TP 10 DHCP & ACL 2024

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Topologi
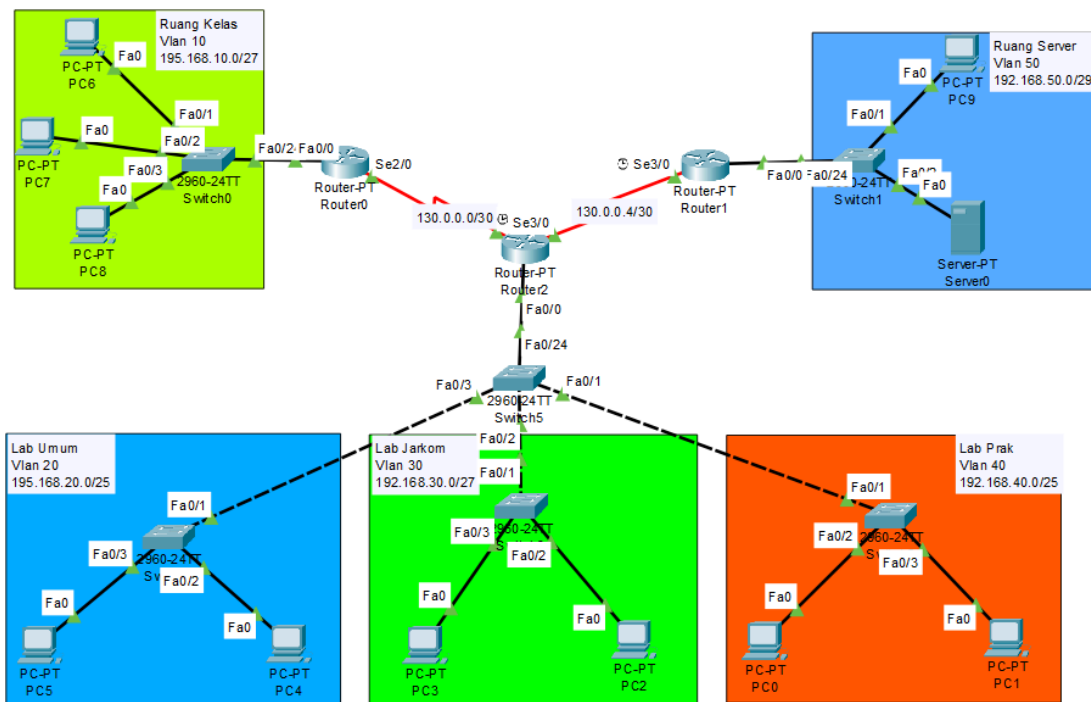
1. Membuat VLAN, switchport mode access, dan melakukan trunk

-Vlan 10

```
Switch(config)#vlan 10
Switch(config-vlan)#name ruangkelas
Switch(config-vlan)#ex

Switch(config)#int ra fa0/1-3
Switch(config-if-range)#no sh
Switch(config-if-range)#sw mod acc
Switch(config-if-range)#sw acc vlan 10
Switch(config-if-range)#ex
Switch(config)#int fa0/24
Switch(config-if)#sw mod trunk
Switch(config-if)#sw tru allowed vlan all
Switch(config-if)#ex
```

-Vlan 20

```
Switch(config)#vlan 20
Switch(config-vlan)#name labumum
Switch(config-vlan)#ex

Switch(config)#int ra fa0/2-3
Switch(config-if-range)#sw mod acc
Switch(config-if-range)#sw acc vlan 20
Switch(config-if-range)#no sh
Switch(config-if-range)#ex
Switch(config)#int fa0/1
Switch(config-if)#sw mod trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Switch(config-if)#sw tru allowed vlan all
Switch(config-if)#no sh
Switch(config-if)#ex
```

