

# TUGAS PRAKTIKUM

## JARINGAN KOMPUTER

### MODUL 6. SPANNING TREE PROTOCOL

#### Kegiatan 1. Topologi 1

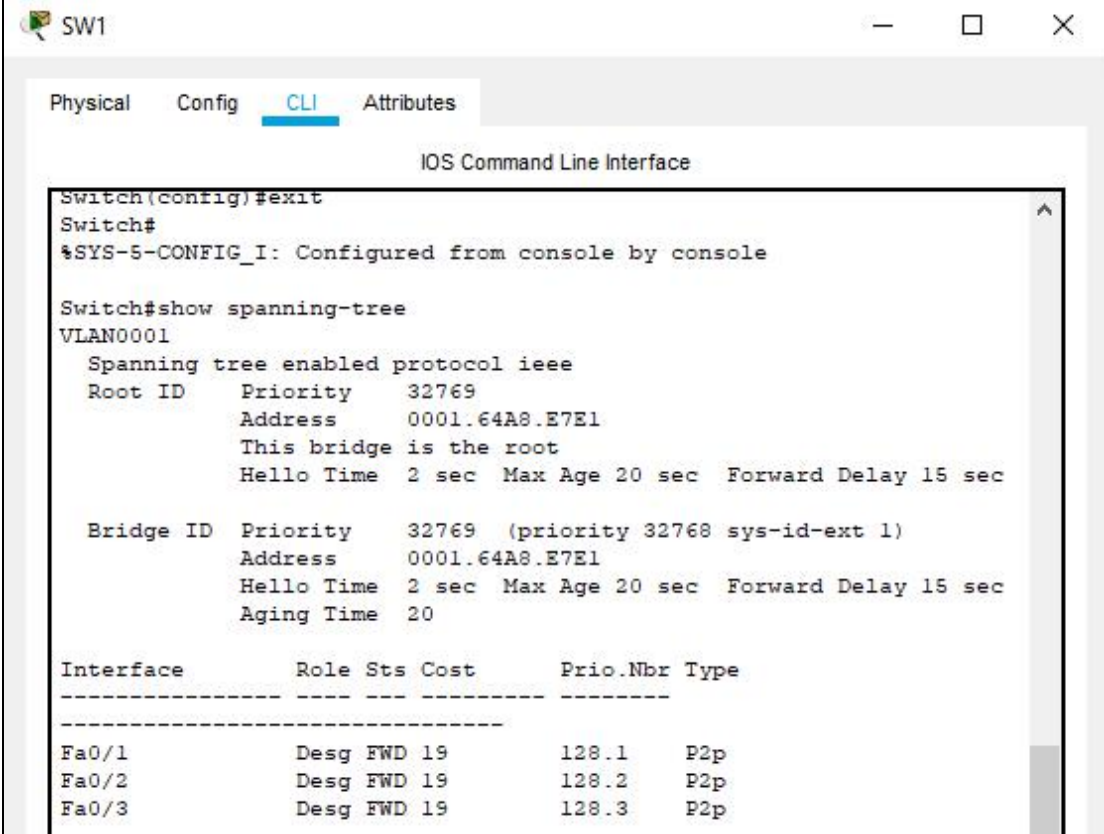
Tugas 1A: Tuliskan langkah pembuatan topologi

Pembuatan topologi menggunakan 3 switch yang saling terhubung paralel (switch0, switch1, switch2), dimana setiap switch terhubung pada 1 PC berbeda

Tugas 2A: Tuliskan langkah pemberian nama switch

Pemberian nama dilakukan dengan melakukan double click pada switch, kemudian menuju Config, Global Settings, dan memasukkan nama pada Display Name

Tugas 4A: Pada kondisi default, capture masing-masing tampilan status STP switch  
a.



The screenshot shows a network switch window titled 'SW1' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The user has entered the command 'show spanning-tree' for 'VLAN0001'. The output shows that the spanning tree is enabled using the IEEE protocol, with the switch acting as the root. The root ID is 32769, with a MAC address of 0001.64A8.E7E1. The bridge ID is also 32769. The hello time is 2 seconds, max age is 20 seconds, and forward delay is 15 seconds. The aging time is 20 seconds. A table at the bottom lists the interfaces Fa0/1, Fa0/2, and Fa0/3, all with a role of 'Desg FWD', a cost of 19, and a priority of 128.1, 128.2, and 128.3 respectively, connected via P2p links.

