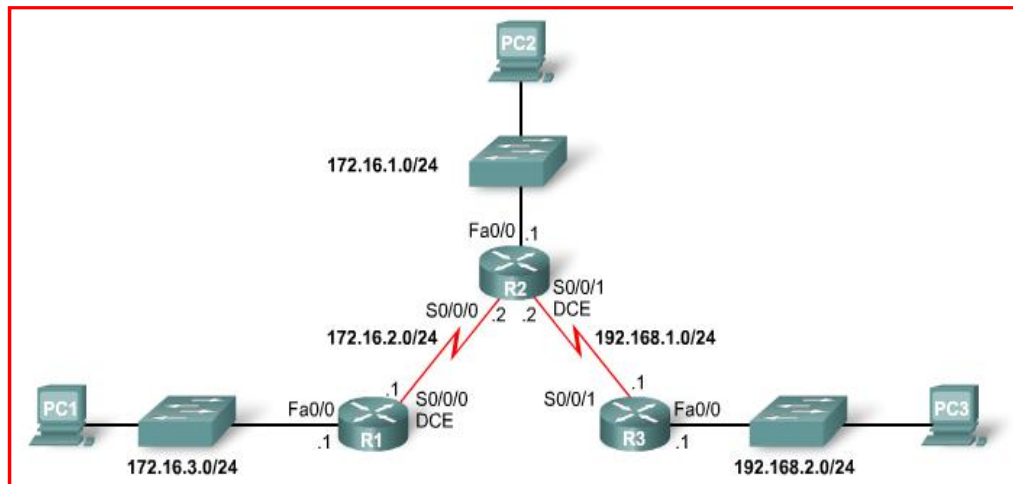


2.4 Contoh Konfigurasi IPv4 Static Routing Pada Topology Jaringan



Gambar 2.5 Konfigurasi IPv4 Static Routing Pada Topology Jaringan

Pada subbab ini akan dikonfigurasi tiga buah router yaitu R1, R2, dan R3 yang ada pada *topology* diatas dengan menggunakan IPv4 *static routing* sebagai protokol routingnya.

Skenario :

Pada *topology* di atas, terdapat tiga buah router yaitu : R1, R2, dan R3. Ketiga router tersebut terhubung dengan menggunakan koneksi WAN dengan kabel Serial yang dihubungkan pada *port* Serial 0/0/0 pada R1, *port* Serial 0/0/0 dan 0/0/1 pada R2 dan *port* Serial 0/0/1 pada R3.

Masing – masing router terhubung ke switch (SW) yang merupakan koneksi LAN dengan menggunakan *port* Fastethernet 1/0. Dan masing – masing switch (SW) terkoneksi terhadap PC.

Peralatan dan Hardware

Tabel 2.1 Peralatan dan Hardware

Hardware	Jumlah	Keterangan
Cisco Router	3	
Cisco Switch	3	
Computer (Host)	3	1 Computer host untuk setiap switch
CAT-5 or better straight-through UTP cables	6	Connects Router to switch, Host1, Host2 and Host3 to switch
Serial cable	2	Connect R1 to R2 to

		R3
--	--	----

Tabel IP Address

Tabel 2.2 Tabel IP Address

Device	Interface	IP Address	Subnet Mask	Default Gateway
R 1	Fa0/0	172.16.3.1	255.255.255.0	N/A
	S0/0/0	172.16.2.1	255.255.255.0	N/A
R 2	Fa0/0	172.16.1.1	255.255.255.0	N/A
	S0/0/0	172.16.2.2	255.255.255.0	N/A
	S0/0/1	172.168.1.2	255.255.255.0	N/A
R 3	Fa0/0	192.168.2.1	255.255.255.0	N/A
	S0/0/1	192.168.1.1	255.255.255.0	N/A
PC	PC 1	172.16.3.2	255.255.255.0	172.16.3.1
	PC 2	172.16.1.2	255.255.255.0	172.16.1.1
	PC 3	192.168.2.2	255.255.255.0	192.168.2.1

Pada skenario ini, konfigurasi yang akan dilakukan pada masing – masing router adalah :

