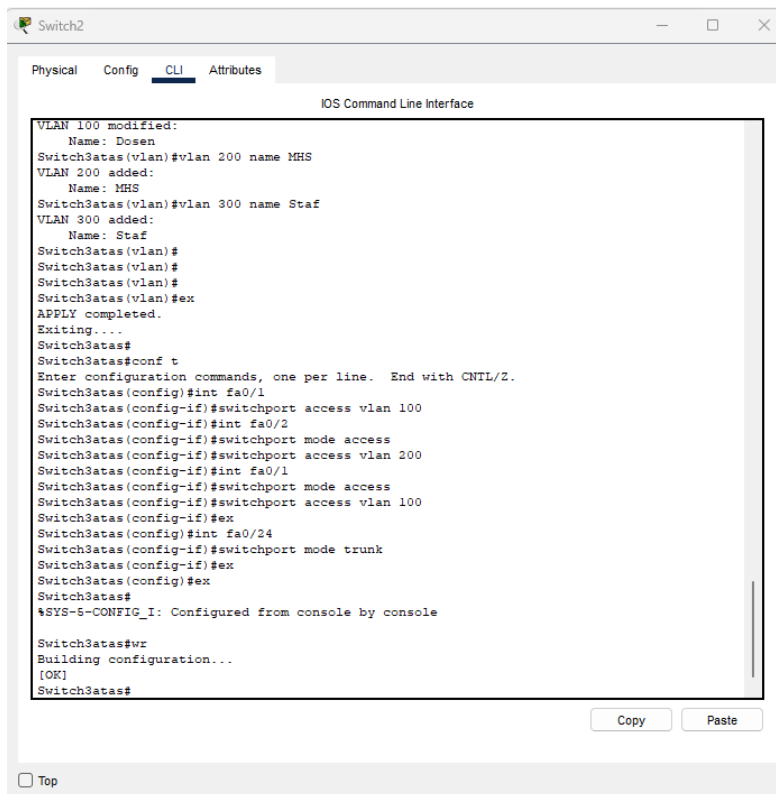
Switch2Tengah(vlan)#vlan 100 name Dosen
VLAN 100 added:
  Name: Dosen
Switch2Tengah(vlan)#vlan 200 name MHS
VLAN 200 added:
  Name: MHS
Switch2Tengah(vlan)#vlan 300 name Staf
VLAN 300 added:
  Name: Staf
Switch2Tengah(vlan)#ex
APPLY completed.
Exiting....
Switch2Tengah#
```

Below the terminal output, there are 'Copy' and 'Paste' buttons. At the bottom left, there is a 'Top' button.

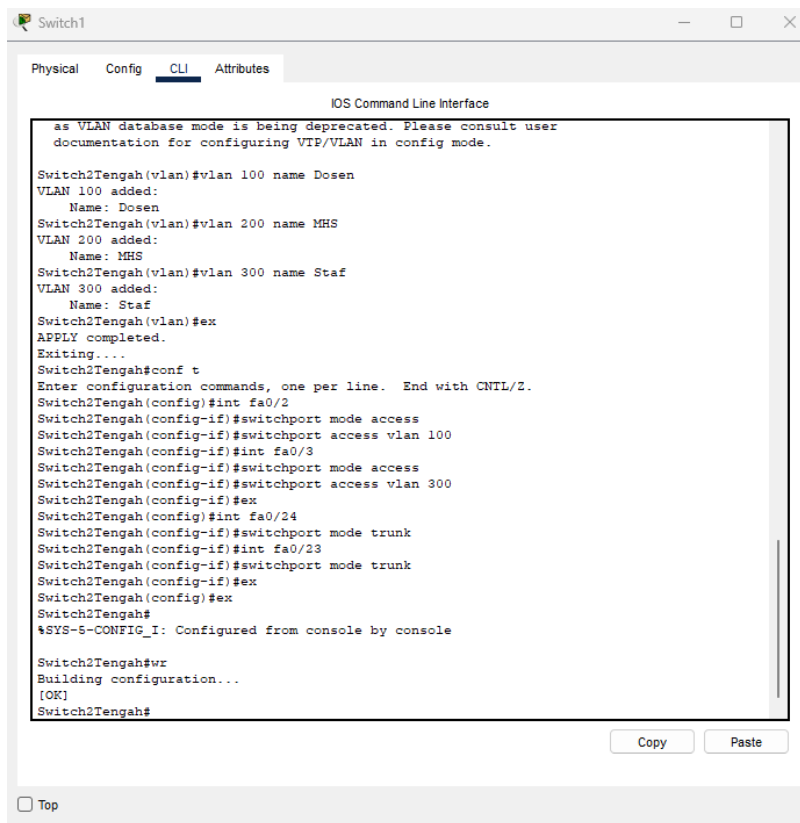
Buat nama vlan pada switch 1 bawah :



Akses vlan dan mode trunk pada port fa0/1 dan fa0/2, pertama masukkan dulu interfase nya, lalu akses vlan dengan perintah switchport mode access, :



Akses vlan dan mode trunk pada port fa0/2 dan fa0/3 :

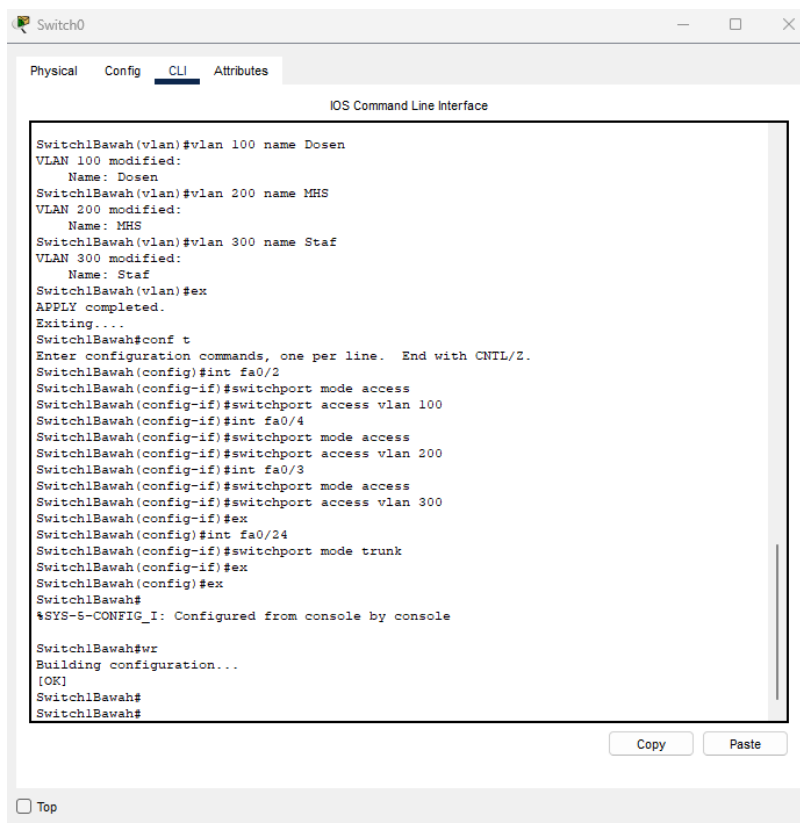


The screenshot shows the CLI window for Switch1. The configuration includes creating three VLANs: 100 named 'Dosen', 200 named 'MHS', and 300 named 'Staf'. Then, interfaces fa0/2 and fa0/3 are configured as access ports for VLAN 100. Interfaces fa0/24 and fa0/23 are configured as trunk ports for VLAN 300. The configuration is applied and saved.

