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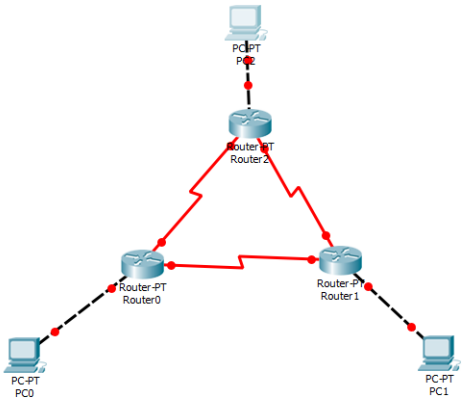
Classs : X

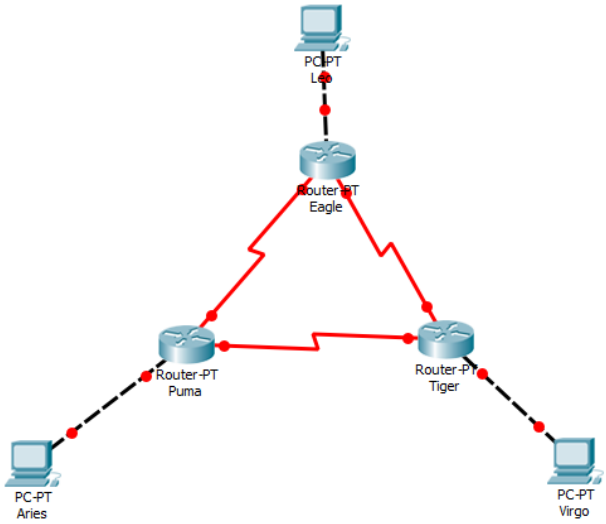
Laporan Praktikum Modul VII

Static Route

1. **Topologi 1 (Static Routing)**



2. Router dan PC yang telah diberi nama



3. Konfigurasi IP Address pada Router :
   a. Router Eagle.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#172.21.10.10 255.255.255.0
                  ^
% Invalid input detected at '^' marker.

Router(config-if)#ip address 172.21.10.10
% Incomplete command.
Router(config-if)#ip address 172.21.10.10 255.255.255.0
Router(config-if)#no shutdown

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
```

   b. Router Puma.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 172.21.20.20
% Incomplete command.
Router(config-if)#ip address 172.21.20.20 255.255.255.0
Router(config-if)#no shutdown

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
```

c. Router Tiger.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 172.21.30.30
% Incomplete command.
Router(config-if)#ip address 172.21.30.30 255.255.255.0
Router(config-if)#no shutdown

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
```

d. Kofigurasi IP address interface pada router eagle.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip address 172.21.1.1 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#
Router(config-if)#int se3/0
Router(config-if)#ip address 172.21.2.1 255.255.255.0
Router(config-if)#no shutdown

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

e. Kofigurasi IP address interface pada router puma.

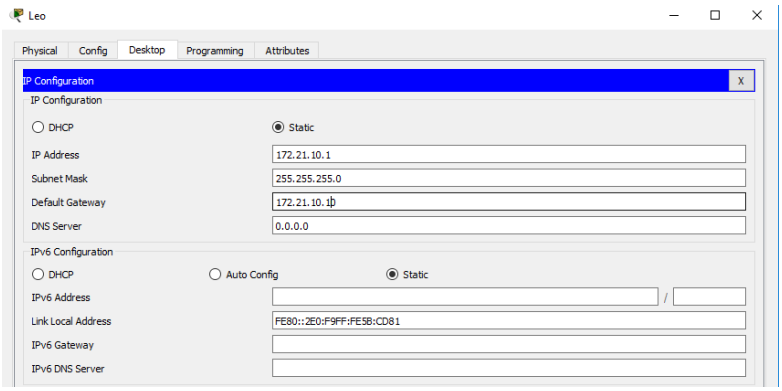
```
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

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

Router(config-if)#int se2/0
Router(config-if)#ip address 172.21.1.2 255.255.255.0
Router(config-if)#no shutdown

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

Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to up

Router(config-if)#int se3/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip address 172.21.3.2 255.255.255.0
Router(config-if)#no shutdown

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

f. Kofigurasi IP address interface pada router tiger.

