

LAPORAN PRAKTIKUM AKHIR
MATA KULIAH PRAKTIKUM KONSEP JARINGAN



Dosen :

Dr. Ferry Astika Saputra, S.T., M.Sc.

Oleh :

Amirotul Ummah (3122600017) – 2 D4 Teknik Informatika A

PROGRAM STUDI SARJANA TERAPAN TEKNIK INFORMATIKA
DEPARTEMEN TEKNIK INFORMATIKA DAN KOMPUTER
POLITEKNIK ELEKTRONIKA NEGERI SURABAYA
SURABAYA

2023

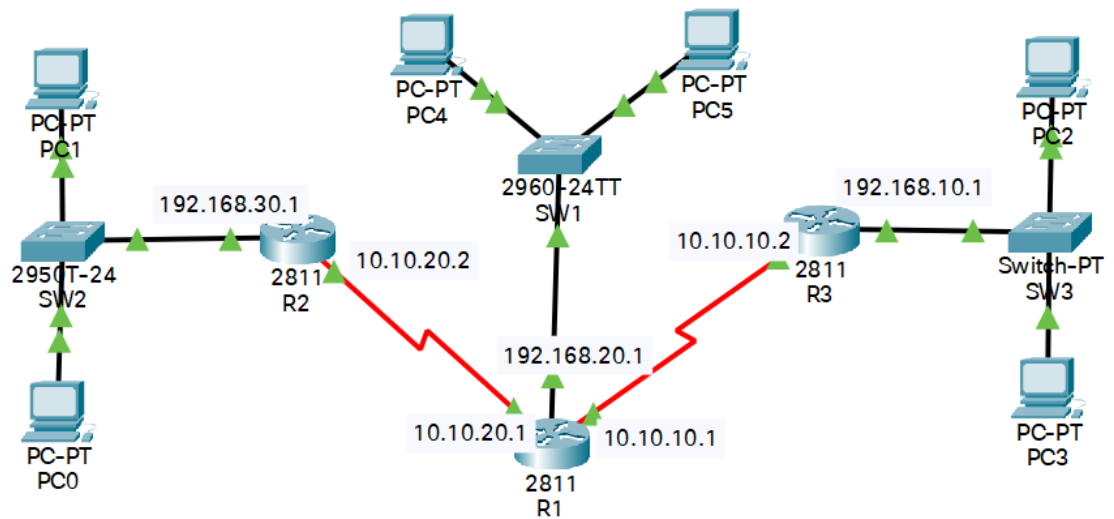
SOAL UAS Semester Gasal 2021/2022

Matkul : Praktikum Konsep Jaringan

Dosen : Ferry Astika S

Waktu pengerjaan : 1 jam 30 menit (09:30-11:00)

1. Diketahui jaringan dengan topologi (file:Soal-1.pkt) :



Konfigurasi tabel routing pada R1, R2 dan R3 dengan menggunakan statik routing sehingga seluruh PC yang ada dapat terhubung dengan baik. (20%)

Jawaban :

Konfigurasi Router 1

The screenshot displays the configuration interface for Router R1. The 'Config' tab is active, and the 'Static Routes' section is selected. The left sidebar shows a tree view with categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), SWITCHING (VLAN Database), and INTERFACE (FastEthernet0/0 through FastEthernet1/7). The main area contains fields for 'Network', 'Mask', and 'Next Hop', followed by an 'Add' button. Below this is a table of configured static routes:

Network Address
192.168.10.0/24 via 10.10.10.2
192.168.30.0/24 via 10.10.20.2

At the bottom right of the table is a 'Remove' button. Below the table, the 'Equivalent IOS Commands' section shows a terminal window with the following text:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

