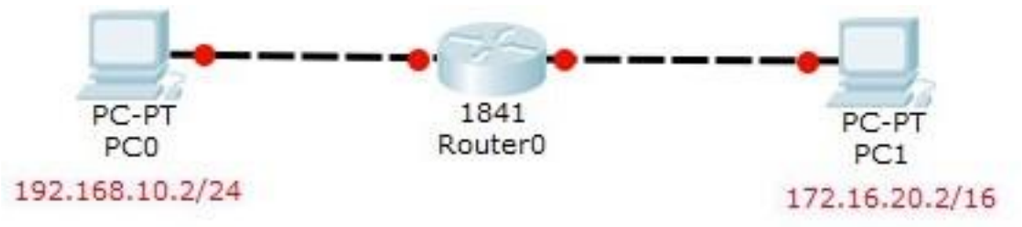
LAPORAN HASIL PRAKTIKUM
KONFIGURASI ROUTER CISCO

OLEH:
Muhammad Rohman Al Kautsar
2341760055

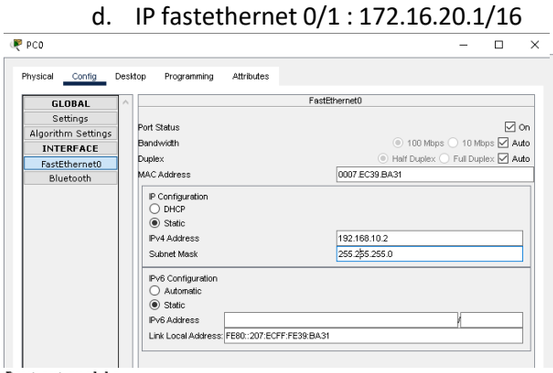
D-IV SISTEM INFORMASI BISNIS
POLITEKNIK NEGERI MALANG

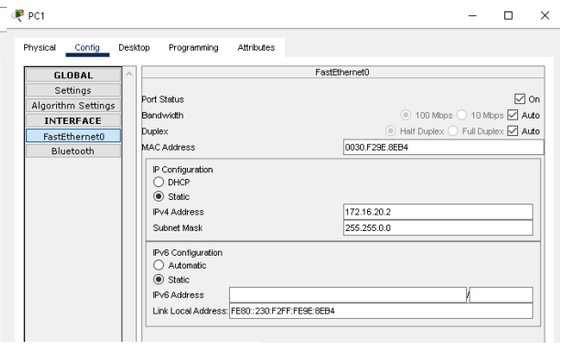
LANGKAH PRAKTIKUM

1. Bukalah packet tracer dan buatlah topologi seperti gambar di bawah. Beri IP tiap PC seperti di gambar. PC0 terhubung dengan FastEthernet 0/0 Router0, PC1 terhubung dengan FastEthernet 0/1 Router0.



2. Bukalah CLI pada Router0. Konfigurasikan Router0 tersebut dengan parameter seperti di bawah ini :
    a. hostname : NamaDepanAnda
    b. password : jarkom
    c. IP fastethernet 0/0 : 192.168.10.1 /24
    d. IP fastethernet 0/1 : 172.16.20.1/16






```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname rohman
rohman(config)#enable password jarkom
rohman(config)#enable secret jarkom
The enable secret you have chosen is the same as your enable password.
This is not recommended.  Re-enter the enable secret.
rohman(config)#line console 0
rohman(config-line)#password jarkom
rohman(config-line)#login
rohman(config-line)#line vty 04
rohman(config-line)#password jarkom
rohman(config-line)#login
rohman(config-line)#exit
rohman(config)#interface FastEthernet0/0
rohman(config-if)#ip address 192.168.10.1 255.255.255.0
rohman(config-if)#no shutdown

rohman(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

rohman(config-if)#exit
rohman(config)#interface FastEthernet0/1
rohman(config-if)#ip address 172.16.20.1 255.255.0.0
rohman(config-if)#no shutdown

rohman(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

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

rohman(config-if)#exit
rohman(config)#
```

3. Tampilkan konfigurasi berjalan (running configuration) Router0.

```
alka#show running-config
Building configuration...

Current configuration : 665 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname alka
!
!
!
enable secret 5 $1$mERr$hUYvjb/Oozvg.0/S5Jb6Q.
enable password Jarkom
!
!
!
!
!
!
ip cef
no ipv6 cef
interface FastEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 172.16.20.1 255.255.0.0
 duplex auto
 speed auto
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
!
ip flow-export version 9
```

4. Tampilkan konfigurasi tersimpan (startup configuration) Router0. Amati apakah ada perbedaan ?

```
rohman#show startup-config
startup-config is not present
rohman#
```

Not present

5. Simpan konfigurasi Router0. Lalu tampilkan lagi konfigurasi berjalan maupun yang tersimpan. Amati apakah ada perbedaan ?