```
Switch1
Physical Config CLI Attributes
IOS Command Line Interface
as VLAN database mode is being deprecated. Please consult user
documentation for configuring VTP/VLAN in config mode.
Switch2Tengah(vlan)#vlan 100 name Dosen
VLAN 100 added:
  Name: Dosen
Switch2Tengah(vlan)#vlan 200 name MHS
VLAN 200 added:
  Name: MHS
Switch2Tengah(vlan)#vlan 300 name Staf
VLAN 300 added:
  Name: Staf
Switch2Tengah(vlan)#ex
APPLY completed.
Exiting....
Switch2Tengah#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch2Tengah(config)#int fa0/2
Switch2Tengah(config-if)#switchport mode access
Switch2Tengah(config-if)#switchport access vlan 100
Switch2Tengah(config-if)#int fa0/3
Switch2Tengah(config-if)#switchport mode access
Switch2Tengah(config-if)#switchport access vlan 300
Switch2Tengah(config-if)#ex
Switch2Tengah(config)#int fa0/24
Switch2Tengah(config-if)#switchport mode trunk
Switch2Tengah(config-if)#int fa0/23
Switch2Tengah(config-if)#switchport mode trunk
Switch2Tengah(config-if)#ex
Switch2Tengah(config)#ex
Switch2Tengah#
%SYS-5-CONFIG_I: Configured from console by console

