LAPORAN PRAKTIKUM
JARINGAN KOMPUTER

PRAKTIKUM – 10: Routing Router Cisco

Disusun Oleh :
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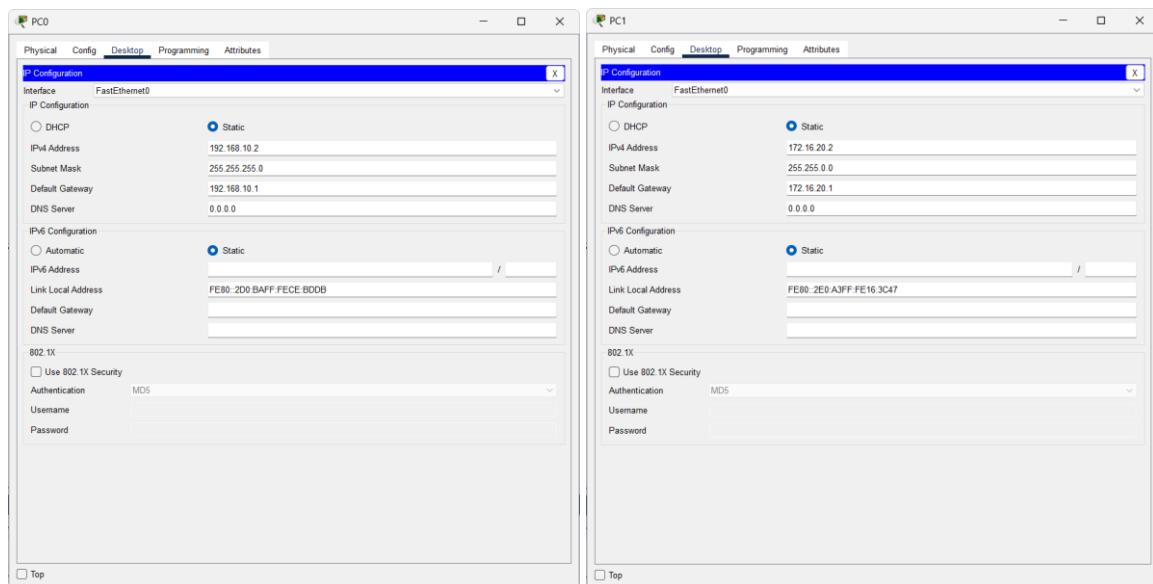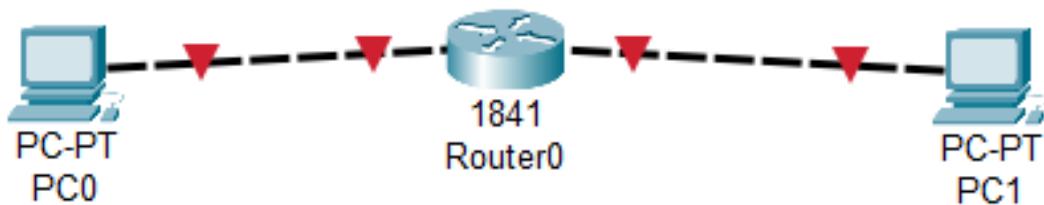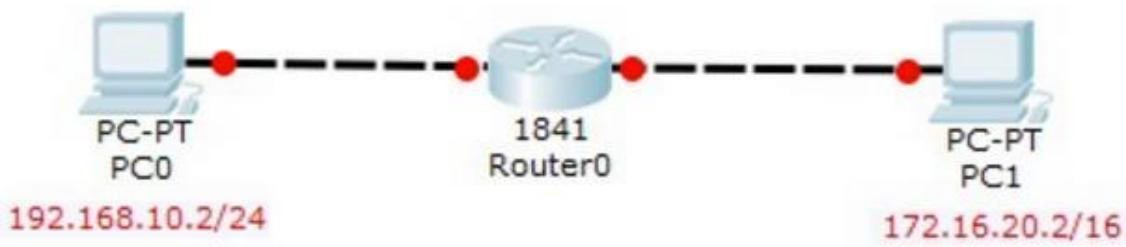

JURUSAN TEKNOLOGI INFORMASI
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MODUL PRAKTIKUM V

KONFIGURASI DASAR ROUTER CISCO - 2

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

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

   b. password : jarkom

   ```
   Ghoffar(config)#enable secret jarkom
   Ghoffar(config)#
   ```

   c. IP fastethernet 0/0 : 192.168.10.1 /24

```
Ghoffar(config)#interface fastethernet0/0
Ghoffar(config-if)#ip address 192.168.10.1 255.255.255.0
Ghoffar(config-if)#no shutdown

Ghoffar(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

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

d. IP fastethernet 0/1 : 172.16.20.1/16

```
Ghoffar(config)#interface fastethernet0/1
Ghoffar(config-if)#ip address 172.16.20.1 255.255.0.0
Ghoffar(config-if)#no shutdown

Ghoffar(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

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

3. Tampilkan konfigurasi berjalan (running configuration) Router0.

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

Current configuration : 628 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Ghoffar
!
!
enable secret 5 $1$mERr$hUYvjb/0ozvg.O/S5Jb6Q.
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!
!
!

spanning-tree mode pvst
!
!
!
!
!
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
!
!
!
!
!
```

line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end

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

```
Ghoffar#show startup-config
Using 628 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Ghoffar
!
!
enable secret 5 $1$mERr$hUYvjb/0ozvg.O/S5Jb6Q.
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
```
```
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
!
!
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

running-config adalah konfigurasi yang sedang aktif dan disimpan di RAM, sehingga akan hilang jika router dimatikan.

startup-config adalah konfigurasi yang disimpan permanen di NVRAM dan akan digunakan saat router dinyalakan kembali.