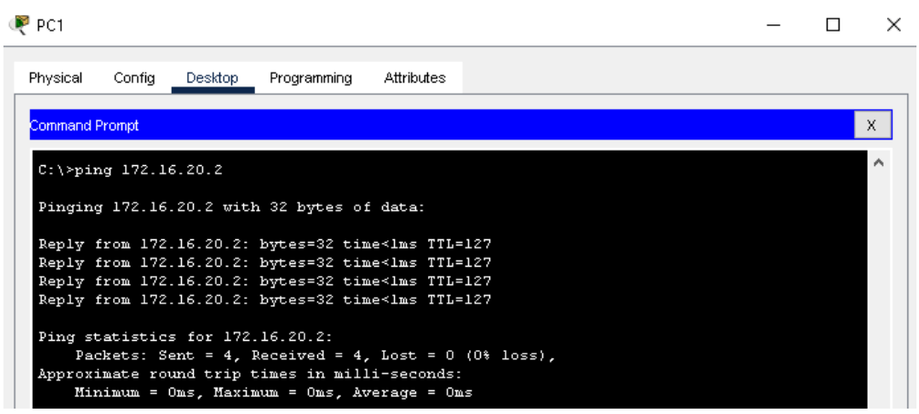
```
alka#show startup-config
Using 665 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname alka
!
!
!
enable secret 5 $1$mERr$hUYvjb/Oozvg.0/S5Jb6Q.
enable password Jarkom
!
!
!
!
!
!
interface FastEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 172.16.20.1 255.255.0.0
 duplex auto
 speed auto
!
interface Vlan1
 no ip address
 shutdown
!
ip classless
!
ip flow-export version 9
```

Config muncul

6. Tampilkan tabel routing dari Router0.

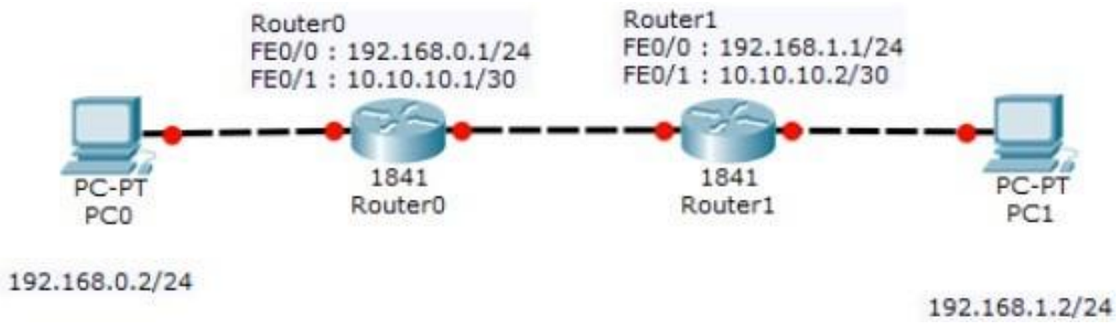
```
alka#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - 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

C    172.16.0.0/16 is directly connected, FastEthernet0/1
C    192.168.10.0/24 is directly connected, FastEthernet0/0
```