R1>enable
R1#
R1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#
R1(config)#
```

At the bottom left, there is a 'Top' button with a checkbox.

Konfigurasi Router 2

R2

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Serial0/0/0

Serial0/0/1

Serial0/1/0

Serial0/1/1

FastEthernet1/0

FastEthernet1/1

FastEthernet1/2

FastEthernet1/3

FastEthernet1/4

FastEthernet1/5

FastEthernet1/6

FastEthernet1/7

Static Routes

Network

Mask

Next Hop

Add

Network Address

192.168.20.0/24 via 10.10.20.1

192.168.10.0/24 via 10.10.10.2

192.168.10.0/24 via 10.10.20.1

Remove

Equivalent IOS Commands

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

R2>enable

R2#

R2#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

R2(config)#interface FastEthernet0/0

R2(config-if)#

R2(config-if)#exit

R2(config)#

R2(config)#

☐ Top

Konfigurasi Router 3

R3

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

Serial0/0/0

Serial0/0/1

Serial0/1/0

Serial0/1/1

FastEthernet1/0

FastEthernet1/1

FastEthernet1/2

FastEthernet1/3

FastEthernet1/4

FastEthernet1/5

FastEthernet1/6

FastEthernet1/7

Static Routes

Network

Mask

Next Hop

Add

Network Address

192.168.20.0/24 via 10.10.10.1

192.168.30.0/24 via 10.10.20.2

192.168.30.0/24 via 10.10.10.1

Remove

Equivalent IOS Commands

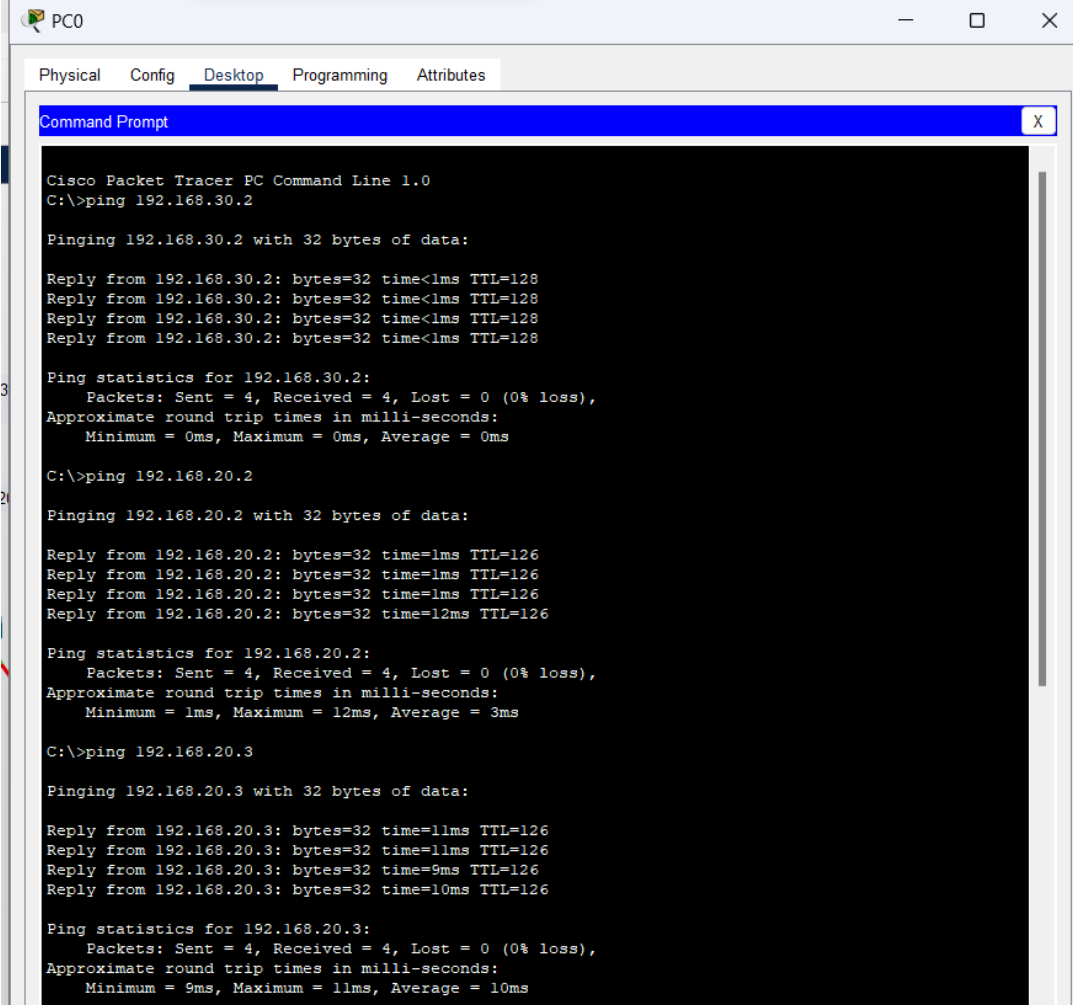
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

R3>enable
R3#
R3#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R3(config)#
R3(config)#
```