-Vlan 30

```
Switch(config)#vlan 30
Switch(config-vlan)#name labjarkom
Switch(config-vlan)#ex

Switch(config)#int ra fa0/2-3
Switch(config-if-range)#sw mod acc
Switch(config-if-range)#sw acc vlan 30
Switch(config-if-range)#no sh
Switch(config-if-range)#ex
Switch(config)#int fa0/1
Switch(config-if)#sw mod trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Switch(config-if)#sw tru allo vlan all
Switch(config-if)#no sh
Switch(config-if)#ex
```

-Vlan 40

```
Switch(config)#vlan 40
Switch(config-vlan)#name labprak
Switch(config-vlan)#ex

Switch(config)#int ra fa0/2-3
Switch(config-if-range)#sw mod acc
Switch(config-if-range)#sw acc vlan 40
Switch(config-if-range)#no sh
Switch(config-if-range)#ex
Switch(config)#int fa0/1
Switch(config-if)#sw mod tru

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Switch(config-if)#sw tru allo vlan all
Switch(config-if)#no sh
Switch(config-if)#ex
```

-Vlan 50

```
Switch(config)#vlan 50
Switch(config-vlan)#name ruangserver
Switch(config-vlan)#ex

Switch(config)#int ra fa0/1-2
Switch(config-if-range)#sw mod acc
Switch(config-if-range)#sw acc vlan 50
Switch(config-if-range)#no sh
Switch(config-if-range)#ex
Switch(config)#int fa0/24
Switch(config-if)#sw mod tru
Switch(config-if)#sw tru allo vlan all
Switch(config-if)#ex
```

2. Intervlan/ Encapsulation
-Router yang terhubung dengan Switch-RUANGKELAS

```
Router(config)#int fa0/0.10
Router(config-subif)#encap dot1q 10
Router(config-subif)#ip add 195.168.10.1 255.255.255.224
Router(config-subif)#no sh
Router(config-subif)#ex
Router(config)#int fa0/0
Router(config-if)#no sh
```

-Router yang terhubung dengan Switch LABUMUM, LABJARKOM, dan LABPRAK

```
Router(config)#int fa0/0
Router(config-if)#no sh

Router(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

Router(config-if)#ex
Router(config)#int fa0/0.20
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.20, changed state to up

Router(config-subif)#encap dotlq 20
Router(config-subif)#ip add 195.168.20.1 255.255.255.128
Router(config-subif)#ex
Router(config)#int fa0/0.30
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.30, changed state to up

Router(config-subif)#encap dotlq 30
Router(config-subif)#ip add 192.168.30.1 255.255.255.224
Router(config-subif)#ex
Router(config)#int fa0/0.40
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.40, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.40, changed state to up

Router(config-subif)#encap dotlq 40
Router(config-subif)#ip add 192.168.40.1 255.255.255.128
Router(config-subif)#ex
```

-Router yang terhubung dengan Switch-RUANGSERVER

```
Router(config)#int fa0/0.50
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.50, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.50, changed state to up

Router(config-subif)#encap dotlq 50
Router(config-subif)#ip add 192.168.50.1 255.255.255.248
Router(config-subif)#ex
```

3. Masuk ke VTP Mode

-Switch tengah

```
Switch(config)#vtp mod ser
Device mode already VTP SERVER.
Switch(config)#vtp domain ilkom2324
Changing VTP domain name from NULL to ilkom2324
Switch(config)#vtp pass atmin
Setting device VLAN database password to atmin
Switch(config)#

Switch(config)#vlan 20
Switch(config-vlan)#name labumum
Switch(config-vlan)#ex
Switch(config)#vlan 30
Switch(config-vlan)#name labjarkom
Switch(config-vlan)#ex
Switch(config)#vlan 40
Switch(config-vlan)#name labprak
Switch(config-vlan)#ex
```

-Switch Lab Umum

```
Switch(config)#vtp mod clien
Setting device to VTP CLIENT mode.
Switch(config)#vtp domain
% Incomplete command.
Switch(config)#vtp domain ilkom2324
Domain name already set to ilkom2324.
Switch(config)#vtp pass atmin
Setting device VLAN database password to atmin
Switch(config)#
```