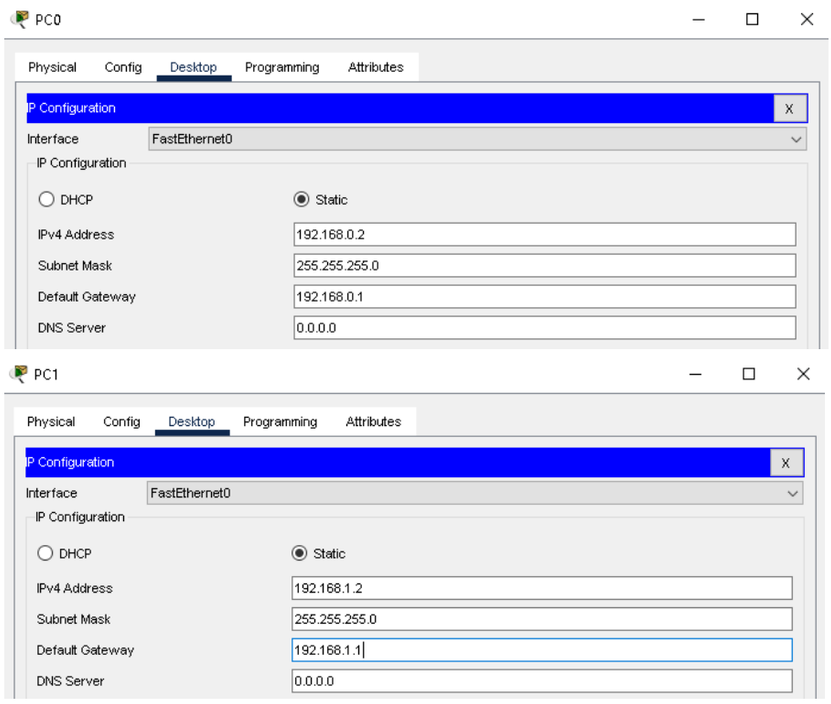
7. Lakukan ping dari PC0 ke PC1. Apakah bisa ?



Ping dari PC1 ke PC2 berhasil

8. Buatlah topologi seperti gambar di bawah. Beri IP tiap PC seperti di gambar. PC0 terhubung dengan Router0 FastEthernet0/0. PC1 terhubung dengan Router1 FastEthernet0/0. Router0 FastEthernet 0/1 terhubung dengan Router1 FastEthernet 0/1.





9. Konfigurasikan Router0 dengan parameter :
    a. Hostname : NamaDepanAnda_0
    b. password : jarkom
    c. IP FastEthernet0/0 : 192.168.0.1/24
    d. IP FastEthernet0/1 : 10.10.10.1/30

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname alka_0
alka_0(config)#enable password jarkom
alka_0(config)#interface fa0/0
alka_0(config-if)#ip address 192.168.0.1 255.255.255.0
alka_0(config-if)#no shutdown

alka_0(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

alka_0(config-if)#interface fa0/1
alka_0(config-if)#ip address 10.10.10.1 255.255.255.252
alka_0(config-if)#no shutdown

alka_0(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
```

10. Konfigurasikan Router1 dengan parameter :
    a. Hostname : NamaDepanAnda_1
    b. password : jarkom
    c. IP FastEthernet0/0 : 192.168.1.1/24
    d. IP FastEthernet0/1 : 10.10.10.2/30

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname alka_1
alka_1(config)#enable password jarkom
alka_1(config)#interface fa0/0
alka_1(config-if)#ip address 192.168.1.1 255.255.255.0
alka_1(config-if)#no shutdown

alka_1(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

alka_1(config-if)#exit
alka_1(config)#interface fa0/1
alka_1(config-if)#ip address 10.10.10.2 255.255.255.252
alka_1(config-if)#no shutdown

alka_1(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

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

11. Tampilkan tabel routing dari masing masing Router.

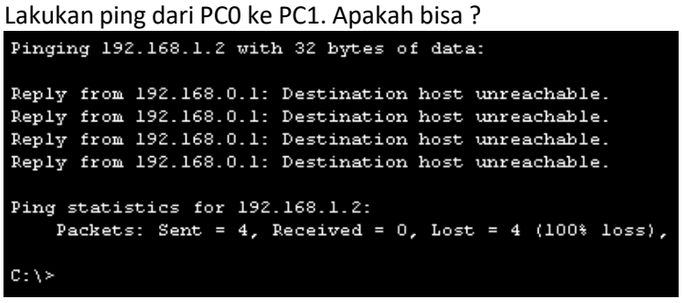
Router 1

```
alka_1#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

     10.0.0.0/30 is subnetted, 1 subnets
C       10.10.10.0 is directly connected, FastEthernet0/1
C    192.168.1.0/24 is directly connected, FastEthernet0/0
```

Router 0