☐ Top

Konektivitas PC

a. PC0



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC0. 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 execution of three ping commands from the C:\> prompt. The first command is 'ping 192.168.30.2', which returns four successful replies with 32 bytes of data, a time of <1ms, and a TTL of 128. The second command is 'ping 192.168.20.2', which returns four successful replies with 32 bytes of data, a time of 1ms, and a TTL of 126. The third command is 'ping 192.168.20.3', which returns four successful replies with 32 bytes of data, a time of 11ms, and a TTL of 126. Ping statistics for each command show 4 packets sent, 4 received, and 0% loss.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.30.2

Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time<1ms TTL=128
Reply from 192.168.30.2: bytes=32 time<1ms TTL=128
Reply from 192.168.30.2: bytes=32 time<1ms TTL=128
Reply from 192.168.30.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=1ms TTL=126
Reply from 192.168.20.2: bytes=32 time=1ms TTL=126
Reply from 192.168.20.2: bytes=32 time=1ms TTL=126
Reply from 192.168.20.2: bytes=32 time=12ms TTL=126

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 12ms, Average = 3ms

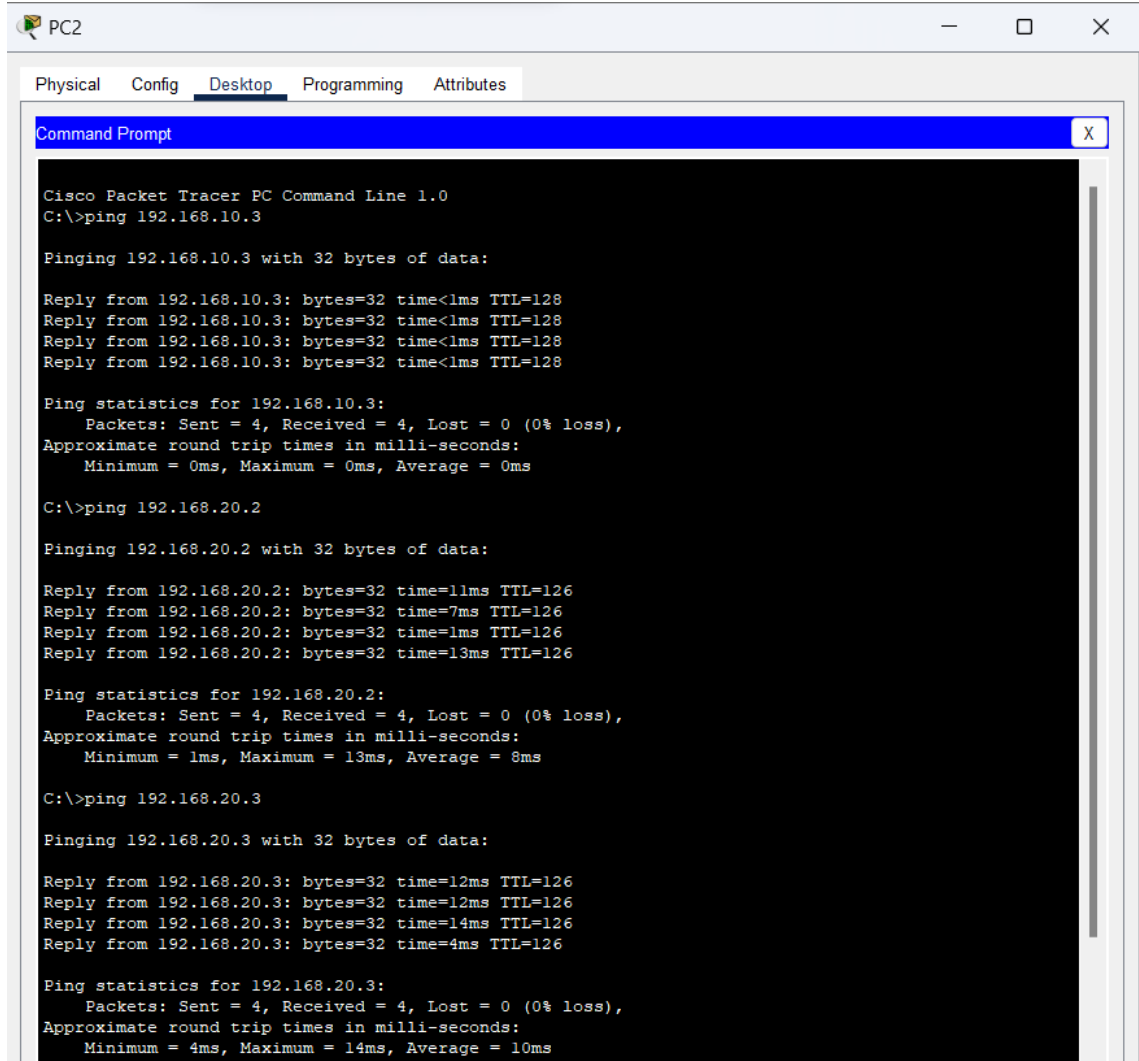
C:\>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