-Switch Lab Jarkom

```
Switch(config)#vtp mod cli
Setting device to VTP CLIENT mode.
Switch(config)#vtp domain ilkom2324
Domain name already set to ilkom2324.
Switch(config)#vtp pass atmin
Setting device VLAN database password to atmin
Switch(config)#ex
```
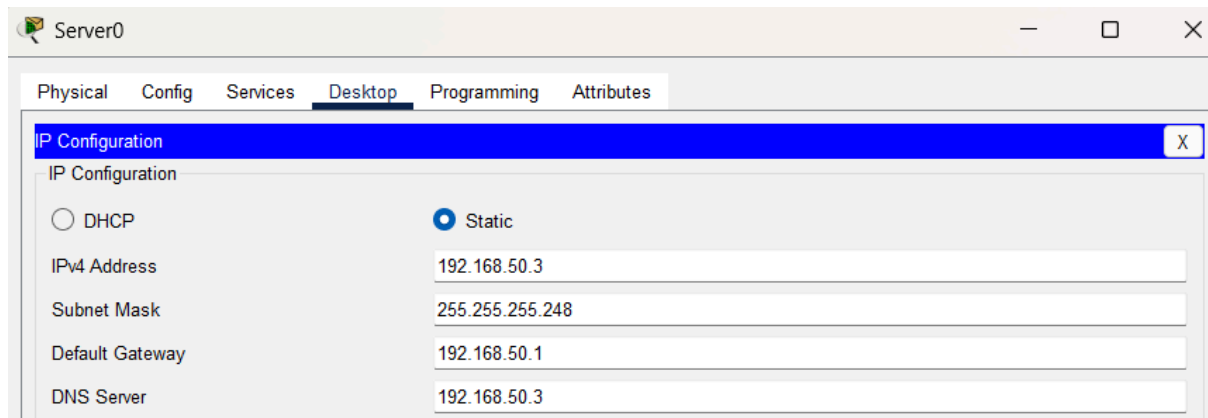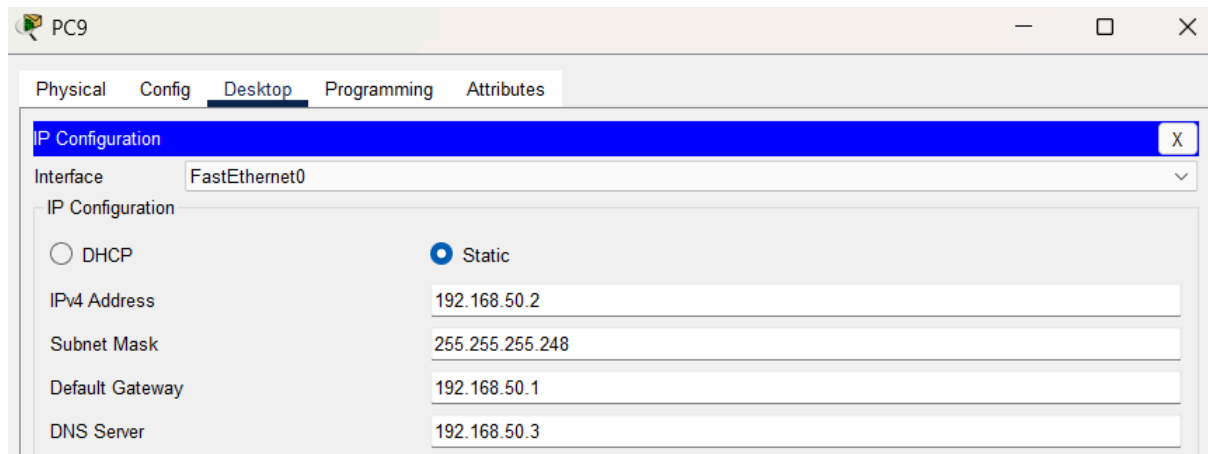
-Switch Lab Prak

```
Switch(config)#vtp mod cli
Setting device to VTP CLIENT mode.
Switch(config)#vtp domain ilkom2324
Domain name already set to ilkom2324.
Switch(config)#vtp pass atmin
Setting device VLAN database password to atmin
Switch(config)#ex
```

