

LAPORAN PRAKTIKUM 5

Jaringan Komputer



Disusun Oleh :

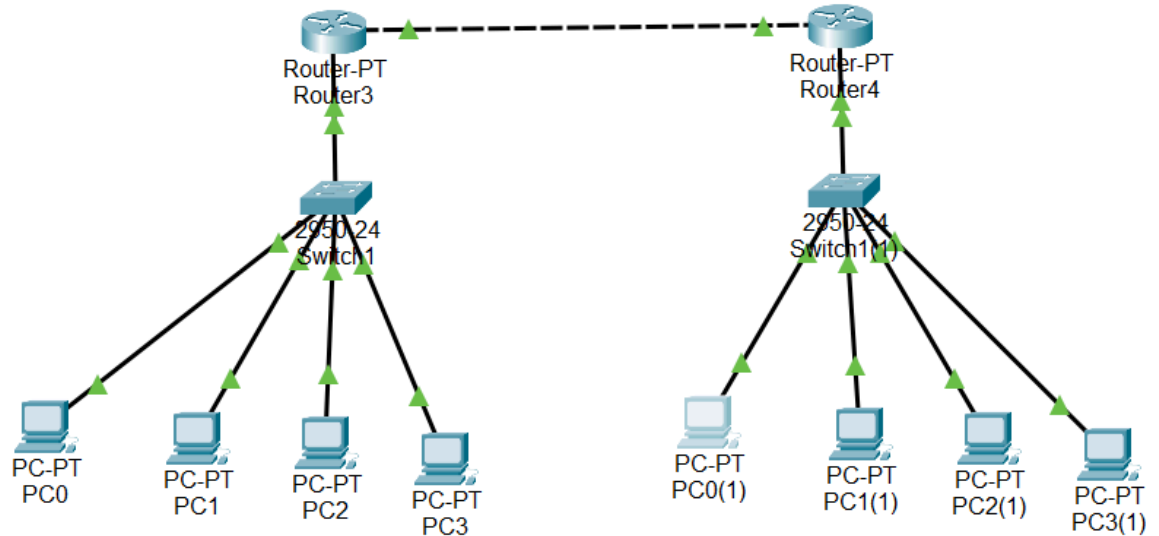
Nama : Taufan Ali

NIM : 2215016135

PROGRAM STUDI SISTEM INFORMASI
FAKULTAS SAINS DAN TEKNOLOGI TERAPAN
UNIVERSITAS AHMAD DAHLAN

2024

1. Buat jaringan dengan 8 client pc menggunakan 2 switch dan 2 router, tiap switch mempunyai 4 client dan client dari tiap switch dapat terhubung. Hubungkan menggunakan kabel straight.



2. Client Switch pertama :

IP Address:	200.100.1.3
Network Address:	200.100.1.0
Usable Host IP Range:	200.100.1.1 - 200.100.1.62
Broadcast Address:	200.100.1.63
Total Number of Hosts:	64
Number of Usable Hosts:	62
Subnet Mask:	255.255.255.192

Client Switch kedua :

IP Address:	200.100.1.65
Network Address:	200.100.1.64
Usable Host IP Range:	200.100.1.65 - 200.100.1.126
Broadcast Address:	200.100.1.127
Total Number of Hosts:	64
Number of Usable Hosts:	62
Subnet Mask:	255.255.255.192

3. Beri masing masing client pada switch menggunakan IP STATIS dengan ip dengan keterangan sebagai berikut :
Switch 1 :

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 200.100.1.4

Subnet Mask: 255.255.255.192

Default Gateway: 200.100.1.1

DNS Server: 0.0.0.0

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 200.100.1.5

Subnet Mask: 255.255.255.192

Default Gateway: 200.100.1.1

DNS Server: 0.0.0.0

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address200.100.1.6

Subnet Mask255.255.255.192

Default Gateway200.100.1.1

DNS Server0.0.0.0

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address200.100.1.7

Subnet Mask255.255.255.192

Default Gateway200.100.1.1

DNS Server0.0.0.0

Switch 2 :

