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Prak-Jarkom

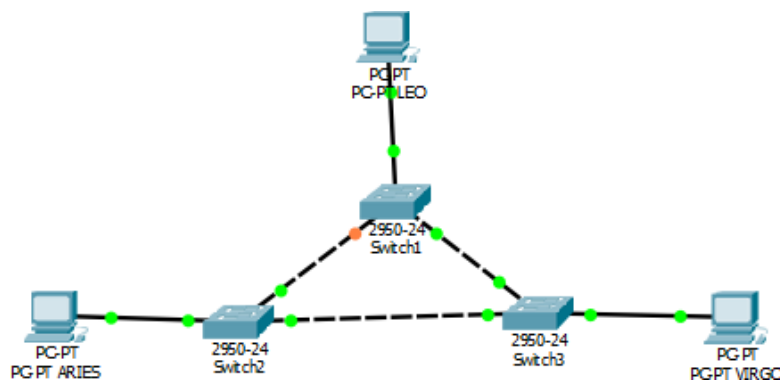
Modul 6

Kegiatan 1. Topologi 1

1. Menggunakan Packet Tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950

Tulis langkah pembuatan topologi.

- Masuk Cisco Packet Tracer
- Lalu masuk ke tab "Switches"
- Pilih switch catalyst 2950 dan drag ke dalam cisco sebanyak 3 kali
- Masuk ke tab "End Device"
- Lalu pilih PC, setelah itu drag ke dalam cisco sebanyak 3 kali
- Mengganti nama sesuai keinginan dan mengisi IP Address tiap PC
- Terakhir hubungkan dengan kabel



2. Beri nama masing - masing switch dengan SW1,SW2,dan SW3

GLOBAL	Global Settings
Settings	
Algorithm Settings	
SWITCHING	
VLAN Database	
INTERFACE	

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GLOBAL	Global Settings
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The image shows three screenshots of the Cisco Packet Tracer configuration interface for three switches. Each screenshot displays the 'Global Settings' tab for a specific switch. The 'Display Name' field is set to 'Switch1', 'Switch2', and 'Switch3' respectively. The 'Hostname' field is set to 'Switch' for all three. The 'Serial Number' field is set to 'No Serial Number' for all three.

Tulis langkah pemberian nama switch mulai dari mode user.

Sw1

```
Switch#  
%SYS-5-CONFIG_I: Configured from console by console  
conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#hostname SW1  
SW1(config)#end  
SW1#  
%SYS-5-CONFIG_I: Configured from console by console
```

Sw2

```
Switch(vlan)#exit  
APPLY completed.  
Exiting....  
Switch#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#hostname SW2  
SW2(config)#end  
SW2#  
%SYS-5-CONFIG_I: Configured from console by console
```

Sw3

```
Switch(vlan)#exit  
APPLY completed.  
Exiting....  
Switch#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#hostname SW3  
SW3(config)#end  
SW3#  
%SYS-5-CONFIG_I: Configured from console by console
```

3. Tulis langkah pemberian nama switch mulai dari mode user.
4. Konfigurasi masing-masing PC dengan IP :

- Leo = 172.21.1.1/24

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 172.21.1.1

Subnet Mask: 255.255.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

- Aries = 172.21.1.2/24

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 172.21.1.2

Subnet Mask: 255.255.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

- Virgo = 172.21.1.3/24

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 171.21.1.3

Subnet Mask: 255.255.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

5. Pada mode user atau mode privileged, lihat status STP pada masing - masing switch. Langkah pengoperasian

- Tekan Enter
- Masuk mode privileged (Optional)

6. Untuk tiap switch isikan tabel berikut:

Sw 1

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0040.0B4E.278C
4	Bridge ID	32769 :0040.0B4E.278C
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 2

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0010.11B8.5078
4	Bridge ID	32769 : 0010.11B8.5078
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 3

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	000C.857D.DC34
4	Bridge ID	32769 : 000C.857D.DC34
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

7. Tentukan

Root Bridge : SW3

Designated bride : SW2

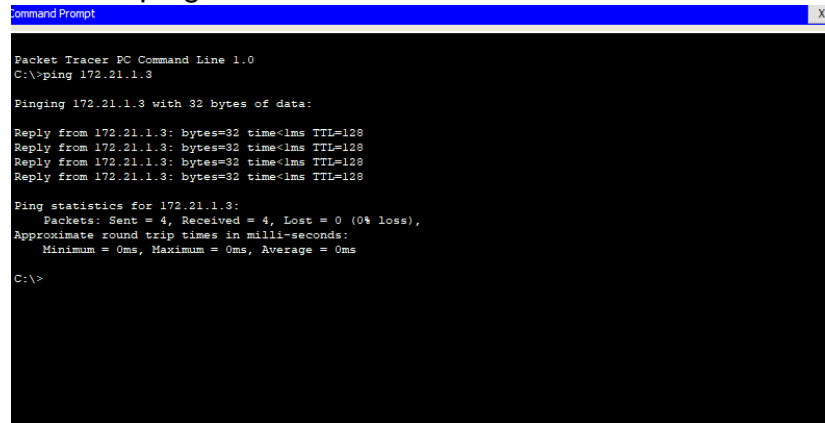
Root Port : SW1 Fa 0/3, SW 2 Fa0/3

Designated Port : SW1 Fa 0/1 , SW 2 Fa 0/1 Fa 0/2, SW 3 Fa0/1 Fa 0/2 Fa 0/3

Port yang berada pada keadaan forwarding : SW1(Fa 0/1;0/3) ,SW2(Fa 0/1;0/2;0/3), dan SW3(Fa 0/1;0/2;0/3)