Switch2Tengah#wr
Building configuration...
[OK]
Switch2Tengah#
```

Akses vlan dan mode trunk pada port fa0/2,fa0/3,dan fa0/4 :

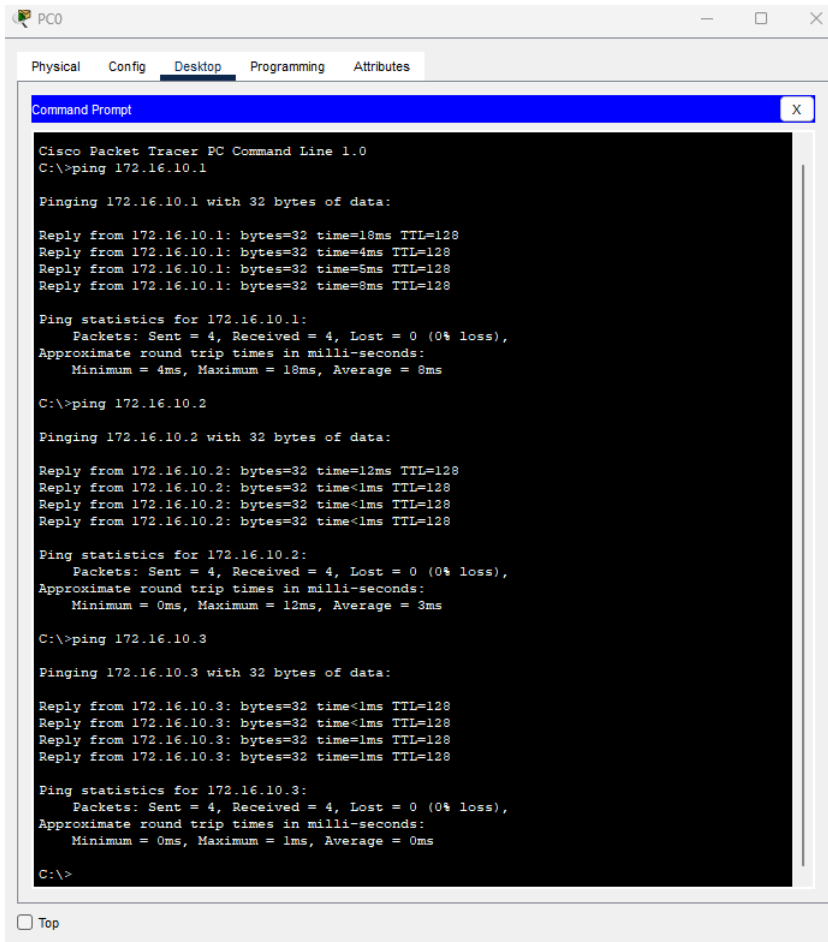


The screenshot shows the CLI window for Switch0. The configuration includes creating three VLANs: 100 named 'Dosen', 200 named 'MHS', and 300 named 'Staf'. Then, interfaces fa0/2, fa0/4, and fa0/3 are configured as access ports for VLAN 100, 200, and 300 respectively. Interfaces fa0/24 and fa0/23 are configured as trunk ports for VLAN 300. The configuration is applied and saved.

```
Switch0
Physical Config CLI Attributes
IOS Command Line Interface
Switch1Bawah(vlan)#vlan 100 name Dosen
VLAN 100 modified:
  Name: Dosen
Switch1Bawah(vlan)#vlan 200 name MHS
VLAN 200 modified:
  Name: MHS
Switch1Bawah(vlan)#vlan 300 name Staf
VLAN 300 modified:
  Name: Staf
Switch1Bawah(vlan)#ex
APPLY completed.
Exiting....
Switch1Bawah#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch1Bawah(config)#int fa0/2
Switch1Bawah(config-if)#switchport mode access
Switch1Bawah(config-if)#switchport access vlan 100
Switch1Bawah(config-if)#int fa0/4
Switch1Bawah(config-if)#switchport mode access
Switch1Bawah(config-if)#switchport access vlan 200
Switch1Bawah(config-if)#int fa0/3
Switch1Bawah(config-if)#switchport mode access
Switch1Bawah(config-if)#switchport access vlan 300
Switch1Bawah(config-if)#ex
Switch1Bawah(config)#int fa0/24
Switch1Bawah(config-if)#switchport mode trunk
Switch1Bawah(config-if)#ex
Switch1Bawah(config)#ex
Switch1Bawah#
%SYS-5-CONFIG_I: Configured from console by console