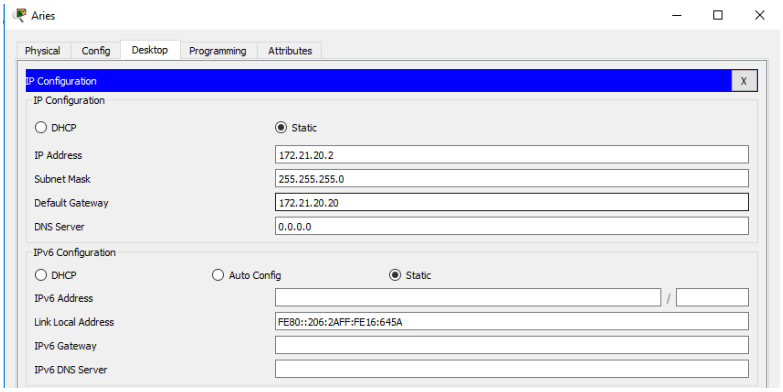
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

Router(config-if)#int se2/0
Router(config-if)#ip address 172.21.2.3 255.255.255.0
Router(config-if)#no shutdown

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

Router(config-if)#int se3/0
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to up

Router(config-if)#int se3/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip address 172.21.3.3 255.255.255.0
Router(config-if)#no shutdown

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

4. Konfigurasi IP pada PC.

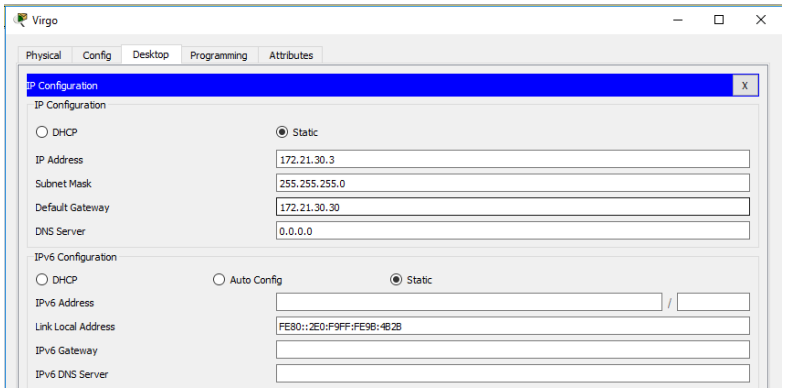
a. PC Leo.



b. PC Aries.