4. Konfigurasi Access List

-Konfigurasi untuk server

Server0	— □ ✕

Physical   Config   Services   **Desktop**   Programming   Attributes

IP Configuration `X`

IP Configuration

○ DHCP   ● Static

IPv4 Address	192.168.50.3
Subnet Mask	255.255.255.248
Default Gateway	192.168.50.1
DNS Server	192.168.50.3

-Konfigurasi untuk PC9

PC9	— □ ✕

Physical   Config   **Desktop**   Programming   Attributes

IP Configuration `X`

Interface   FastEthernet0   ∨

IP Configuration

○ DHCP   ● Static

IPv4 Address	192.168.50.2
Subnet Mask	255.255.255.248
Default Gateway	192.168.50.1
DNS Server	192.168.50.3

-Konfigurasi untuk Router0

```
Router(config)#int se2/0
Router(config-if)#ip add 130.0.0.1 255.255.255.252
Router(config-if)#no sh

Router(config)#ser dhcp
Router(config)#ip dhcp pool ruangkelas
Router(dhcp-config)#def
Router(dhcp-config)#net 195.168.10.0 255.255.255.224
Router(dhcp-config)#def
Router(dhcp-config)#default-router 195.168.10.1
Router(dhcp-config)#dn
Router(dhcp-config)#dns-server 192.168.50.3
Router(dhcp-config)#ex

Router(config)#ro eigrp 10
Router(config-router)#net 195.168.10.0
Router(config-router)#net 130.0.0.0
Router(config-router)#ex
```

-Konfigurasi untuk Router2

```
Switch(config)#int fa0/24
Switch(config-if)#sw mod tru

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up

Switch(config-if)#sw tru allo vlan all
Switch(config-if)#ex

Router(config)#int se2/0
Router(config-if)#ip add 130.0.0.5 255.255.255.252
Router(config-if)#ex
Router(config)#int se3/0
Router(config-if)#ip add 130.0.0.2 255.255.255.252
Router(config-if)#no sh

Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

Router(config-if)#ex
Router(config)#int se2/0
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#no sh

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#ex

Router(config)#ser dhcp
Router(config)#ip dhcp pool labumum
Router(dhcp-config)#net 195.168.20.0 255.255.255.128
Router(dhcp-config)#def
Router(dhcp-config)#default-router 195.168.20.1
Router(dhcp-config)#dn
Router(dhcp-config)#dns-server 192.168.50.3
Router(dhcp-config)#ip dhcp pool labjarkom
Router(dhcp-config)#net 192.168.30.0 255.255.255.224
Router(dhcp-config)#def
Router(dhcp-config)#default-router 192.168.30.1
Router(dhcp-config)#dn
Router(dhcp-config)#dns-server 192.168.50.3
Router(dhcp-config)#ip dhcp pool labprak
Router(dhcp-config)#net 192.168.40.0 255.255.255.128
Router(dhcp-config)#de
Router(dhcp-config)#default-router 192.168.40.1
Router(dhcp-config)#dn
Router(dhcp-config)#dns-server 192.168.50.3
Router(dhcp-config)#ex

Router(config)#ro eigrp 10
Router(config-router)#net 195.168.20.0
Router(config-router)#net 192.168.30.0
Router(config-router)#net 192.168.40.0
Router(config-router)#net 130.0.0.0
Router(config-router)#net 130.0.0.4
Router(config-router)#ex
```

-Konfigurasi untuk Router1

```
Router(config)#int se3/0
Router(config-if)#ip add 130.0.0.6 255.255.255.252
Router(config-if)#no sh

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#ex

Router(config)#ro eigrp 10
Router(config-router)#net 192.168.50.0
Router(config-router)#net 130.0.0.4
Router(config-router)#ex
```