Switch1Bawah#wr
Building configuration...
[OK]
Switch1Bawah#
Switch1Bawah#
```

Ping antar PC pada vlan 100(Dosen) :



The screenshot shows the Cisco Packet Tracer PC Command Line interface for PC0. The Command Prompt window displays the results of three ping commands. Each command is successful, showing 4 packets sent and received with 0% loss. The ping statistics for each IP address are as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.10.1

Pinging 172.16.10.1 with 32 bytes of data:

Reply from 172.16.10.1: bytes=32 time=18ms TTL=128
Reply from 172.16.10.1: bytes=32 time=4ms TTL=128
Reply from 172.16.10.1: bytes=32 time=5ms TTL=128
Reply from 172.16.10.1: bytes=32 time=8ms TTL=128

Ping statistics for 172.16.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 18ms, Average = 8ms

C:\>ping 172.16.10.2

Pinging 172.16.10.2 with 32 bytes of data:

Reply from 172.16.10.2: bytes=32 time=12ms TTL=128
Reply from 172.16.10.2: bytes=32 time<1ms TTL=128
Reply from 172.16.10.2: bytes=32 time<1ms TTL=128
Reply from 172.16.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 12ms, Average = 3ms

C:\>ping 172.16.10.3

Pinging 172.16.10.3 with 32 bytes of data:

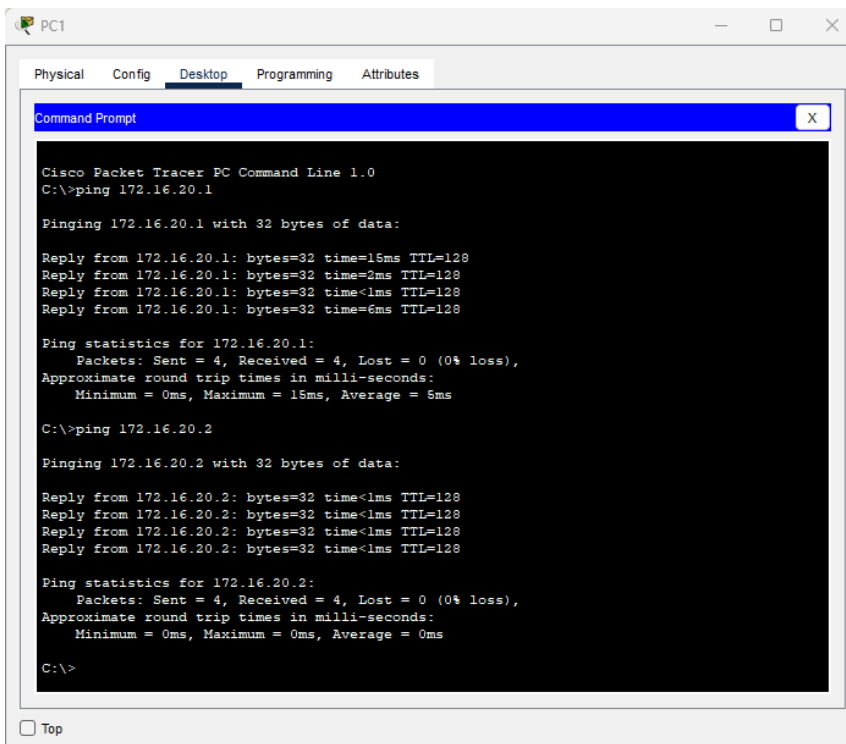
Reply from 172.16.10.3: bytes=32 time<1ms TTL=128
Reply from 172.16.10.3: bytes=32 time<1ms TTL=128
Reply from 172.16.10.3: bytes=32 time=1ms TTL=128
Reply from 172.16.10.3: bytes=32 time=1ms TTL=128

Ping statistics for 172.16.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

☐ Top

Ping antar PC pada vlan 200(MHS) :



The screenshot shows the Cisco Packet Tracer PC Command Line interface for PC1. The Command Prompt window displays the results of two ping commands. Each command is successful, showing 4 packets sent and received with 0% loss. The ping statistics for each IP address are as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.20.1