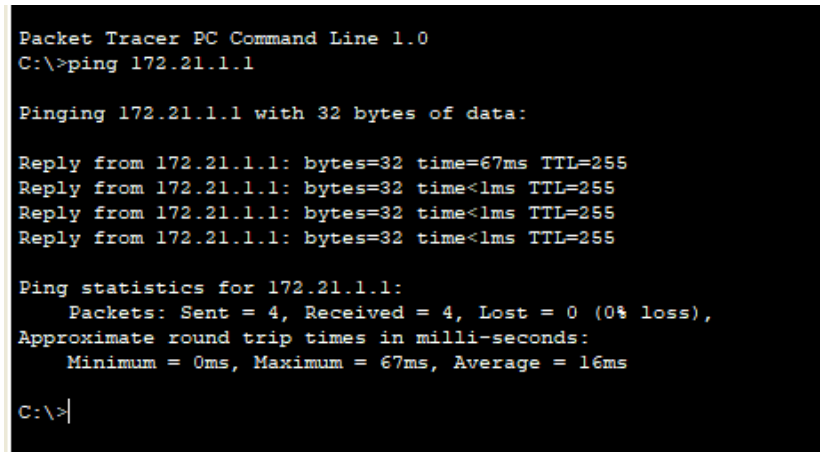


c. PC Virgo

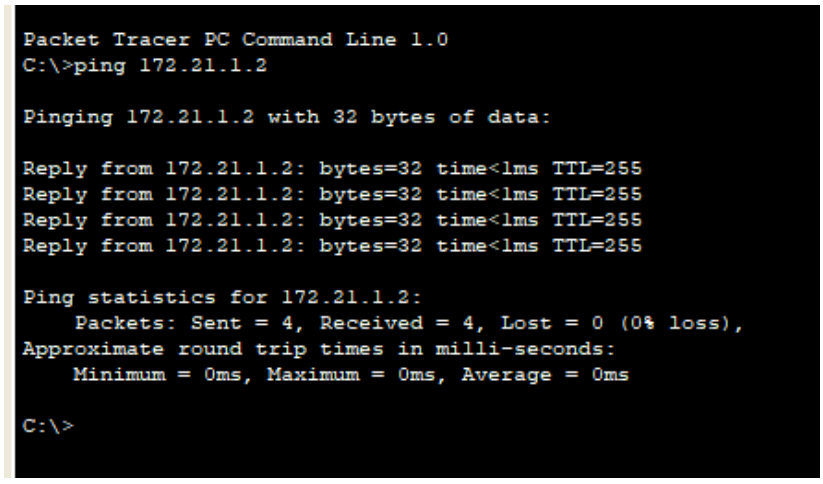


5. Pengujian Kesesuaian Konfigurasi.

a. Ping PC leo ke Router eagle.



b. Ping PC Aries ke Router puma.



c. Ping PC virgo ke router tiger.

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.3.3

Pinging 172.21.3.3 with 32 bytes of data:

Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255

Ping statistics for 172.21.3.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

d. Ping router eagle ke router puma

```
Router>
Router>enable
Router#ping 172.21.1.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.1.2, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/6
ms

Router#
```

e. Ping router eagle ke router tiger

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to up


Router>
Router>enable
Router#ping 172.21.1.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.1.2, timeout is 2
seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/6
ms

Router#ping 172.21.2.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.2.3, timeout is 2
seconds:
.....
Success rate is 0 percent (0/5)
```

f. Ping router puma ke router tiger

```
Router>enable
Router#ping 172.21.3.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.3.3, timeout is 2
seconds:
.....
Success rate is 0 percent (0/5)
```

6. Seluruh Konfigurasi telah disimpan.

7. Melihat route table pada router.
   a. Router eagle.

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia -
IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     172.21.0.0/24 is subnetted, 3 subnets
C       172.21.1.0 is directly connected, Serial2/0
C       172.21.2.0 is directly connected, Serial3/0
C       172.21.10.0 is directly connected, FastEthernet0/0

Router#
```

   b. Router puma.

```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia -
IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     172.21.0.0/24 is subnetted, 3 subnets
C       172.21.1.0 is directly connected, Serial2/0
C       172.21.3.0 is directly connected, Serial3/0
C       172.21.20.0 is directly connected, FastEthernet0/0
```

c. Router tiger.

```
Router>enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia -
IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

     172.21.0.0/24 is subnetted, 3 subnets
C       172.21.2.0 is directly connected, Serial2/0
C       172.21.3.0 is directly connected, Serial3/0
C       172.21.30.0 is directly connected, FastEthernet0/0
```

8. Melakukan ping dari router eagle ke interface router puma.

```
Router#ping 172.21.20.20

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.20.20, timeout is 2
seconds:
.....
Success rate is 0 percent (0/5)
```

9. Melakukan trace PC Leo ke PC Aries.

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1    1 ms      0 ms      0 ms      172.21.10.10
  2    0 ms      *         0 ms      172.21.10.10
  3    *         0 ms      *         Request timed out.
  4    0 ms      *         0 ms      172.21.10.10
  5    *         0 ms      *         Request timed out.
  6    0 ms      *         0 ms      172.21.10.10
  7    *         0 ms      *         Request timed out.
  8    0 ms
Control-C
^C
C:\>
C:\>
```

10. Melakukan trace PC Leo ke interface router eagle.

```
C:\>tracert 172.21.1.1

Tracing route to 172.21.1.1 over a maximum of 30 hops:

  1    1 ms      0 ms      0 ms      172.21.1.1

Trace complete.
```

11. Menambahkan route table pada router.

    a. Router eagle.