5. Ketentuan ACL dan DHCP:

1. Ruang Kelas tidak bisa melakukan ping ke server dan juga tidak bisa mengakses web server
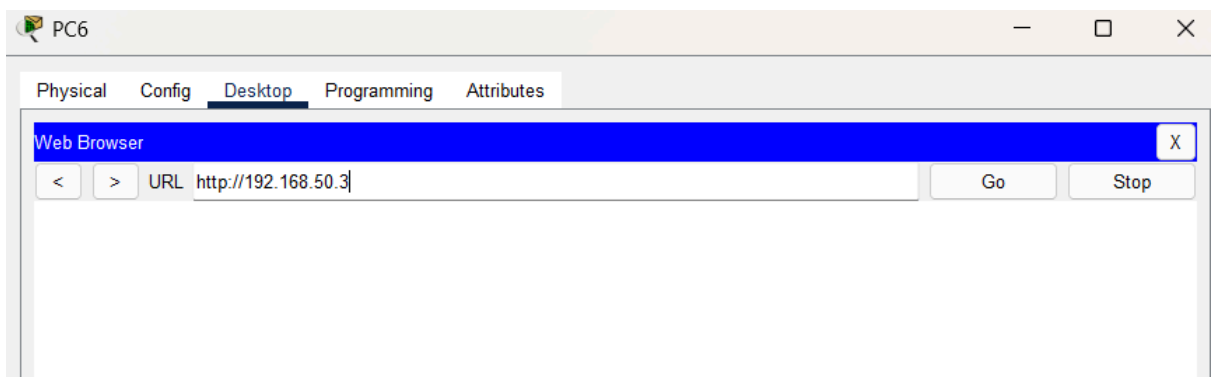
```
Router(config)#ip acc
Router(config)#ip access-list ex
Router(config)#ip access-list extended block
Router(config-ext-nacl)#deny icmp 195.168.10.0 0.0.0.31 host 192.168.50.3
Router(config-ext-nacl)#deny tcp 195.168.10.0 0.0.0.31 host 192.168.50.3 eq www
Router(config-ext-nacl)#permit ip any any
Router(config-ext-nacl)#int fa0/0.10
Router(config-subif)#ip acc
Router(config-subif)#ip access-group block in
Router(config-subif)#ex
```

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.50.3

Pinging 192.168.50.3 with 32 bytes of data:

Reply from 195.168.10.1: Destination host unreachable.
Reply from 195.168.10.1: Destination host unreachable.
Reply from 195.168.10.1: Destination host unreachable.
Reply from 195.168.10.1: Destination host unreachable.

Ping statistics for 192.168.50.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```
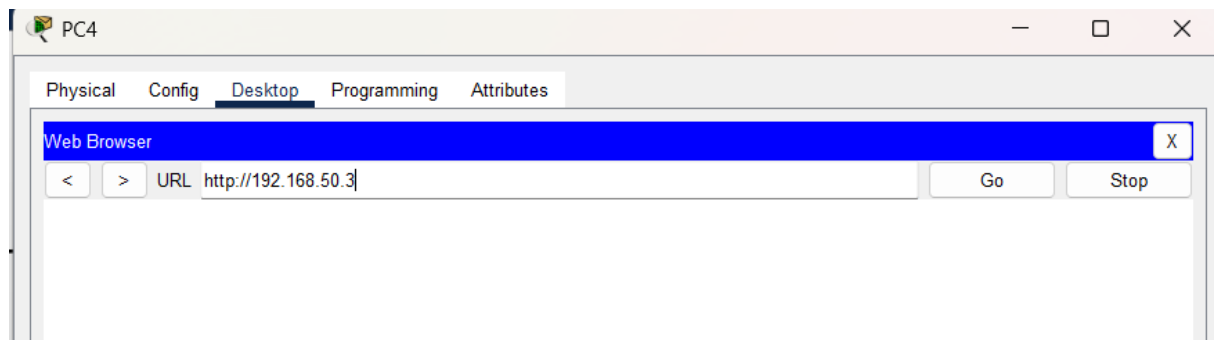
| PC6 | — | □ | ✕ |