Pinging 172.16.20.1 with 32 bytes of data:

Reply from 172.16.20.1: bytes=32 time=15ms TTL=128
Reply from 172.16.20.1: bytes=32 time=2ms TTL=128
Reply from 172.16.20.1: bytes=32 time<1ms TTL=128
Reply from 172.16.20.1: bytes=32 time=6ms TTL=128

Ping statistics for 172.16.20.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 15ms, Average = 5ms

C:\>ping 172.16.20.2

Pinging 172.16.20.2 with 32 bytes of data:

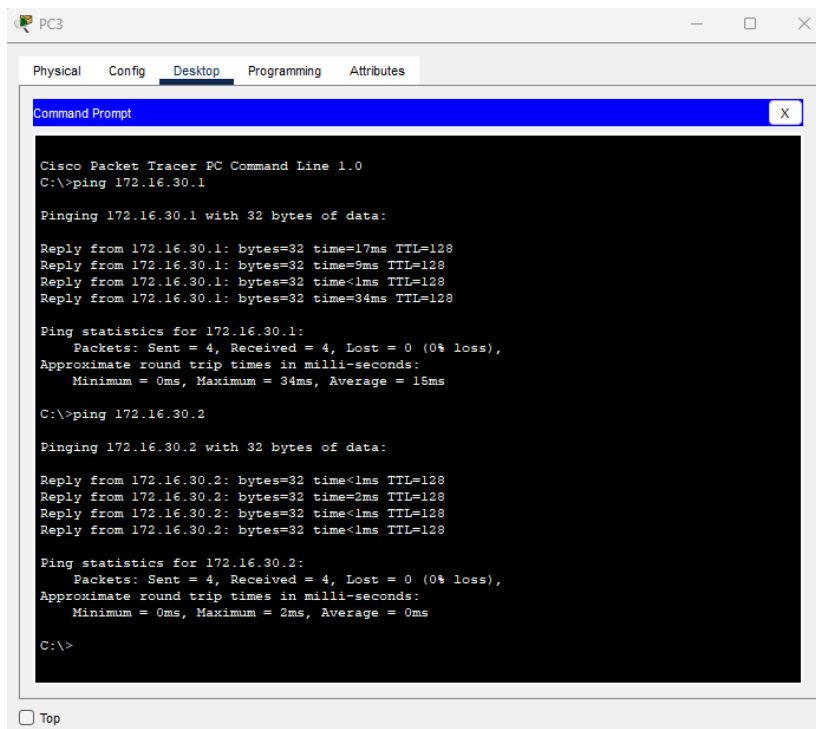
Reply from 172.16.20.2: bytes=32 time<1ms TTL=128
Reply from 172.16.20.2: bytes=32 time<1ms TTL=128
Reply from 172.16.20.2: bytes=32 time<1ms TTL=128
Reply from 172.16.20.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

☐ Top

Ping antar PC pada vlan 300(Staf) :



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC3. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt window. The Command Prompt shows the following output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.30.1

Pinging 172.16.30.1 with 32 bytes of data:

Reply from 172.16.30.1: bytes=32 time=17ms TTL=128
Reply from 172.16.30.1: bytes=32 time=9ms TTL=128
Reply from 172.16.30.1: bytes=32 time<1ms TTL=128
Reply from 172.16.30.1: bytes=32 time=34ms TTL=128

Ping statistics for 172.16.30.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 34ms, Average = 15ms

C:\>ping 172.16.30.2

Pinging 172.16.30.2 with 32 bytes of data:

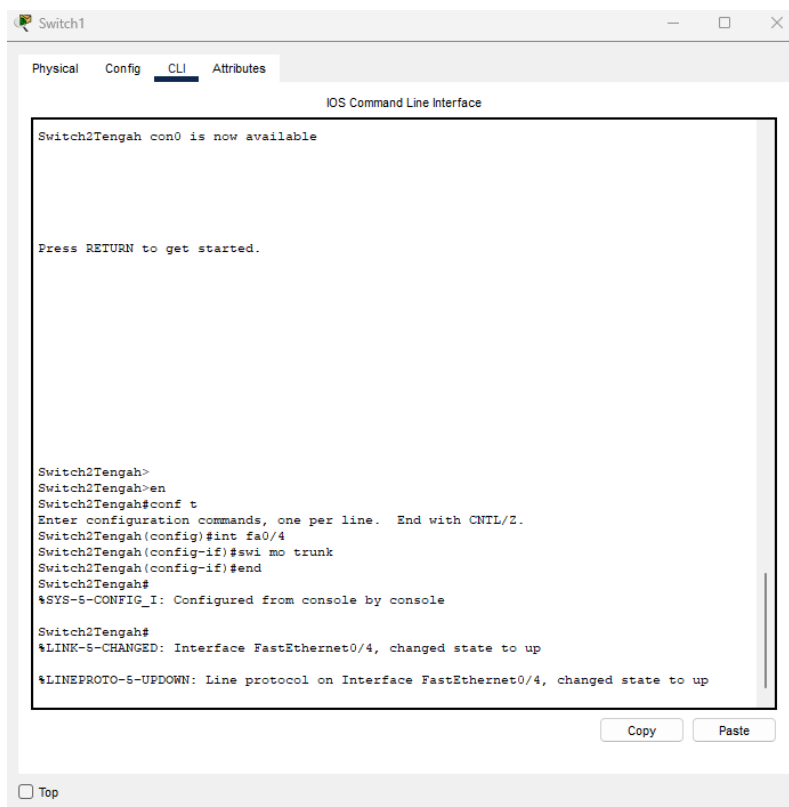
Reply from 172.16.30.2: bytes=32 time<1ms TTL=128
Reply from 172.16.30.2: bytes=32 time=2ms TTL=128
Reply from 172.16.30.2: bytes=32 time<1ms TTL=128
Reply from 172.16.30.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>
```