- Router name
- Priviledge password
- Line console dan Line vty password
- Banner motd
- Konfigurasi interface (Fastehernet dan Serial)
- Konfigurasi Routing menggunakan IPv4 *Static Routing*

Konfigurasi R1

```
Router>enable
Router#configure terminal
Router(config)#hostname R1
R1(config)#enable secret cisco
R1 (config)#line console 0
R1 (config-line)#password cisco
R1 (config-line)#login
R1 (config-line)#exit
R1 (config)#line vty 0 4
R1 (config-line)#password cisco
R1 (config-line)#login
```

```

R1 (config-line)#exit
R1 (config)#banner motd &
Enter TEXT message. End with the character '&'.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!      AUTHORIZED ACCESS ONLY      !!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! &
R1 (config)#interface serial 0/0/0
R1 (config-if)#ip address 172.16.2.1 255.255.255.0
R1 (config-if)#clock rate 64000
R1 (config-if)#no shutdown
R1 (config-if)#exit
R1 (config)#interface fastethernet 0/0
R1 (config-if)#ip address 172.16.3.1 255.255.255.0
R1 (config-if)#no shutdown
R1 (config-if)#exit
R1 (config)# ip route 172.16.1.0 255.255.255.0 172.16.2.2
R1 (config)# ip route 192.168.2.0 255.255.255.0 172.16.2.2
R1 (config)#exit
R1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]

```

Konfigurasi R2

```

Router>enable
Router#configure terminal
Router(config)#hostname R2
R2(config)#enable secret cisco
R2 (config)#line console 0
R2 (config-line)#password cisco
R2 (config-line)#login
R2 (config-line)#exit
R2 (config)#line vty 0 4
R2 (config-line)#password cisco
R2 (config-line)#login
R2 (config-line)#exit
R2 (config)#banner motd &
Enter TEXT message. End with the character '&'.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!      AUTHORIZED ACCESS ONLY      !!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! &
R2 (config)#interface serial 0/0/0

```

```

R2 (config-if)#ip address 172.16.2.2 255.255.255.0
R2 (config-if)#no shutdown
R2 (config-if)#exit
R2 (config)#interface serial 0/0/1
R2 (config-if)#ip address 192.168.1.2 255.255.255.0
R2 (config-if)# clock rate 64000
R2 (config-if)#no shutdown
R2 (config-if)#exit
R2 (config)#interface fastethernet 0/0
R2 (config-if)#ip address 172.16.1.1 255.255.255.0
R2 (config-if)#no shutdown
R2 (config-if)#exit
R2 (config)# ip route 172.16.3.0 255.255.255.0 172.16.2.1
R2 (config)# ip route 192.168.2.0 255.255.255.0
192.168.1.1
R2 (config)#exit
R2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]