```
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 172.21.20.0 155.255.255.0 172.21.1.2
%Inconsistent address and mask
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.1.2
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.3.3
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

b. Router puma.

```
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.1.1
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.2.3
Router(config)#
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

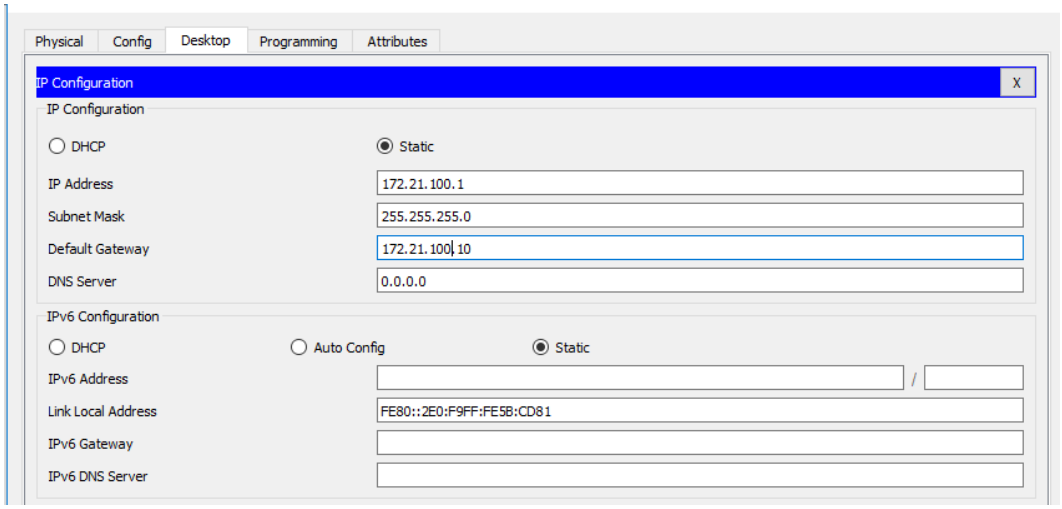
c. Router tiger.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

12. Melakukan Ping dan Tracer dari PC Leo ke PC Aries.

```
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Reply from 172.21.20.2: bytes=32 time=4ms TTL=126
Reply from 172.21.20.2: bytes=32 time=14ms TTL=126
Reply from 172.21.20.2: bytes=32 time=2ms TTL=126
Reply from 172.21.20.2: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 14ms, Average = 5ms

C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1    0 ms      0 ms      0 ms      172.21.10.10
  2    4 ms      3 ms      0 ms      172.21.1.2
  3    0 ms      0 ms      1 ms      172.21.20.2

Trace complete.
```

Mengubah IP PC leo diubah menjadi 172.21.100.0/24



Mengubah Konfigurasi IP eagle.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 172.21.100.0 255.255.255.0
Bad mask /24 for address 172.21.100.0
Router(config-if)#no shutdown
Router(config-if)#
Router(config-if)#int fa0/0
Router(config-if)#ip address 172.21.100.10 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
```

Menambah Konfigurasi router puma

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 172.21.100.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.100.0 255.255.255.0 172.21.1.1
Router(config)#
```

Menambah Konfigurasi router tiger

```
Router(config)#ip route 172.21.100.0 255.255.255.0 172.21.2.1
Router(config)#
```

Melakukan Ping dan Trace aries ke leo

```
C:\>ping 172.21.100.1

Pinging 172.21.100.1 with 32 bytes of data:

Reply from 172.21.100.1: bytes=32 time=4ms TTL=126
Reply from 172.21.100.1: bytes=32 time=2ms TTL=126
Reply from 172.21.100.1: bytes=32 time=4ms TTL=126
Reply from 172.21.100.1: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 4ms, Average = 2ms

C:\>tracert 172.21.100.1

Tracing route to 172.21.100.1 over a maximum of 30 hops:

  1    0 ms      0 ms      0 ms      172.21.20.20
  2    1 ms      0 ms      2 ms      172.21.1.1
  3    1 ms      1 ms      3 ms      172.21.100.1

Trace complete.
```

Melakukan Ping dan Trace virgo ke leo

```
C:\>ping 172.21.100.1

Pinging 172.21.100.1 with 32 bytes of data:

Reply from 172.21.100.1: bytes=32 time=2ms TTL=126
Reply from 172.21.100.1: bytes=32 time=3ms TTL=126
Reply from 172.21.100.1: bytes=32 time=1ms TTL=126
Reply from 172.21.100.1: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 3ms, Average = 1ms

C:\>tracert 172.21.100.1

Tracing route to 172.21.100.1 over a maximum of 30 hops:

  1    1 ms      0 ms      0 ms      172.21.30.30
  2    0 ms      3 ms      1 ms      172.21.3.2
  3    2 ms      1 ms      2 ms      172.21.2.1
  4    2 ms      2 ms      1 ms      172.21.100.1

Trace complete.
```