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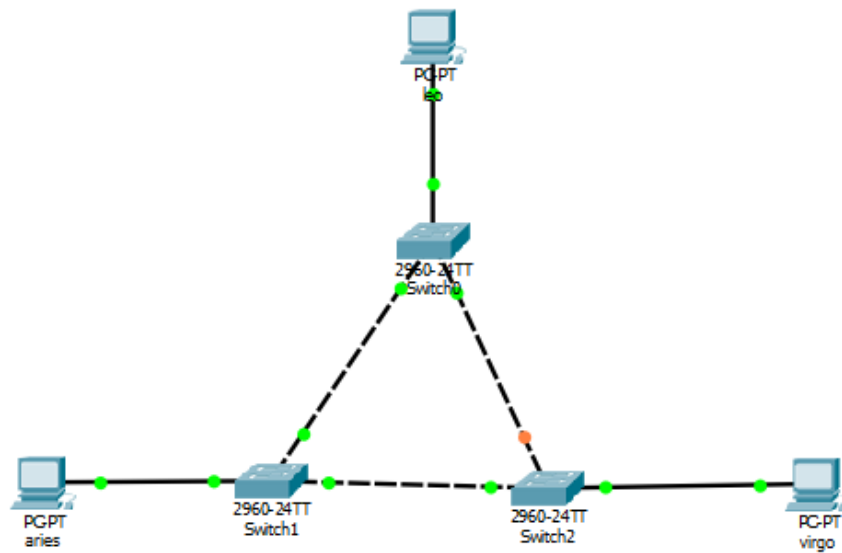
Class : X

Laporan Praktikum Modul VI

Spanning Tree Protocol

Topologi 1.

1. Membuat topologi menggunakan switch Catalyst 2950.



2. Memberi nama pada masing-masing switch.

```
Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

Switch>en
Switch#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname SW1
SW1(config)#
```

SW1

```
Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

Switch>en
Switch#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname SW2
SW2(config)#
```

SW3

```
Press RETURN to get started!

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

%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2,
changed state to up

%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3,
changed state to up

Switch>en
Switch#config term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname SW3
SW3(config)#
```

SW3

3. Mengkonfigurasi masing-masing PC dengan alamat IP

Leo

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 172.21.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::2E0:A3FF:FE04:EC27

IPv6 Gateway:

IPv6 DNS Server:

☐ Top

Leo

Aries

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::201:43FF:FE0A:7067

IPv6 Gateway

IPv6 DNS Server

☐ Top

Aries

Virgo

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.3

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::290:CFF:FE3B:417E

IPv6 Gateway

IPv6 DNS Server

☐ Top

Virgo

4. Melihat status STP pada masing-masing switch.

```
SW1#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.4A80.3B94
             Cost        19
             Port        1(FastEthernet0/1)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     000A.F381.4269
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

             Aging Time  20

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

SW1#
```

SW1

```
SW2>enable
SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.4A80.3B94
             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     0002.4A80.3B94
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

             Aging Time  20

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

SW2#
```

SW2

```

SW3>enable
SW3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID      Priority      32769
                Address      0002.4A80.3B94
                Cost         19
                Port         1(FastEthernet0/1)
                Hello Time    2 sec  Max Age 20 sec  Forward Delay 15
sec

  Bridge ID     Priority      32769  (priority 32768 sys-id-ext 1)
                Address      0090.0C80.4A4C
                Hello Time    2 sec  Max Age 20 sec  Forward Delay 15
sec

                Aging Time    20

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

SW3#

```

SW3

SW1

No	Variabel	Nilai
1	Root ID	32769 : 0002-4A80-3B94
2	Priority	32769
3	MAC Adress	000A-F381-4269
4	Bridge ID	32769 : 000A-F381-4269
5	Cost (0/1;0/2;0/3)	19, 19, 19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15

SW2

No	Variabel	Nilai
1	Root ID	32769 : 0002-4A80-3B94

2	Priority	32769
3	MAC Adress	0002-4A80-3B94
4	Bridge ID	32769 : 0002-4A80-3B94
5	Cost (0/1;0/2;0/3)	19, 19, 19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15

SW3

No	Variabel	Nilai
1	Root ID	32769 : 0002-4A80-3B94
2	Priority	32769
3	MAC Adress	0090-0680-4A94
4	Bridge ID	32769 : 0090-0680-4A94
5	Cost (0/1;0/2;0/3)	19, 19, 19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15

Keterangan port :

- *Root bridge* : SW2
- *Designated bridge* : SW1
- *Root port* : SW1 (*fa 0/1*), SW3 (*fa 0/1*)
- *Designated port* : SW1 (*fa 0/2*)

Keadaan port :

- *Forwarding* : SW1 (*fa 0/1, fa 0/2, fa 0/3*), SW2 (*fa 0/1, fa 0/2, fa 0/3*), SW3 (*fa 0/1, fa 0/3*)
- *Blocking* : SW3 (*fa 0/2*)