Reply from 192.168.20.3: bytes=32 time=11ms TTL=126
Reply from 192.168.20.3: bytes=32 time=11ms TTL=126
Reply from 192.168.20.3: bytes=32 time=9ms TTL=126
Reply from 192.168.20.3: bytes=32 time=10ms TTL=126

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 9ms, Maximum = 11ms, Average = 10ms
```

b. PC2



The screenshot shows a PC2 window in Cisco Packet Tracer. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the results of three ping commands executed from PC2. The first command is 'ping 192.168.10.3', which shows four successful replies with 0% loss and 0ms round trip times. The second command is 'ping 192.168.20.2', which shows four successful replies with 0% loss and an average round trip time of 8ms. The third command is 'ping 192.168.20.3', which shows four successful replies with 0% loss and an average round trip time of 10ms.

```
Cisco Packet Tracer PC Command Line 1.0
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
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
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 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=11ms TTL=126
Reply from 192.168.20.2: bytes=32 time=7ms TTL=126
Reply from 192.168.20.2: bytes=32 time=1ms TTL=126
Reply from 192.168.20.2: bytes=32 time=13ms TTL=126

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 13ms, Average = 8ms

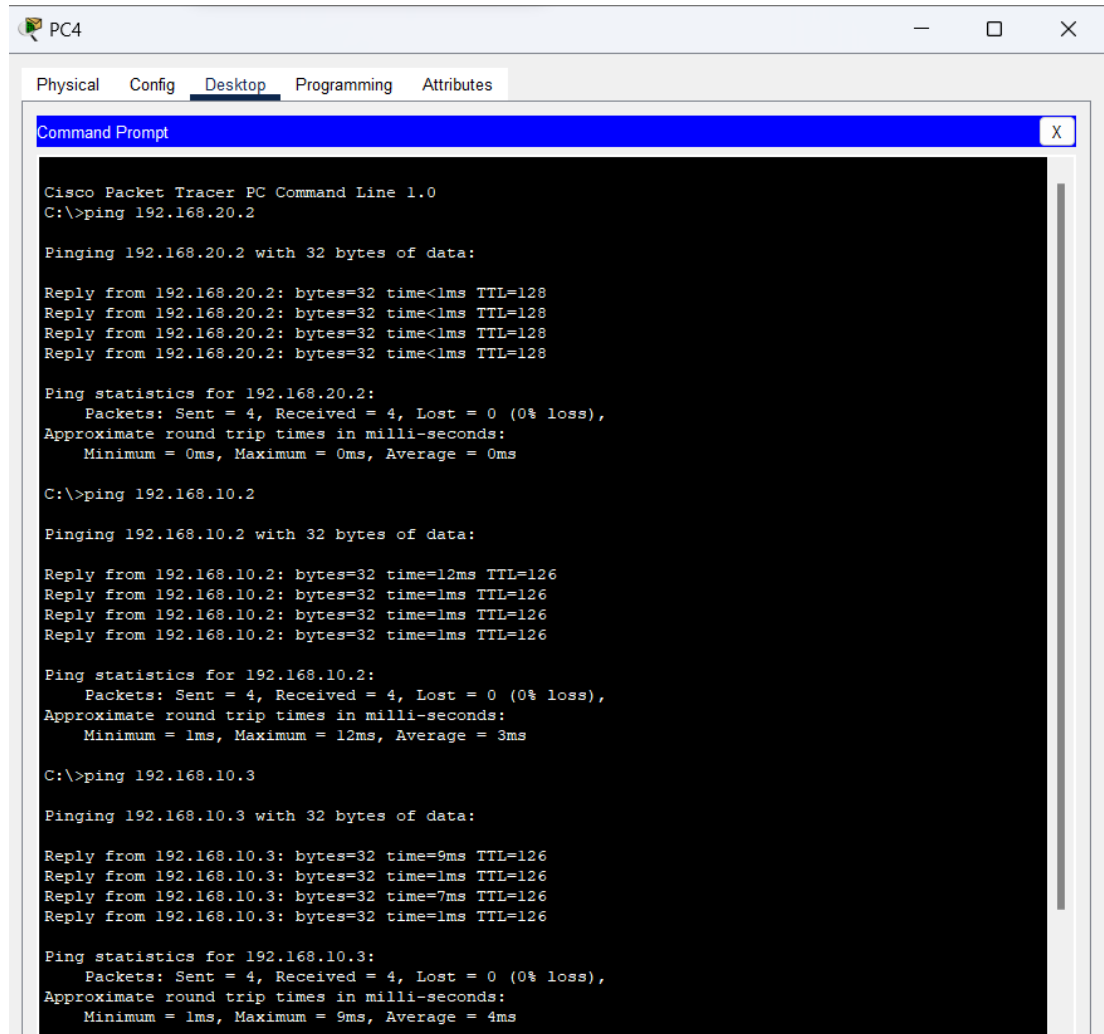
C:\>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