C :

Sebelum masuk konfigurasi router,switch 2 tengah di trunk dahulu :



The screenshot shows a Cisco Packet Tracer Switch1 CLI window. The window has tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the IOS Command Line Interface. The output shows the following commands and messages:

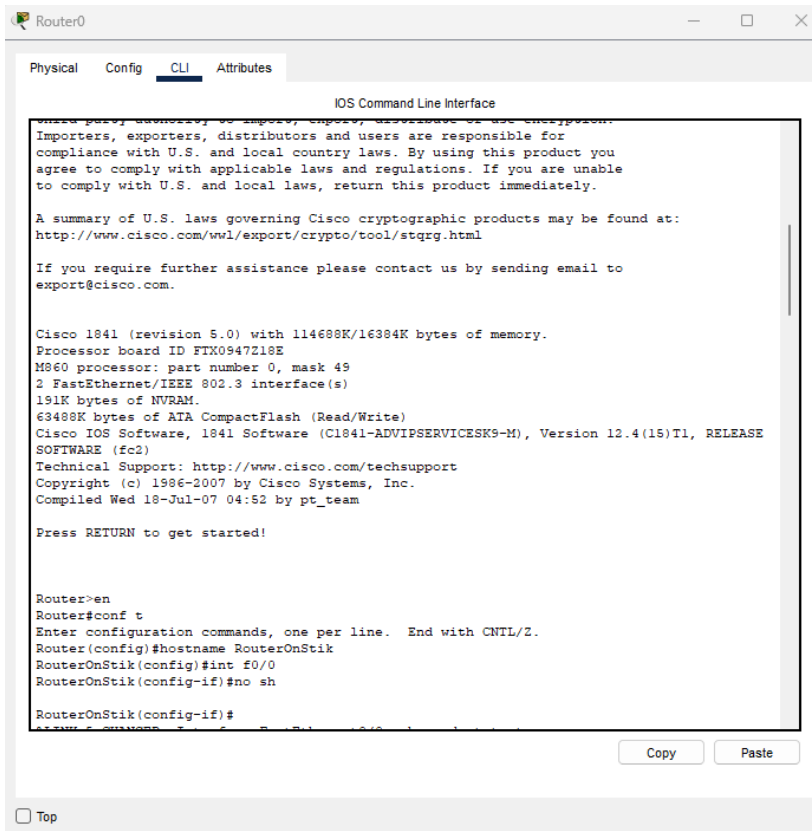
```
Switch2Tengah con0 is now available

Press RETURN to get started.

Switch2Tengah>
Switch2Tengah>en
Switch2Tengah#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch2Tengah(config)#int fa0/4
Switch2Tengah(config-if)#swi mo trunk
Switch2Tengah(config-if)#end
Switch2Tengah#
%SYS-S-CONFIG_I: Configured from console by console

Switch2Tengah#
%LINK-S-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-S-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
```

Setelah itu ganti nama router :



```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
Processor board ID FTX0947218E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname RouterOnStik
RouterOnStik(config)#int fa0/0
RouterOnStik(config-if)#no sh

RouterOnStik(config-if)#
RouterOnStik(config-if)#write
```

Pada konfigurasi ini, router diubah namanya menjadi RouterOnStik untuk memudahkan identifikasi di jaringan. Kemudian, interface FastEthernet 0/0 diaktifkan dengan perintah no shutdown, yang memungkinkan router mulai berfungsi.

Setelah itu, dibuat tiga sub interface pada Fa0/0 untuk mendukung beberapa VLAN. Sub interface ini masing-masing dikonfigurasi untuk VLAN 100, 200, dan 300 menggunakan encapsulation dot1Q. Ini memungkinkan router menangani beberapa VLAN dalam satu interface fisik.

Setiap sub-interface diberikan alamat IP:

VLAN 100: 172.16.10.254/24

VLAN 200: 172.16.20.254/24

VLAN 300: 172.16.30.254/24

Konfigurasi ini membuat router dapat berfungsi sebagai gateway untuk masing-masing VLAN, memungkinkan komunikasi antar-VLAN berjalan melalui router :

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname RouterOnStik
RouterOnStik(config)#int f0/0
RouterOnStik(config-if)#no sh

RouterOnStik(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

RouterOnStik(config-if)#int fa0/0.100
RouterOnStik(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.100, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.100, changed state to up

RouterOnStik(config-subif)#encapsulation dot1Q 100
RouterOnStik(config-subif)#ip add 172.16.10.254 255.255.255.0
RouterOnStik(config-subif)#int fa0/0.200
RouterOnStik(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.200, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.200, changed state to up

RouterOnStik(config-subif)#encapsulation dot1Q 200
RouterOnStik(config-subif)#ip add 172.16.20.254
% Incomplete command.
RouterOnStik(config-subif)#ip add 172.16.20.254 255.255.255.0
RouterOnStik(config-subif)#int fa0/0.300
RouterOnStik(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.300, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.300, changed state to up

RouterOnStik(config-subif)#encapsulation dot1Q 300
RouterOnStik(config-subif)#ip add 172.16.30.254 255.255.255.0
RouterOnStik(config-subif)#ex
RouterOnStik(config)#ex
RouterOnStik#
%SYS-5-CONFIG_I: Configured from console by console