Physical Config Desktop Programming Attributes

Web Browser | X

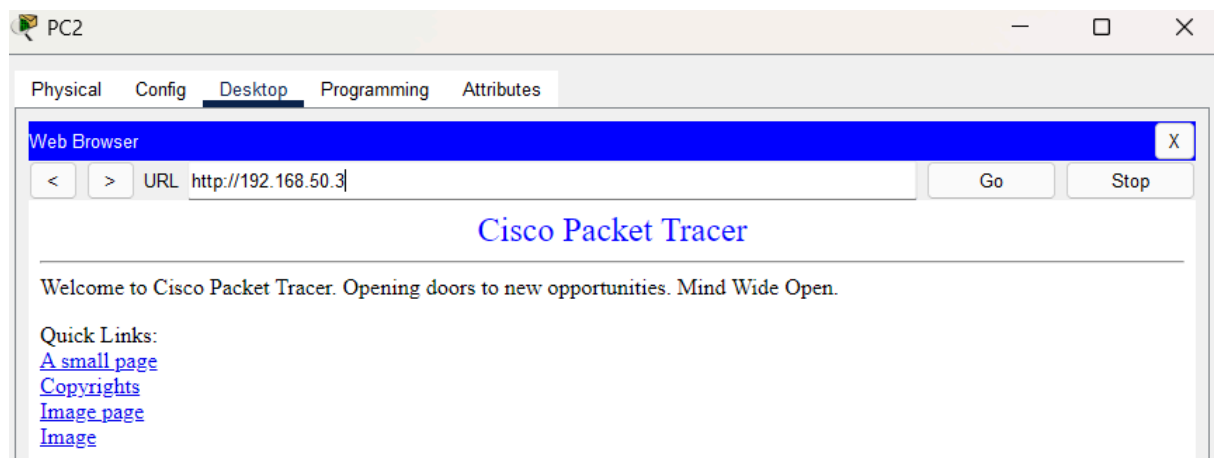< | > | URL http://192.168.50.3 | Go | Stop

2. Lab Jarkom bisa mengakses web server, namun Lab Umum dan Prak tidak bisa

```
Router(config-ext-nacl)#int fa0/0.20
Router(config-subif)#ip ac
Router(config-subif)#ip access-group block in
Router(config-subif)#int fa0/0.30
Router(config-subif)#ip access-group block in
Router(config-subif)#int fa0/0.40
Router(config-subif)#ip access-group block in
Router(config-subif)#ex

Router(config)#ip ac
Router(config)#ip access-list ex
Router(config)#ip access-list extended block
Router(config-ext-nacl)#deny tcp 195.168.20.0 0.0.0.127 host 192.168.50.3 eq
Router(config-ext-nacl)#deny tcp 195.168.20.0 0.0.0.127 host 192.168.50.3 eq www
Router(config-ext-nacl)#deny tcp 192.168.40.0 0.0.0.127 host 192.168.50.3 eq www
Router(config-ext-nacl)#deny icmp 192.168.40.0 0.0.0.127 host 192.168.50.3
Router(config-ext-nacl)#deny icmp 195.168.20.0 0.0.0.127 host 192.168.50.3
Router(config-ext-nacl)#deny icmp 192.168.30.0 0.0.0.31 host 192.168.50.3
Router(config-ext-nacl)#permit ip any any
```

-Lab Umum

PC4 — □ ×

Physical | Config | Desktop | Programming | Attributes

Web Browser   X

< | > | URL http://192.168.50.3   Go   Stop

-Lab Jarkom

PC2 — □ ×

Physical | Config | Desktop | Programming | Attributes

Web Browser   X

< | > | URL http://192.168.50.3   Go   Stop

Cisco Packet Tracer

Welcome to Cisco Packet Tracer. Opening doors to new opportunities. Mind Wide Open.