Port yang berada pada keadaan blocking : SW1 (Fa 0/2)

8. Test ping pc leo ke virgo
- Klik pada pc leo
 - Pilih tab desktop
 - Pilih command prompt
 - Tuliskan ping 172.21.1.3



```
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

9. Simpan konfigurasi jaringan dengan nama lab2.nwc
Lakukan perintah dibawah untuk setiap switch

Sw1

```
SW1#
SW1#write
Building configuration...
[OK]
```

Sw2

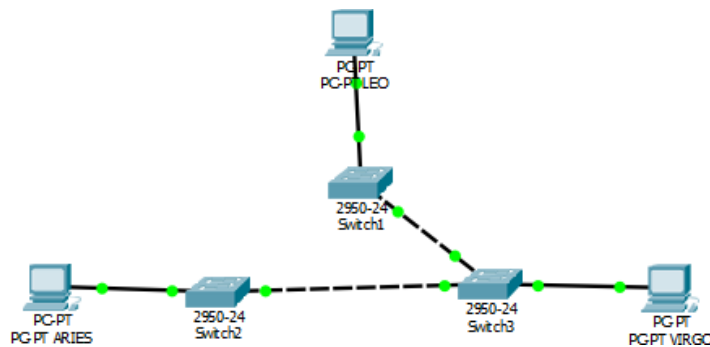
```
SW2#
SW2#write
Building configuration...
[OK]
```

Sw3

```
SW3(vlan)#exit
APPLY completed.
Exiting....
SW3#write
Building configuration...
[OK]
SW3#
```

Kegiatan 2. Topologi 2

- 1) Menggunakan PACKET TRACER ubah topologi menjadi seperti topologi berikut ini:



- 2) Konfigurasi masing-masing PC dengan IP :
Leo = 172.21.1.1/24

Physical	Config	Desktop	Programming	Attributes
IP Configuration [X]				
IP Configuration				
<input type="radio"/> DHCP <input checked="" type="radio"/> Static				
IP Address: 172.21.1.1				
Subnet Mask: 255.255.0.0				
Default Gateway: 0.0.0.0				
DNS Server: 0.0.0.0				

Aries = 172.21.1.2/24

Physical	Config	Desktop	Programming	Attributes
IP Configuration [X]				
IP Configuration				
<input type="radio"/> DHCP <input checked="" type="radio"/> Static				
IP Address: 172.21.1.2				
Subnet Mask: 255.255.0.0				
Default Gateway: 0.0.0.0				
DNS Server: 0.0.0.0				

Virgo = 172.21.1.3/24

Physical	Config	Desktop	Programming	Attributes
IP Configuration [X]				
IP Configuration				
<input type="radio"/> DHCP <input checked="" type="radio"/> Static				
IP Address: 171.21.1.3				
Subnet Mask: 255.255.0.0				
Default Gateway: 0.0.0.0				
DNS Server: 0.0.0.0				

- 3) Pada mode user atau mode privileged, lihat status STP pada masing - masing switch. Langkah pengoperasian
 - Tekan Enter

- Masuk mode privileged (Optional)
- Ketik show spanning-tree

Sw 1

```
SW1#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     000C.857D.DC34
            Cost        19
            Port        3(FastEthernet0/3)
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
            Address     0040.0B4E.278C
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time   20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/3        Root FWD 19        128.3    P2p
Fa0/1        Desg FWD 19        128.1    P2p

SW1#
```

Sw 2

```
SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     000C.857D.DC34
            Cost        19
            Port        3(FastEthernet0/3)
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
            Address     0010.11B8.5078
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time   20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/1        Desg FWD 19        128.1    P2p
Fa0/3        Root FWD 19        128.3    P2p

SW2#
```

Sw 3

```
SW3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     000C.857D.DC34
            This bridge is the root
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
            Address     000C.857D.DC34
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time   20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/1        Desg FWD 19        128.1    P2p
Fa0/3        Desg FWD 19        128.3    P2p
Fa0/2        Desg FWD 19        128.2    P2p

SW3#
```

- 4) Untuk tiap switch isikan tabel berikut:

Sw 1

No	Variable	Nilai
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2	Priority	32769
3	MAC Address	0040.0B4E.278C
4	Bridge ID	32769 :0040.0B4E.278C
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/3--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 2

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0010.11B8.5078
4	Bridge ID	32769 : 0010.11B8.5078
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/3--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 3

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	000C.857D.DC34
4	Bridge ID	32769 : 000C.857D.DC34
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa0/3--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

5) Kemudian Tentukan

Root Bridge : SW3

Designated bride : SW2

Root Port : SW1 Fa 0/3, SW 2 Fa 0/3

Designated Port : SW1 Fa 0/1 , SW 2 Fa0/1 , SW 3 (Fa0/1,Fa 0/2,Fa0/3)

Port yang berada pada keadanforwarding : SW1(Fa 0/1;0/3) ,SW2(Fa 0/1;0/3), dan SW3(Fa 0/1;0/2;0/3)

Port yang berada pada keadan blocking : tidak ada yang terblock

6) Test ping pc leo ke pc virgo

- Klik pada pc leo
- Pilih tab desktop
- Pilih command prompt
- Tuliskan ping 172.21.1.3

```
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
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Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```