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

☒ Static

IPv4 Address200.100.1.70

Subnet Mask255.255.255.192

Default Gateway200.100.1.65

DNS Server0.0.0.0

IP Configuration

InterfaceFastEthernet0

IP Configuration

☐ DHCP

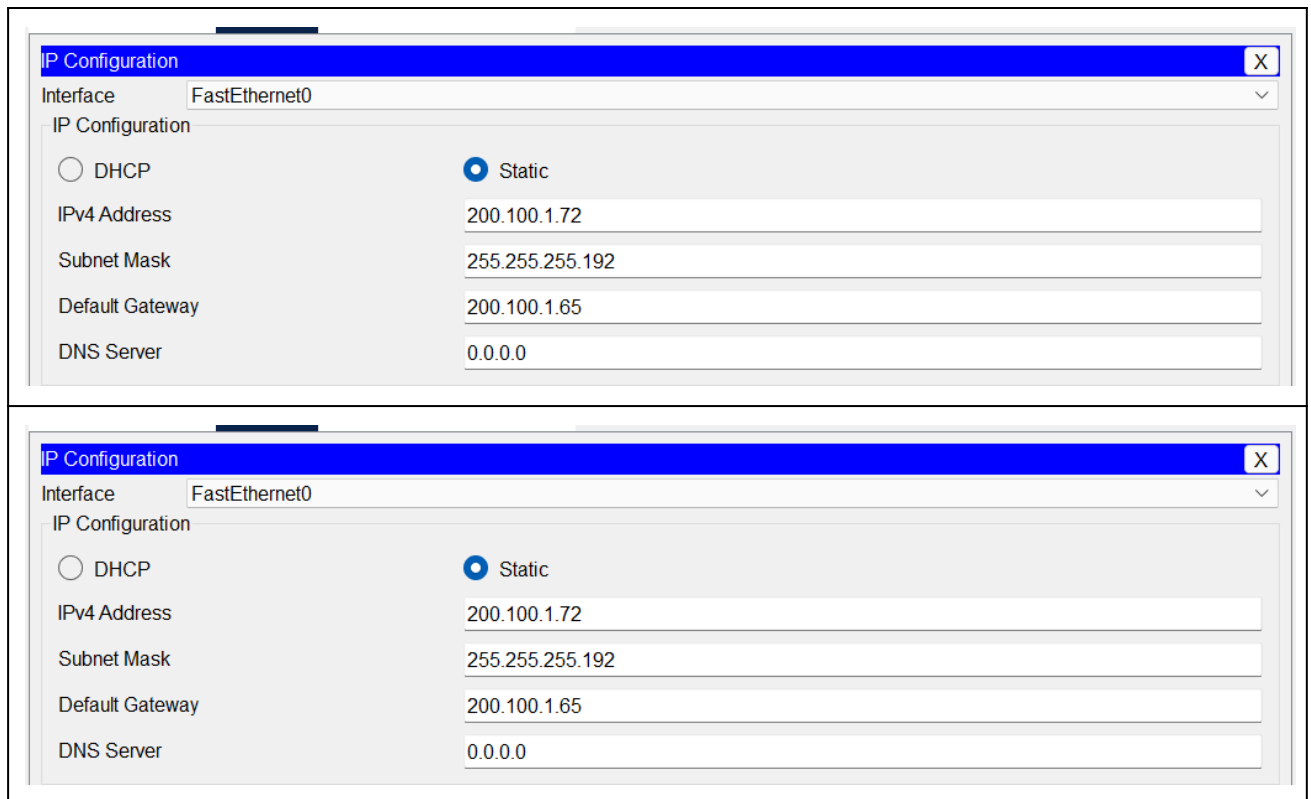
☒ Static

IPv4 Address200.100.1.71

Subnet Mask255.255.255.192

Default Gateway200.100.1.65

DNS Server0.0.0.0



4. Lakukan setting pada router 1, dengan memberikan ip address serta subnet kepada switch 1 dan router 2 :

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#no shutdown

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

Router(config-if)#ip address 200.100.1.1 255.255.255.192
Router(config-if)#exit
Router(config)#interface fastEthernet 1/0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