Reply from 192.168.20.3: bytes=32 time=12ms TTL=126
Reply from 192.168.20.3: bytes=32 time=12ms TTL=126
Reply from 192.168.20.3: bytes=32 time=14ms TTL=126
Reply from 192.168.20.3: bytes=32 time=4ms TTL=126

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 14ms, Average = 10ms
```

c. PC4



The screenshot shows a Cisco Packet Tracer PC Command Line interface for PC4. The interface has tabs for Physical, Config, Desktop (selected), Programming, and Attributes. The Command Prompt window displays the following output:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time<1ms TTL=128
Reply from 192.168.20.2: bytes=32 time<1ms TTL=128
Reply from 192.168.20.2: bytes=32 time<1ms TTL=128
Reply from 192.168.20.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.2

Pinging 192.168.10.2 with 32 bytes of data:

Reply from 192.168.10.2: bytes=32 time=12ms TTL=126
Reply from 192.168.10.2: bytes=32 time=1ms TTL=126
Reply from 192.168.10.2: bytes=32 time=1ms TTL=126
Reply from 192.168.10.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 12ms, Average = 3ms

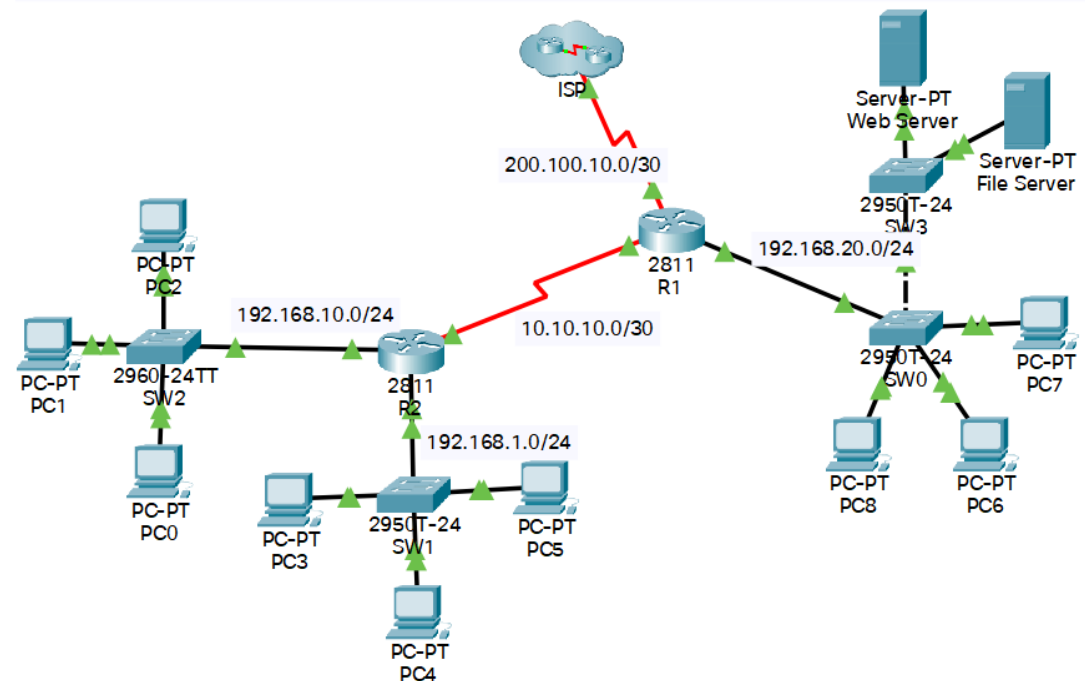
C:\>ping 192.168.10.3

Pinging 192.168.10.3 with 32 bytes of data:

Reply from 192.168.10.3: bytes=32 time=9ms TTL=126
Reply from 192.168.10.3: bytes=32 time=1ms TTL=126
Reply from 192.168.10.3: bytes=32 time=7ms TTL=126
Reply from 192.168.10.3: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 9ms, Average = 4ms
```