Quick Links:
A small page
Copyrights
Image page
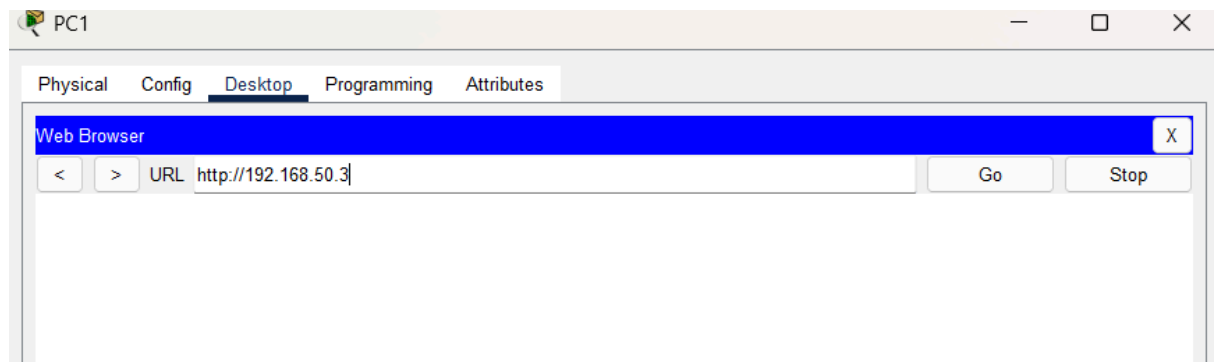Image

-Lab Prak

3. Semua Lab tidak bisa melakukan ping ke server
-Lab Umum

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.50.3

Pinging 192.168.50.3 with 32 bytes of data:

Reply from 195.168.20.1: Destination host unreachable.
Reply from 195.168.20.1: Destination host unreachable.
Reply from 195.168.20.1: Destination host unreachable.
Reply from 195.168.20.1: Destination host unreachable.

Ping statistics for 192.168.50.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

-Lab Jarkom

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.50.3

Pinging 192.168.50.3 with 32 bytes of data:

Reply from 192.168.30.1: Destination host unreachable.
Reply from 192.168.30.1: Destination host unreachable.
Reply from 192.168.30.1: Destination host unreachable.
Reply from 192.168.30.1: Destination host unreachable.

Ping statistics for 192.168.50.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

-Lab Prak

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.50.3

Pinging 192.168.50.3 with 32 bytes of data:

Reply from 192.168.40.1: Destination host unreachable.
Reply from 192.168.40.1: Destination host unreachable.
Reply from 192.168.40.1: Destination host unreachable.
Reply from 192.168.40.1: Destination host unreachable.