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

Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0001.64A8.E7E1
             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     0001.64A8.E7E1
             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              Desg FWD 19        128.3    P2p
```

SW2

Physical
 Config
 **CLI**
Attributes

IOS Command Line Interface

```

Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.64A8.E7E1
              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     00E0.8F40.85A9
              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

Physical
 Config
 **CLI**
Attributes

IOS Command Line Interface

```

changed state to up

Switch>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.64A8.E7E1
              Cost        19
              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     0006.2A68.9260
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time  20

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

```

Tugas 4B: Untuk tiap-tiap switch isikan tabel berikut

SW1

No	Variabel	Nilai
1.	Root ID	32769, 0001.64A8.E7E1
2.	Priority	32769
3.	MAC Address	0001.64A8.E7E1
4.	Bridge ID	32769
5.	Cost(0/1;0/2;0/3)	19,19,19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW2

No	Variabel	Nilai
1.	Root ID	32769, 0001.64A8.E7E1
2.	Priority	32769
3.	MAC Address	0001.64A8.E7E1
4.	Bridge ID	32769
5.	Cost(0/1;0/2;0/3)	19,19,19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW3

No	Variabel	Nilai
1.	Root ID	32769, 0001.64A8.E7E1
2.	Priority	32769
3.	MAC Address	0001.64A8.E7E1
4.	Bridge ID	32769
5.	Cost(0/1;0/2;0/3)	19,19,19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

Tugas 4C: Pada kondisi default tersebut, switch dan port mana saja yang:

- Menjadi root bridge: SW1
  - Menjadi designated bridge: -
  - Menjadi root port: SW2(Fa 0/1), SW3(Fa 0/2)
  - Menjadi designated port: SW1(Fa 0/1, Fa 0/2, Fa 0/3), SW2(Fa 0/3), SW3(Fa 0/1, Fa 0/3)
- 

Tugas4D: Pada kondisi default tersebut, switch dan port mana saja yang:

- Berada pada keadaan forwarding: SW1 (Fa 0/1,Fa 0/2,Fa 0/3), SW2 (Fa 0/1, Fa 0/3), SW3 (Fa 0/1, Fa 0/2, Fa 0/3)
  - Berada pada keadaan blocking: SW2 (Fa 0/2)
-

Tugas5A: Tuliskan langkah untuk melakukan perintah ping  
Melakukan ping dilakukan dengan melakukan double click pada PC asal (Leo), kemudian menuju Desktop, Comand Promt, dan memasukkan perintah ping ke alamat IP PC tujuan (Virgo: 172.21.1.3)

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Tugas6A: Tuliskan langkah untuk menyimpan konfigurasi jaringan  
Menyimpan konfigurasi jaringan dilakukan dengan click menu File, Save, Posisikan Save File, isi File Name yang dikehendaki (lab2.ncw), kemudian Save

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## Kegiatan 2. Topologi 2

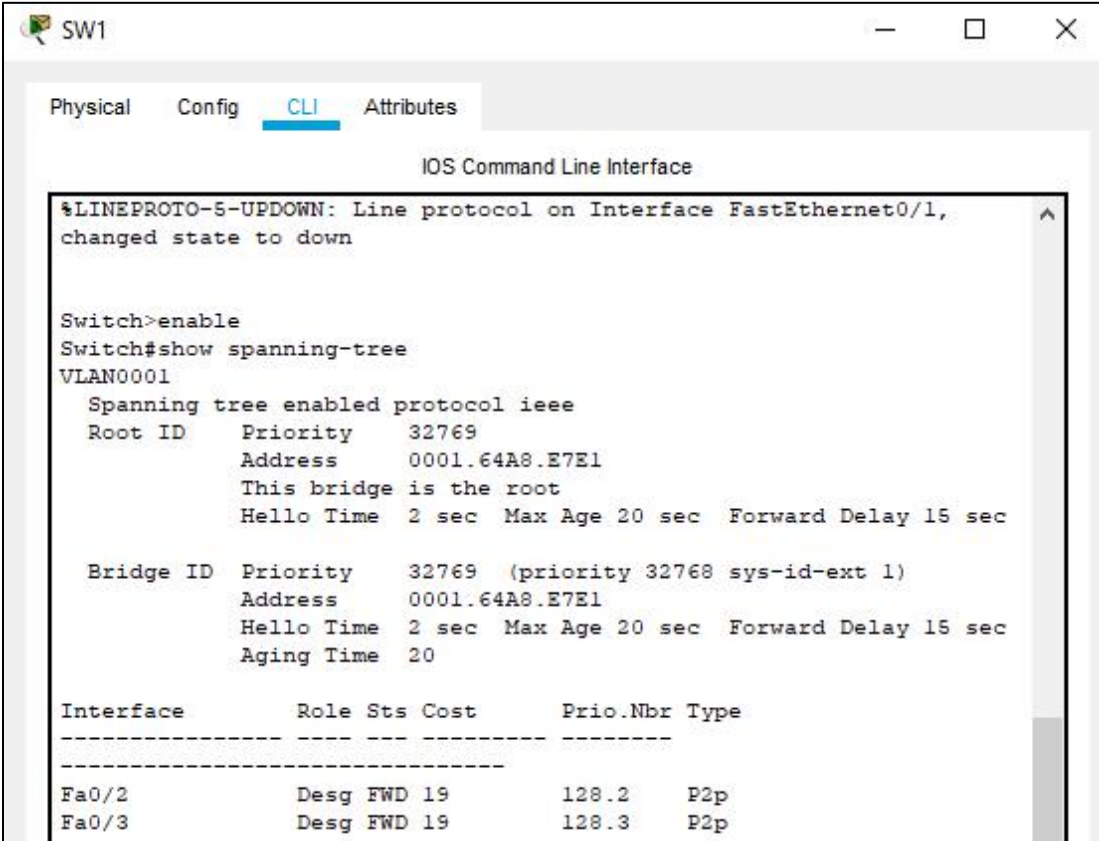
Tugas 1A: Tuliskan langkah pembuatan topologi  
Pembuatan topologi menggunakan 3 switch yang saling terhubung seri (switch0, switch1, switch2), dimana setiap switch terhubung pada 1 PC berbeda