2. Diketahui jaringan dengan topologi (file:Soal-2.pkt):



Konfigurasi tabel routing pada R1, R2 dan R3 dengan menggunakan RIP sehingga seluruh PC dapat terhubung ke ISP dengan baik.(20%)

Jawaban :

Konfigurasi Router

a. R1

The screenshot shows the configuration window for router R2. The 'Config' tab is selected, and the 'ROUTING' section is expanded, with 'RIP' selected. The 'RIP Routing (v2)' configuration area is visible, showing a list of network addresses and an 'Add' button.

Network Address
10.0.0.0
192.168.1.0
192.168.10.0
192.168.20.0
200.100.10.0

Buttons: Add, Remove

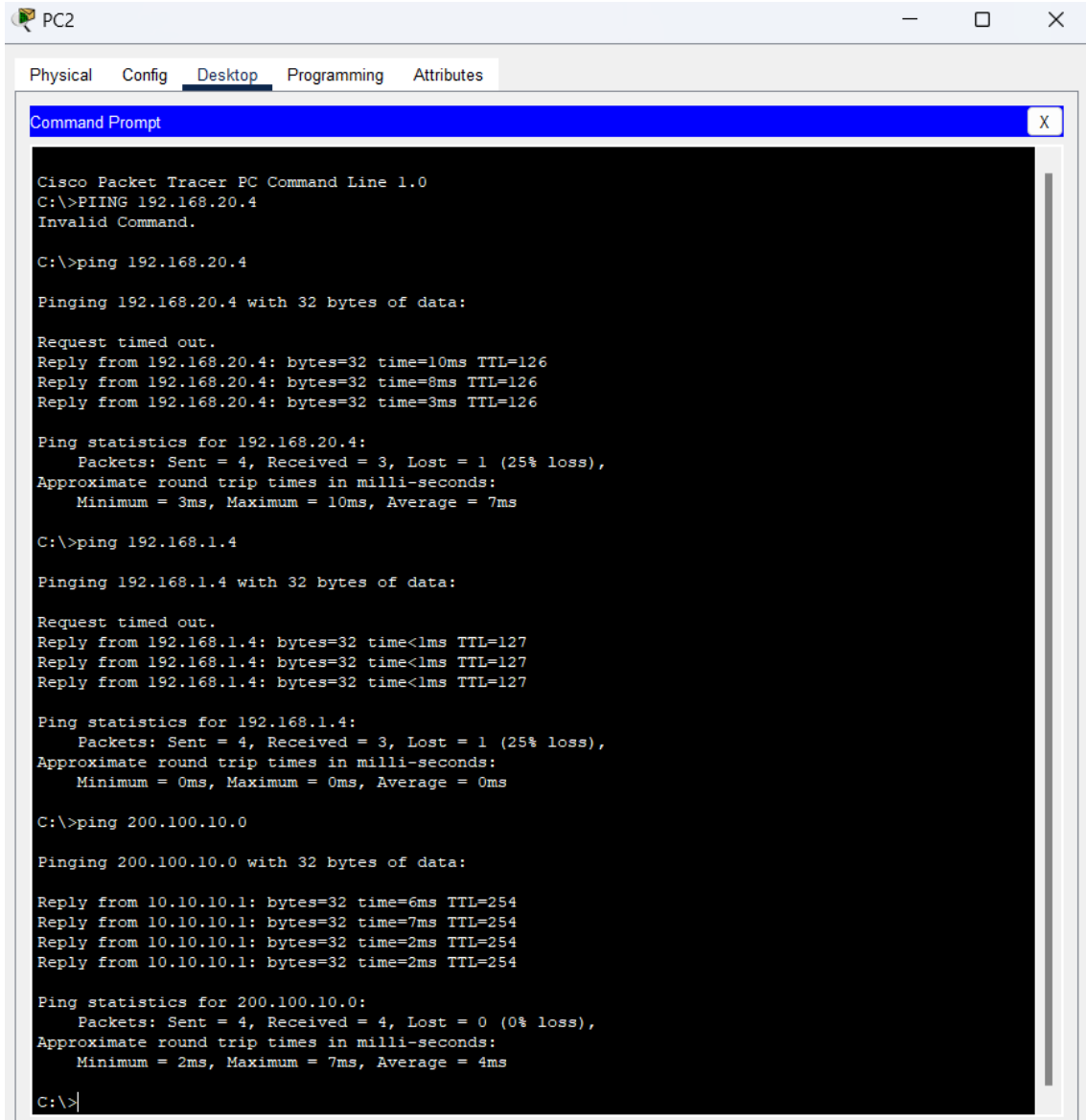
b. R2

The screenshot shows the configuration window for router R1. The 'Config' tab is selected, and the 'ROUTING' section is expanded, with 'RIP' selected. The 'RIP Routing (v2)' configuration area is visible, showing a list of network addresses and an 'Add' button.

Network Address
10.0.0.0
192.168.1.0
192.168.10.0
192.168.20.0
200.100.10.0

Buttons: Add, Remove

Konektivitas PC