```
alka_0#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

     10.0.0.0/30 is subnetted, 1 subnets
C       10.10.10.0 is directly connected, FastEthernet0/1
C    192.168.0.0/24 is directly connected, FastEthernet0/0
```

12. Lakukan ping dari PC0 ke PC1. Apakah bisa ?



Tidak bisa

13. Tambahkan static route di Router0 ke jaringan 192.168.1.0/24. Dan static route di Router1 ke jaringan 192.168.0.0/24.

Router 0

```
alka_0(config)#ip route 192.168.1.0 255.255.255.0 10.10.10.2
alka_0(config)#write memory
                ^
% Invalid input detected at '^' marker.

alka_0(config)#
alka_0#
%SYS-5-CONFIG_I: Configured from console by console

alka_0#write memory
Building configuration...
[OK]
```

Router 1

```
alka_1(config)#ip route 192.168.0.0 255.255.255.0 10.10.10.1
alka_1(config)#alka_1(config)#exit
alka_1#
%SYS-5-CONFIG_I: Configured from console by console

alka_1#write memory
Building configuration...
[OK]
```

14. Tampilkan tabel routing dari masing-masing Router. Apakah ada perbedaan ?

Router 0

```
alka_0#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

     10.0.0.0/30 is subnetted, 1 subnets
C       10.10.10.0 is directly connected, FastEthernet0/1
C    192.168.0.0/24 is directly connected, FastEthernet0/0
S    192.168.1.0/24 [1/0] via 10.10.10.2
```

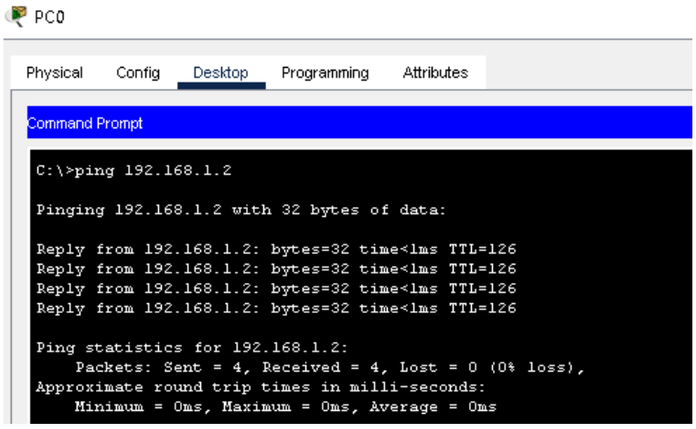
Router 1

```
alka_1#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

     10.0.0.0/30 is subnetted, 1 subnets
C       10.10.10.0 is directly connected, FastEthernet0/1
S    192.168.0.0/24 [1/0] via 10.10.10.1
C    192.168.1.0/24 is directly connected, FastEthernet0/0
```

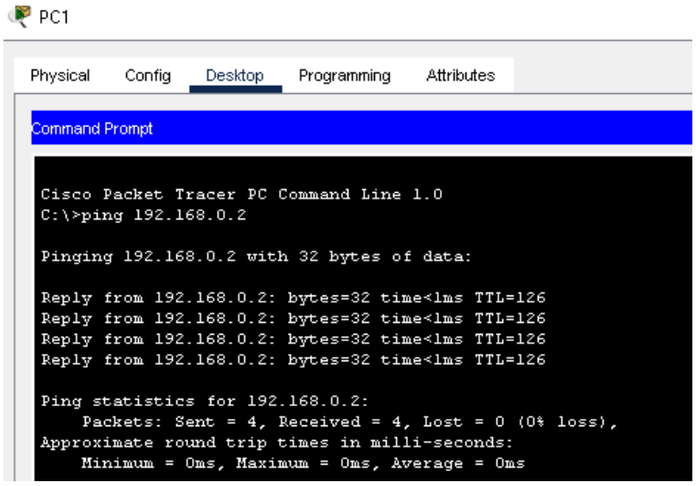
Perbedaan pada static route dan koneksi pada fa0/0

15. Lakukan ping dari PC0 ke PC1 lagi. Apakah bisa ? Jelaskan apa yang terjadi.

PC0 ke PC1



PC1 ke PC0



Karena setiap router memiliki tabel routing sendiri yang hanya mengenali jaringan yang langsung terhubung dengannya.

Dengan adanya static route maka router menerima informasi tentang jaringan yang tidak terhubung secara langsung dengannya.