```

Konfigurasi R3

```

Router>enable
Router#configure terminal
Router(config)#hostname R3
R3(config)#enable secret cisco
R3 (config)#line console 0
R3 (config-line)#password cisco
R3 (config-line)#login
R3 (config-line)#exit
R3 (config)#line vty 0 4
R3 (config-line)#password cisco
R3 (config-line)#login
R3 (config-line)#exit
R3 (config)#banner motd &
Enter TEXT message. End with the character '&'.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!      AUTHORIZED ACCESS ONLY      !!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! &
R3 (config)#interface serial 0/0/1
R3 (config-if)#ip address 192.168.1.1 255.255.255.0
R3 (config-if)#no shutdown

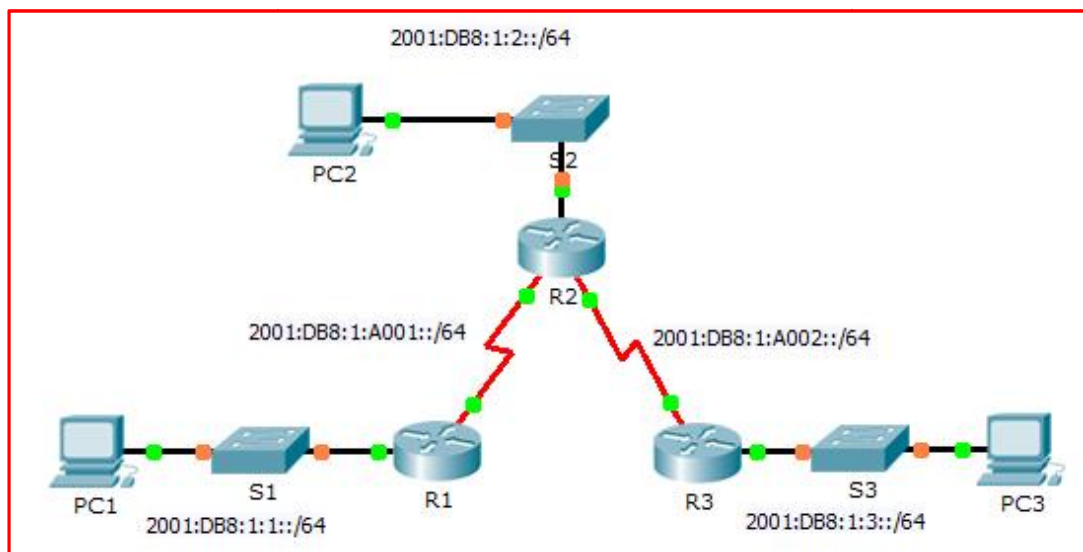
```

```

R3 (config-if)#exit
R3 (config)#interface fastethernet 0/0
R3 (config-if)#ip address 192.168.2.1 255.255.255.0
R3 (config-if)#no shutdown
R3 (config-if)#exit
R3 (config)# ip route 172.16.1.0 255.255.255.0 192.168.1.2
R3 (config)# ip route 172.16.3.0 255.255.255.0 192.168.1.2
R3 (config)#exit
R3#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]

```

2.5 Contoh Konfigurasi IPv6 Static Routing Pada Topology Jaringan



Gambar 2.6 Konfigurasi IPv6 Static Routing Pada Topology Jaringan

Pada subbab ini akan dikonfigurasi tiga buah router yaitu R1, R2, dan R3 yang ada pada *topology* diatas dengan menggunakan IPv6 *static routing* sebagai protokol routingnya.

Skenario :

Pada *topology* di atas, terdapat tiga buah router yaitu : R1, R2, dan R3. Ketiga router tersebut terhubung dengan menggunakan koneksi WAN dengan kabel Serial yang dihubungkan pada *port* Serial 0/0/0 pada R1, *port* Serial 0/0/0 dan 0/0/1 pada R2 dan *port* Serial 0/0/1 pada R3.

Masing – masing router terhung ke switch (SW) yang merupakan koneksi LAN dengan menggunakan *port* Gigaethernet 0/0. Dan masing – masin switch (SW) terkoneksi terhadap PC.

Peralatan dan Hardware

Tabel 2.1 Peralatan dan Hardware

Hardware	Jumlah	Keterangan
Cisco Router	3	Cisco Router 2911
Cisco Switch	3	Catalyst 2960
Computer (Host)	3	1 Computer host untuk setiap switch
CAT-5 or better straight-through UTP cables	6	Connects Router to switch, Host1, Host2 and Host3 to switch
Serial cable	2	Connect R1 to R2 to R3

Tabel IP Address

Tabel 2.2 Tabel IP Address

Device	Interface	IPv6 Address/Prefix	Default Gateway
R1	G0/0	2001:DB8:1:1::1/64	N/A
	S0/0/0	2001:DB8:1:A001::1/64	N/A
R2	G0/0	2001:DB8:1:2::1/64	N/A
	S0/0/0	2001:DB8:1:A001::2/64	N/A
	S0/0/1	2001:DB8:1:A002::1/64	N/A
R3	G0/0	2001:DB8:1:3::1/64	N/A
	S0/0/1	2001:DB8:1:A002::2/64	N/A
PC1	NIC	2001:DB8:1:1::F/64	FE80::1
PC2	NIC	2001:DB8:1:2::F/64	FE80::2
PC3	NIC	2001:DB8:1:3::F/64	FE80::3

Pada skenario ini, konfigurasi yang akan dilakukan pada masing – masing router adalah :