The screenshot shows a Cisco Packet Tracer PC Command Line window for a PC named 'PC2'. The window has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes', with 'Desktop' selected. The command prompt shows the following sequence of commands and outputs:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>PIING 192.168.20.4
Invalid Command.

C:\>ping 192.168.20.4

Pinging 192.168.20.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.4: bytes=32 time=10ms TTL=126
Reply from 192.168.20.4: bytes=32 time=8ms TTL=126
Reply from 192.168.20.4: bytes=32 time=3ms TTL=126

Ping statistics for 192.168.20.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 10ms, Average = 7ms

C:\>ping 192.168.1.4

Pinging 192.168.1.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.4: bytes=32 time<1ms TTL=127
Reply from 192.168.1.4: bytes=32 time<1ms TTL=127
Reply from 192.168.1.4: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.1.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 200.100.10.0

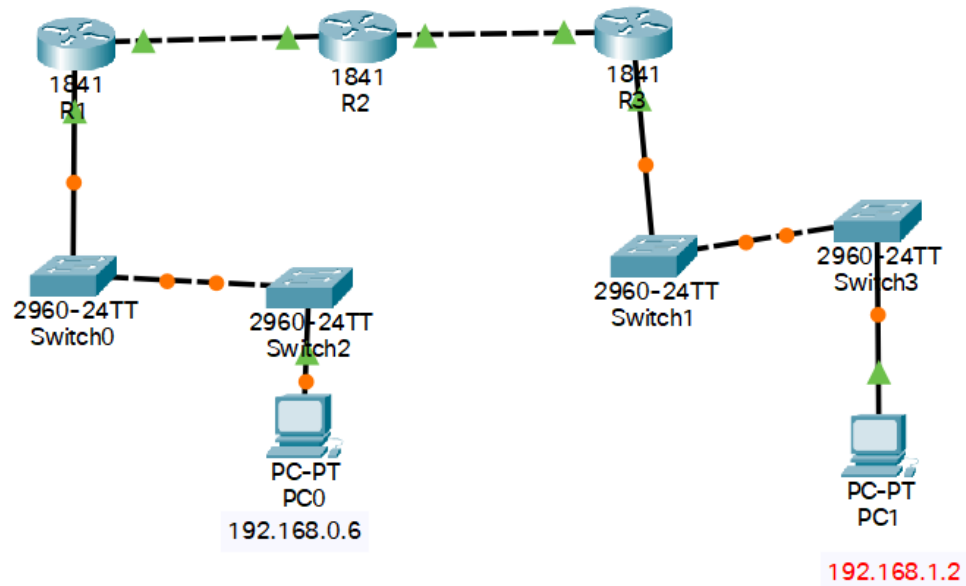
Pinging 200.100.10.0 with 32 bytes of data:

Reply from 10.10.10.1: bytes=32 time=6ms TTL=254
Reply from 10.10.10.1: bytes=32 time=7ms TTL=254
Reply from 10.10.10.1: bytes=32 time=2ms TTL=254
Reply from 10.10.10.1: bytes=32 time=2ms TTL=254

Ping statistics for 200.100.10.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 7ms, Average = 4ms

C:\>|
```

3. Diketahui jaringan dengan topologi (file:Soal-3.pkt):

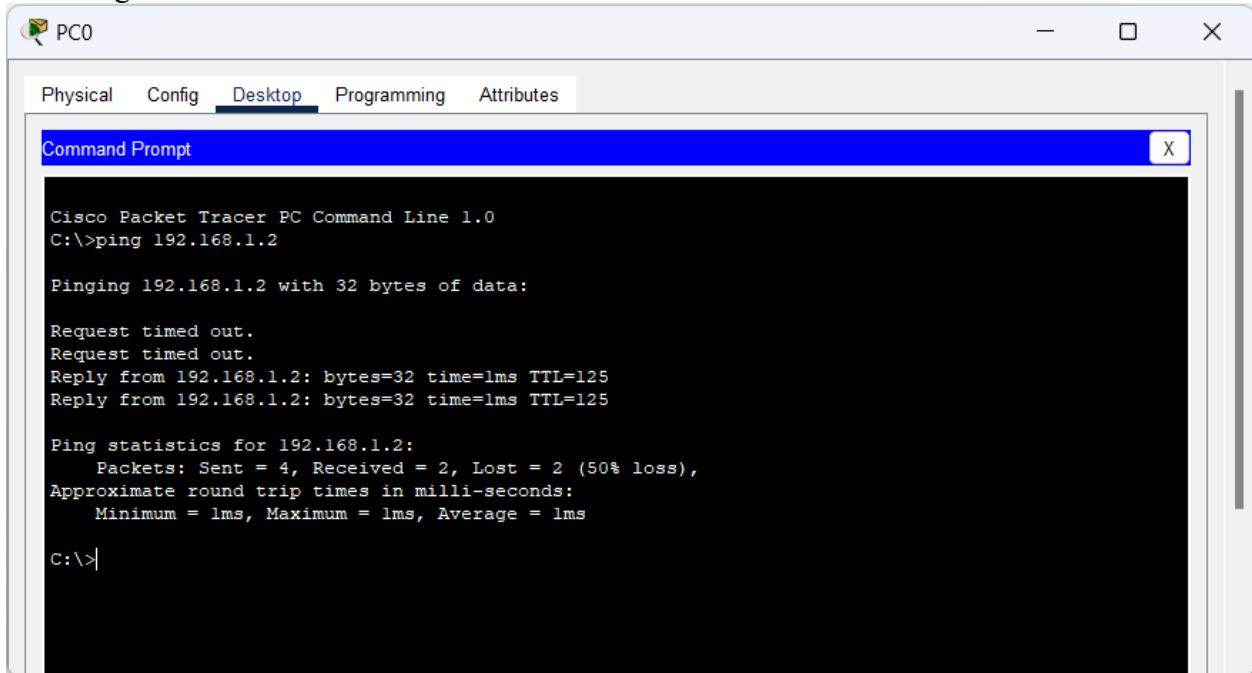


Permasalahan yang harus di selesaikan : PC0 tidak bisa ping ke PC 1 !(20%)

Seluruh dokumen jawaban (file jawaban.pdf dan file packet tracer) disimpan dalam github anda. Isi dokumen berupa konfigurasi per device (file txt) dan bukti konetivitas nya ke seluruh devices. (screenshot)

Jawaban

PC0 Ping PC1



PC1 Ping PC0