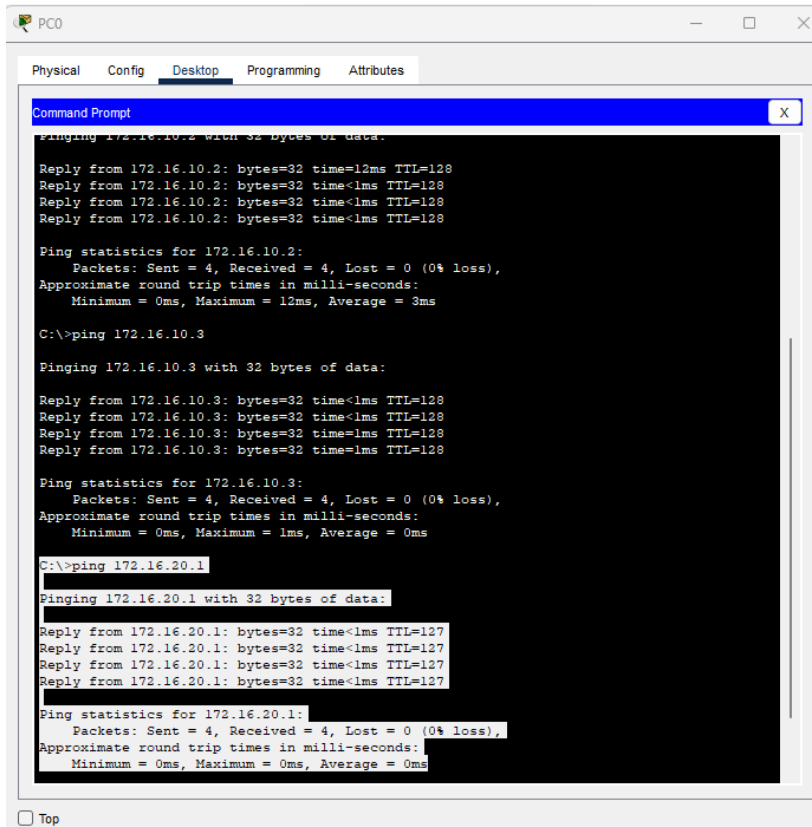
RouterOnStik#wr
Building configuration...
[OK]
```

Copy

Paste

Ping PC yang berbeda vlan :

- PC 1 vlan 100 ke pc 1 vlan 200 :



The screenshot shows the Command Prompt of PC0 in Cisco Packet Tracer. The user has performed three ping commands. The first two pings are to IP addresses in the same VLAN (172.16.10.2 and 172.16.10.3), both of which succeed with 0% loss. The third ping is to an IP address in a different VLAN (172.16.20.1), which also succeeds with 0% loss, indicating successful inter-VLAN routing.

```
PC0
Physical Config Desktop Programming Attributes
Command Prompt
Pinging 172.16.10.2 with 32 bytes of data:
Reply from 172.16.10.2: bytes=32 time=12ms TTL=128
Reply from 172.16.10.2: bytes=32 time<1ms TTL=128
Reply from 172.16.10.2: bytes=32 time<1ms TTL=128
Reply from 172.16.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.16.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 12ms, Average = 3ms

C:\>ping 172.16.10.3

Pinging 172.16.10.3 with 32 bytes of data:
Reply from 172.16.10.3: bytes=32 time<1ms TTL=128
Reply from 172.16.10.3: bytes=32 time<1ms TTL=128
Reply from 172.16.10.3: bytes=32 time=1ms TTL=128
Reply from 172.16.10.3: bytes=32 time=1ms TTL=128

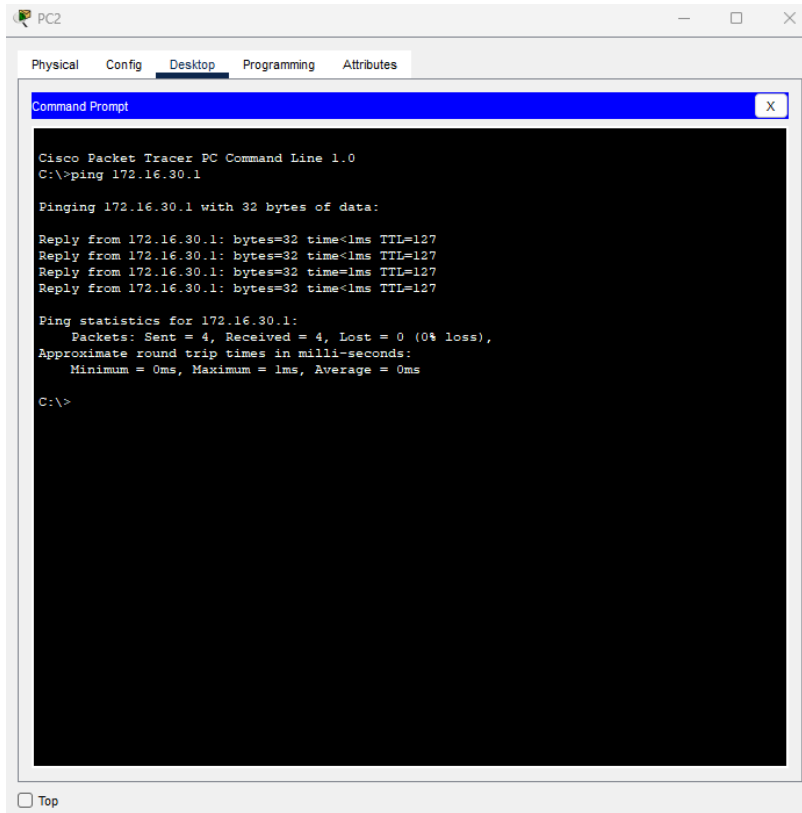
Ping statistics for 172.16.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 172.16.20.1

Pinging 172.16.20.1 with 32 bytes of data:
Reply from 172.16.20.1: bytes=32 time<1ms TTL=127
Reply from 172.16.20.1: bytes=32 time<1ms TTL=127
Reply from 172.16.20.1: bytes=32 time<1ms TTL=127
Reply from 172.16.20.1: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.20.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

- Pc 2 vlan 100 ke pc 1 vlan 300 :



The screenshot shows the Command Prompt of PC2 in Cisco Packet Tracer. The user has performed a single ping command to the IP address 172.16.30.1. The ping is successful with 0% loss, indicating successful inter-VLAN routing from PC2 to PC1 in VLAN 300.