- Router name
- Priviledge password
- Line console dan Line vty password
- Banner motd
- Konfigurasi interface (Fastehernet dan Serial)
- Konfigurasi Routing menggunakan IPV6 *Static Routing*

Konfigurasi R1

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Router(config)#hostname R1
R1(config)#enable secret cisco
R1(config)#line console 0
R1(config-line)#password cisco
R1(config-line)#exit
R1(config)#line vty 0 4
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#exit
R1 (config)#banner motd &
Enter TEXT message. End with the character '&'.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!      AUTHORIZED ACCESS ONLY      !!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! &
R1(config)#ipv6 unicast-routing
R1(config)#interface gigabitEthernet 0/0
R1(config-if)#ipv6 enable
R1(config-if)#ipv6 address 2001:DB8:1:1::1/64
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#int serial 0/0/0
R1(config-if)#ipv6 address 2001:DB8:1:A001::1/64
R1(config-if)#clock rate 128000
R1(config-if)#no shutdown
R1(config-if)#exit
R1(config)#ipv6 route 2001:DB8:1:2::/64 2001:DB8:1:A001::2
R1(config)#ipv6 route 2001:DB8:1:A002::/64
2001:DB8:1:A001::2
R1(config)#ipv6 route 2001:DB8:1:3::/64 2001:DB8:1:A001::2
R1(config)#exit
R1#copy r s
Destination filename [startup-config]?
Building configuration...
[OK]
R1#sh run
Building configuration...
```

Konfigurasi R2

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Router(config)#hostname R2
R2(config)#enable secret cisco
R2(config)#line console 0
R2(config-line)#password cisco
R2(config-line)#exit
R2(config)#line vty 0 4
R2(config-line)#password cisco
R2(config-line)#login
R2(config-line)#exit
R2 (config)#banner motd &
Enter TEXT message. End with the character '&'.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!    AUTHORIZED ACCESS ONLY    !!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! &
R2(config)#ipv6 unicast-routing
R2(config)#interface gigabitEthernet 0/0
R2(config-if)#ipv6 enable
R2(config-if)#ipv6 address 2001:DB8:1:2::1/64
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#int serial 0/0/0
R2(config-if)#ipv6 address 2001:DB8:1:A001::2/64
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#int serial 0/0/1
R2(config-if)#ipv6 address 2001:DB8:1:A002::1/64
R2(config-if)#clock rate 128000
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#ipv6 route 2001:DB8:1:A002::/64
2001:DB8:1:A001::2
R2(config)# ipv6 route 2001:DB8:1:1::/64 serial0/0/0
R2(config)# ipv6 route 2001:DB8:1:3::/64 serial0/0/0
R2(config)#exit
R2#copy r s
Destination filename [startup-config]?
Building configuration...
[OK]
```


Konfigurasi R3

```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Router(config)#hostname R1
R3(config)#enable secret cisco
R3(config)#line console 0
R3(config-line)#password cisco
R3(config-line)#exit
R3(config)#line vty 0 4
R3(config-line)#password cisco
R3(config-line)#login
R3(config-line)#exit
R3 (config)#banner motd &
Enter TEXT message. End with the character '&'.
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!      AUTHORIZED ACCESS ONLY      !!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! &
R3(config)#ipv6 unicast-routing
R3(config)#interface gigabitEthernet 0/0
R3(config-if)#ipv6 enable
R3(config-if)#ipv6 address 2001:DB8:1:3::1/64
R3(config-if)#no shutdown
R3(config-if)#exit
R3(config)#int serial 0/0/1
R3(config-if)#ipv6 address 2001:DB8:1:A002::2/64
R3(config-if)#clock rate 128000
R3(config-if)#no shutdown
R3(config-if)#exit
R3(config)#ipv6 route 2001:DB8:1:2::/64
2001:DB8:1:A002::1/64
R3(config)#ipv6 route 2001:DB8:1:A001::/64
2001:DB8:1:A002::1/64
R3(config)#ipv6 route 2001:DB8:1:1::/64
2001:DB8:1:A002::1/64
R3(config)#exit
R3#copy r s
Destination filename [startup-config]?
Building configuration...
[OK]
```