Ping statistics for 192.168.50.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```
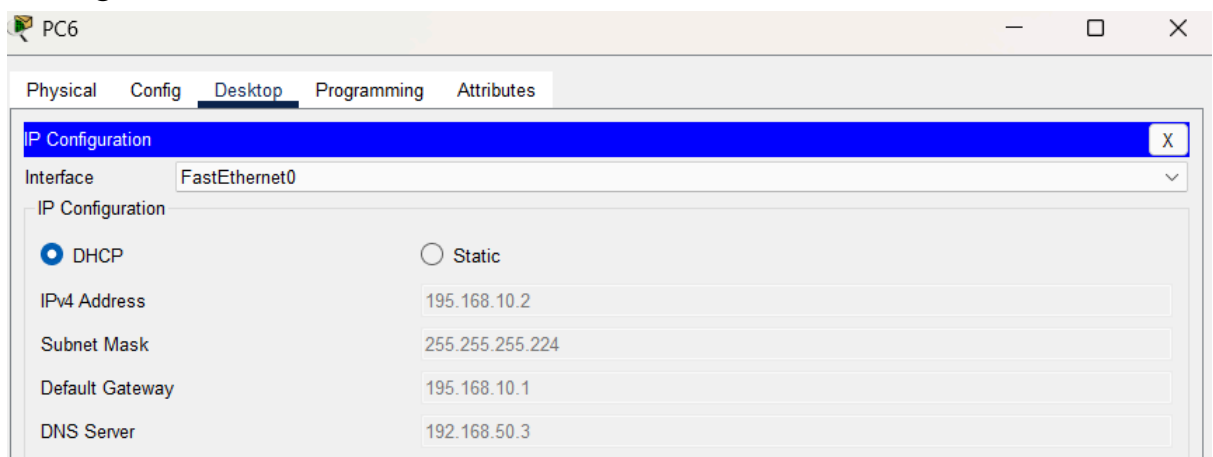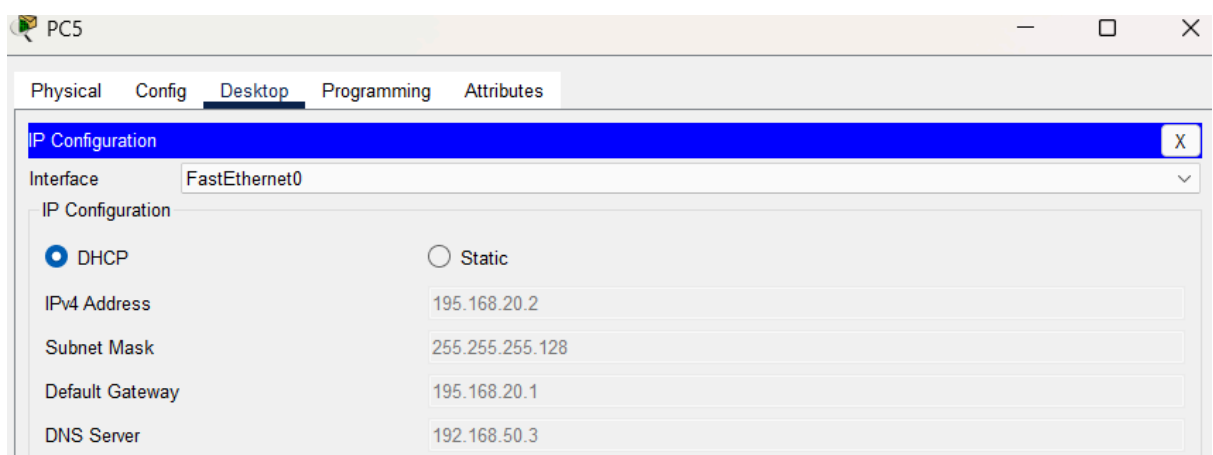
4. Lakukan Konfigurasi DHCP untuk semua ruang, kecuali Ruang Server
   -Ruang Kelas

PC6 — □ ✕

Physical   Config   Desktop   Programming   Attributes

IP Configuration   X

Interface   FastEthernet0   ⌄

IP Configuration

◉ DHCP   ◯ Static

IPv4 Address   195.168.10.2

Subnet Mask   255.255.255.224

Default Gateway   195.168.10.1

DNS Server   192.168.50.3

-Lab Umum

PC5 — □ ✕

Physical   Config   Desktop   Programming   Attributes

IP Configuration   X

Interface   FastEthernet0   ⌄

IP Configuration

◉ DHCP   ◯ Static

IPv4 Address   195.168.20.2

Subnet Mask   255.255.255.128

Default Gateway   195.168.20.1

DNS Server   192.168.50.3

-Lab Jarkom

PC3 — IP Configuration

Interface	FastEthernet0
IP Configuration	DHCP ● / Static ○
IPv4 Address	192.168.30.2
Subnet Mask	255.255.255.224
Default Gateway	192.168.30.1
DNS Server	192.168.50.3

-Lab Prak

PC0 — IP Configuration

Interface	FastEthernet0
IP Configuration	DHCP ● / Static ○
IPv4 Address	192.168.40.2
Subnet Mask	255.255.255.128
Default Gateway	192.168.40.1
DNS Server	192.168.50.3