5. Melakukan ping dari PC Leo ke PC Virgo.

```
C:\>ping 172.21.1.3

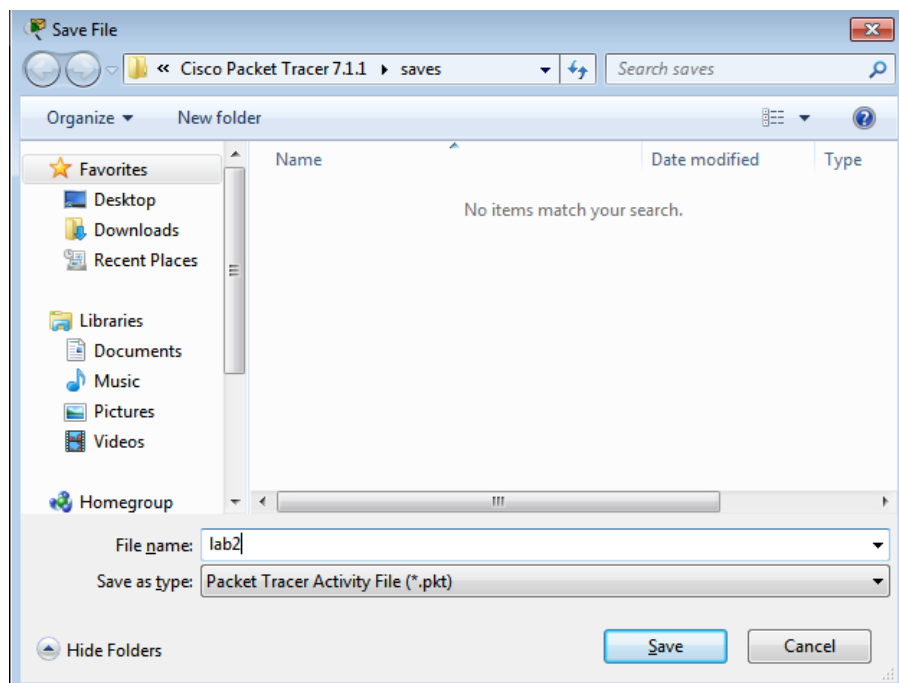
Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=20ms 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 = 20ms, Average = 5ms

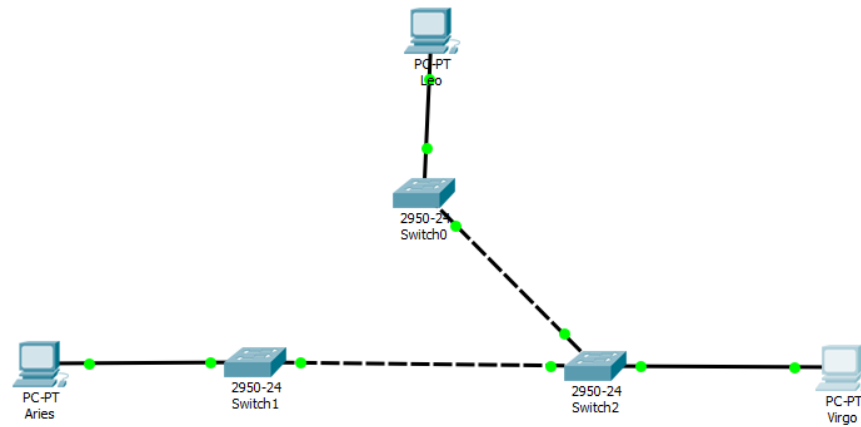
C:\>|
```

6. Menyimpan konfigurasi jaringan dengan nama lab2.nwc.



Topologi 2.

1. Mengubah topologi.



2. Melihat status STP pada masing-masing switch.

```
SW1#
%SYS-5-CONFIG_I: Configured from console by console

SW1#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0001.C761.DAE6
             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     0001.C761.DAE6
             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
Fa0/2          Desg FWD 19        128.2    P2p

SW1#
```

SW1

```

*SYS-5-CONFIG_I: Configured from console by console

SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.C761.DAE6
              Cost        38
              Port        2(FastEthernet0/2)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec
    Bridge ID  Priority    32769  (priority 32768 sys-id-ext 1)
              Address     000D.BD9E.D6C6
              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
Fa0/2                    Root FWD 19        128.2    P2p

SW2#

```

SW2

```

SW3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.C761.DAE6
              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     0090.0C68.E225
              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
Fa0/2                    Desg FWD 19        128.2    P2p
Fa0/3                    Root FWD 19        128.3    P2p

SW3#

```

SW3

SW1

No	Variabel	Nilai
1	Root ID	32769 : 0001-C761-DAE6
2	Priority	32769

3	MAC Adress	0001-C761-DAE6
4	Bridge ID	32769 : 0001-C761-DAE6
5	Cost (0/1;0/2;0/3)	19, 19, -
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15

SW2

No	Variabel	Nilai
1	Root ID	32769 : 0001-C761-DAE6
2	Priority	32769
3	MAC Adress	000D-BD9E-D6C6
4	Bridge ID	32769 : 000D-BD9E-D6C6
5	Cost (0/1;0/2;0/3)	19, 19, -
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15

SW3

No	Variabel	Nilai
1	Root ID	32769 : 0001-C761-DAE6
2	Priority	32769
3	MAC Adress	0090-0C68-E225
4	Bridge ID	32769 : 0090-0C68-E225
5	Cost (0/1;0/2;0/3)	19, 19, 19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15

Keterangan port :

- *Root bridge* : SW1
- *Designated bridge* : SW2, SW3
- *Root port* : SW2 (fa 0/2), SW3 (fa 0/3)
- *Designated port* : -

Keadaan port :

- *Forwarding* : SW1 (fa 0/1, fa 0/2), SW2 (fa 0/1, fa 0/2), SW3 (fa 0/1, fa 0/2, fa 0/3)
- *Blocking* : -

3. Melakukan ping dari PC Leo ke PC Virgo.

```
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 = 1ms, Average = 0ms

C:\>|
```