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

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

Current configuration : 628 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Ghoffar
!
!
!
enable secret 5 $1$mERr$hUYvjb/0ozvg.O/S5Jb6Q.
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
!
```

6. Tampilkan tabel routing dari Router0.
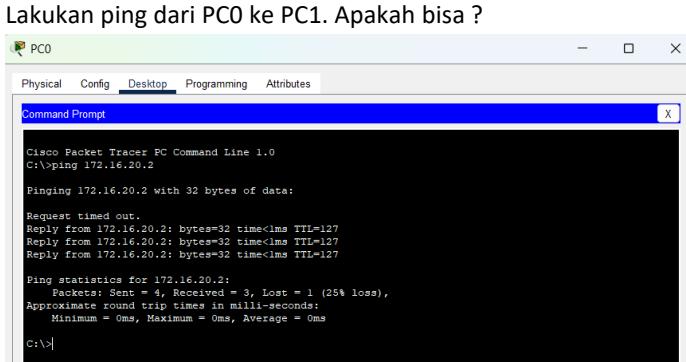
```
Ghoffar#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - 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

Ghoffar#
```

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

Bisa terhubung karena dua jaringan telah terhubung dari Router0

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.

PC-PT PC0   1841 Router0   1841 Router1   PC-PT PC1

9. Konfigurasikan Router0 dengan parameter :

a. Hostname : NamaDepanAnda_0

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname Ghoffar_0
```

b. password : jarkom

```
Ghoffar_0(config)#enable secret jarkom
Ghoffar_0(config)#
```

c. IP FastEthernet0/0 : 192.168.0.1/24

```
Ghoffar_0(config)#interface fastethernet 0/0
Ghoffar_0(config-if)#ip address 192.168.0.1 255.255.255.0
Ghoffar_0(config-if)#no shutdown

Ghoffar_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

Ghoffar_0(config-if)#exit
Ghoffar_0(config)#
```

d. IP FastEthernet0/1 : 10.10.10.1/30

```
Ghoffar_0(config)#interface fastethernet 0/1
Ghoffar_0(config-if)#ip address 10.10.10.1 255.255.255.252
Ghoffar_0(config-if)#no shutdown

Ghoffar_0(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

Ghoffar_0(config-if)#exit
Ghoffar_0(config)#
```

10. Konfigurasikan Router1 dengan parameter :

a. Hostname : NamaDepanAnda_1

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname Ghoffar_1
Ghoffar_1(config)#
```

b. password : jarkom

```
Ghoffar_1(config)#enable secret jarkom
Ghoffar_1(config)#
```

c. IP FastEthernet0/0 : 192.168.1.1/24

```
Ghoffar_1(config)#interface fastethernet 0/0
Ghoffar_1(config-if)#ip address 192.168.1.1 255.255.255.0
Ghoffar_1(config-if)#no shutdown

Ghoffar_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

Ghoffar_1(config-if)#exit
Ghoffar_1(config)#
```

d. IP FastEthernet0/1 : 10.10.10.2/30

```
Ghoffar_1(config)#interface fastethernet 0/1
Ghoffar_1(config-if)#ip address 10.10.10.2 255.255.255.252
Ghoffar_1(config-if)#no shutdown

Ghoffar_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

Ghoffar_1(config-if)#exit
Ghoffar_1(config)#
```

11. Tampilkan tabel routing dari masing masing Router.

```
Ghoffar_0#show ip route                                          Ghoffar_1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP    Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area              D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2             N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP              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   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                 * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route                                      P - periodic downloaded static route

Gateway of last resort is not set                                Gateway of last resort is not set

     10.0.0.0/30 is subnetted, 1 subnets                              10.0.0.0/30 is subnetted, 1 subnets
C       10.10.10.0 is directly connected, FastEthernet0/1       C       10.10.10.0 is directly connected, FastEthernet0/1
C    192.168.0.0/24 is directly connected, FastEthernet0/0      C    192.168.1.0/24 is directly connected, FastEthernet0/0

Ghoffar_0#                                                       Ghoffar_1#
```

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

Ping gagal karena **router tidak tahu ke mana harus mengirim paket ke jaringan 192.168.1.1**.

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.

```
Ghoffar_0(config)#ip route 192.168.1.0 255.255.255.0 10.10.10.2
Ghoffar_0(config)#exit
Ghoffar_0#
Ghoffar_1(config)#ip route 192.168.0.0 255.255.255.0 10.10.10.1
Ghoffar_1(config)#exit
Ghoffar_1#
```

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

```
Ghoffar_0#show ip route                                          Ghoffar_1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP    Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area              D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2             N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP              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   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                 * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route                                      P - periodic downloaded static route

Gateway of last resort is not set                                Gateway of last resort is not set

     10.0.0.0/30 is subnetted, 1 subnets                              10.0.0.0/30 is subnetted, 1 subnets
C       10.10.10.0 is directly connected, FastEthernet0/1       C       10.10.10.0 is directly connected, FastEthernet0/1
C    192.168.0.0/24 is directly connected, FastEthernet0/0      S    192.168.0.0/24 [1/0] via 10.10.10.1
S    192.168.1.0/24 [1/0] via 10.10.10.2                        C    192.168.1.0/24 is directly connected, FastEthernet0/0

Ghoffar_0#                                                       Ghoffar_1#
```

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