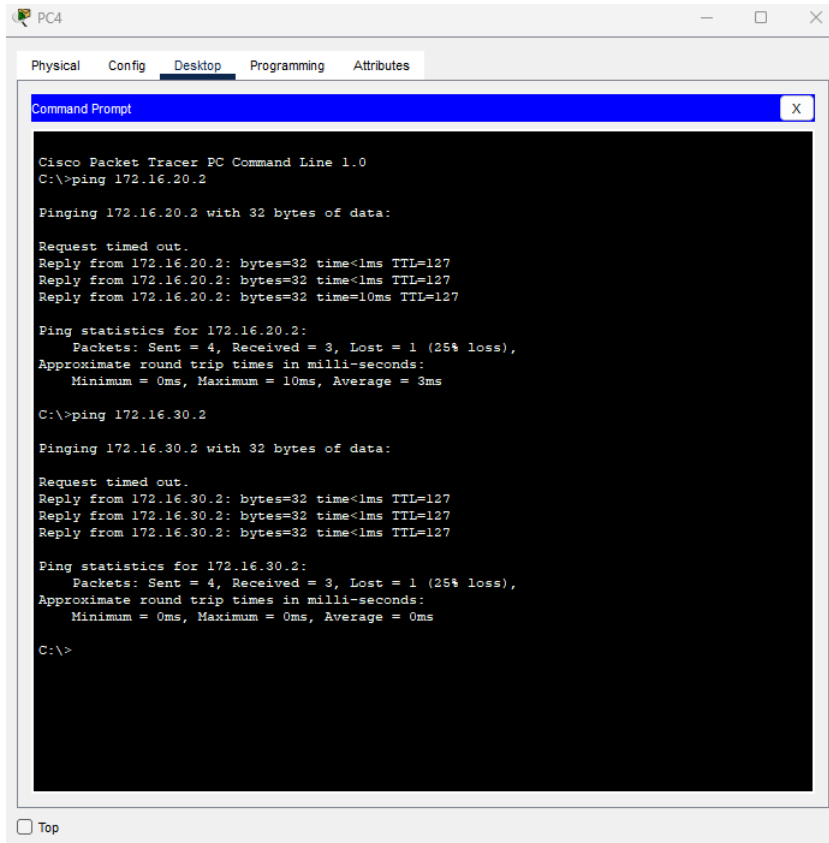
```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.30.1

Pinging 172.16.30.1 with 32 bytes of data:
Reply from 172.16.30.1: bytes=32 time<1ms TTL=127
Reply from 172.16.30.1: bytes=32 time<1ms TTL=127
Reply from 172.16.30.1: bytes=32 time=1ms TTL=127
Reply from 172.16.30.1: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.30.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

- Pc 3 vlan 100 ke pc 2 vlan 200 dan pc 2 vlan 300 :



The screenshot shows the Command Prompt window of PC4 in Cisco Packet Tracer. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, showing a black command prompt with white text. The text shows the execution of two ping commands: 'ping 172.16.20.2' and 'ping 172.16.30.2'. The first ping to 172.16.20.2 shows a 'Request timed out' followed by three successful replies with 32 bytes of data, each taking less than 1ms and having a TTL of 127. The statistics for 172.16.20.2 show 4 packets sent, 3 received, and 1 lost (25% loss), with an average round trip time of 3ms. The second ping to 172.16.30.2 also shows a 'Request timed out' followed by three successful replies with 32 bytes of data, each taking less than 1ms and having a TTL of 127. The statistics for 172.16.30.2 show 4 packets sent, 3 received, and 1 lost (25% loss), with an average round trip time of 0ms. The prompt ends with 'C:\>'.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 172.16.20.2

Pinging 172.16.20.2 with 32 bytes of data:

Request timed out.
Reply from 172.16.20.2: bytes=32 time<1ms TTL=127
Reply from 172.16.20.2: bytes=32 time<1ms TTL=127
Reply from 172.16.20.2: bytes=32 time=10ms TTL=127

Ping statistics for 172.16.20.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 3ms

C:\>ping 172.16.30.2

Pinging 172.16.30.2 with 32 bytes of data:

Request timed out.
Reply from 172.16.30.2: bytes=32 time<1ms TTL=127
Reply from 172.16.30.2: bytes=32 time<1ms TTL=127
Reply from 172.16.30.2: bytes=32 time<1ms TTL=127

Ping statistics for 172.16.30.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

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