Router(config-if)#ip address 199.100.1.1 255.255.255.252
Router(config-if)#exit
```

5. Lakukan routing agar router 1 memiliki jalur untuk router 2 :

```
Router(config)#ip route 200.100.1.64 255.255.255.192 199.100.1.2
Router(config)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

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

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

      199.100.1.0/30 is subnetted, 1 subnets
C       199.100.1.0 is directly connected, FastEthernet1/0
      200.100.1.0/26 is subnetted, 2 subnets
C       200.100.1.0 is directly connected, FastEthernet0/0
S       200.100.1.64 [1/0] via 199.100.1.2

Router#
```

6. Lakukan setting pada router 2, dengan memberikan ip address serta subnet kepada switch 2 dan router 1 :

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#no shutdown

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

Router(config-if)#ip address 200.100.1.65 255.255.255.192
Router(config-if)#exit
Router(config)#interface fastEthernet 1/0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

Router(config-if)#ip address 199.100.1.2 255.255.255.192
Router(config-if)#exit
```


7. Lakukan routing agar router 2 memiliki jalur untuk router 1 :

```
Router(config)#ip route 200.100.1.0 255.255.255.192 199.100.1.1
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

```
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
```

```
      199.100.1.0/26 is subnetted, 1 subnets
C       199.100.1.0 is directly connected, FastEthernet1/0
      200.100.1.0/26 is subnetted, 2 subnets
S       200.100.1.0 [1/0] via 199.100.1.1
C       200.100.1.64 is directly connected, FastEthernet0/0
```

```
Router#
```

8. Lakukan pengecekan apakah ip pada blok a dapat terhubung ke ip pada blok b :

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address.....: FE80::203:E4FF:FE85:740B
    IPv6 Address.....: ::
    IPv4 Address.....: 200.100.1.4
    Subnet Mask.....: 255.255.255.192
    Default Gateway.....: ::
                                200.100.1.1

Bluetooth Connection:

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address.....: ::
    IPv6 Address.....: ::
    IPv4 Address.....: 0.0.0.0
    Subnet Mask.....: 0.0.0.0
    Default Gateway.....: ::
                                0.0.0.0

C:\>ping 200.100.1.70

Pinging 200.100.1.70 with 32 bytes of data:

Reply from 200.100.1.70: bytes=32 time<1ms TTL=126
Reply from 200.100.1.70: bytes=32 time<1ms TTL=126
Reply from 200.100.1.70: bytes=32 time<1ms TTL=126
Reply from 200.100.1.70: bytes=32 time<1ms TTL=126

Ping statistics for 200.100.1.70:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

9. Lakukan pengecekan apakah ip pada blok b dapat terhubung ke ip pada blok a :

```
C:\>ipconfig

FastEthernet0 Connection:(default port)

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address.....: FE80::230:A3FF:FED5:2106
    IPv6 Address.....: ::
    IPv4 Address.....: 200.100.1.70
    Subnet Mask.....: 255.255.255.192
    Default Gateway.....: ::
                        200.100.1.65

Bluetooth Connection:

    Connection-specific DNS Suffix...:
    Link-local IPv6 Address.....: ::
    IPv6 Address.....: ::
    IPv4 Address.....: 0.0.0.0
    Subnet Mask.....: 0.0.0.0
    Default Gateway.....: ::
                        0.0.0.0

C:\>ping 200.100.1.1

Pinging 200.100.1.1 with 32 bytes of data:

Reply from 200.100.1.1: bytes=32 time<1ms TTL=254
Reply from 200.100.1.1: bytes=32 time<1ms TTL=254
Reply from 200.100.1.1: bytes=32 time<1ms TTL=254
Reply from 200.100.1.1: bytes=32 time<1ms TTL=254

Ping statistics for 200.100.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```