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Tugas 2A: Tuliskan langkah pemberian nama switch  
Pemberian nama dilakukan dengan melakukan double click pada switch, kemudian menuju Config, Global Settings, dan memasukkan nama pada Display Name

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Tugas 4A: Pada kondisi default, capture masing-masing tampilan status STP switch



```
SW1
Physical Config CLI Attributes
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to down

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0001.64A8.E7E1
             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     0001.64A8.E7E1
             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
```

SW2

Physical Config CLI Attributes

IOS Command Line Interface

```
changed state to down

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     0001.64A8.E7E1
            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     00E0.8F40.85A9
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time  20

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

SW3

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     0001.64A8.E7E1
            Cost        19
            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     0006.2A68.9260
            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
Fa0/3              Desg FWD 19        128.3    P2p
```

Tugas 4B: Untuk tiap-tiap switch isikan tabel berikut

SW1

No	Variabel	Nilai
1.	Root ID	32769, 0001.64A8.E7E1
2.	Priority	32769
3.	MAC Address	0001.64A8.E7E1
4.	Bridge ID	32769
5.	Cost(0/2;0/3)	19,19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW2

No	Variabel	Nilai
1.	Root ID	32769, 0001.64A8.E7E1
2.	Priority	32769
3.	MAC Address	0001.64A8.E7E1
4.	Bridge ID	32769
5.	Cost(0/2;0/3)	19,19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW3

No	Variabel	Nilai
1.	Root ID	32769, 0001.64A8.E7E1
2.	Priority	32769
3.	MAC Address	0001.64A8.E7E1
4.	Bridge ID	32769
5.	Cost(0/1;0/2;0/3)	19,19,19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

Tugas 4C: Pada kondisi default tersebut, switch dan port mana saja yang:

- Menjadi root bridge : SW1
- Menjadi designated bridge: -
- Menjadi root port: SW1(Fa 0/2), SW3(Fa 0/2)
- Menjadi designated port: SW1(Fa 0/2, Fa 0/3), SW2(Fa 0/3), SW3(Fa 0/1, Fa 0/3)

Tugas4D: Pada kondisi default tersebut, switch dan port mana saja yang:

- Berada pada keadaan forwarding  
SW1(Fa 0/2, Fa 0/3), SW2(Fa 0/2, Fa 0/3), SW3(Fa 0/1, Fa 0/2, Fa 0/3)
- Berada pada keadaan blocking -

Tugas5A: Tuliskan langkah untuk melakukan perintah ping

Melakukan ping dilakukan dengan melakukan double click pada PC asal (Leo), kemudian menuju Desktop, Comand Promt, dan memasukkan perintah ping ke alamat IP PC tujuan (Virgo: 172.21.1.3)

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Tugas6A: Tuliskan langkah untuk menyimpan konfigurasi jaringan

Menyimpan konfigurasi jaringan dilakukan dengan click menu File, Save, Posisikan Save File, isi File Name yang dikehendaki (latihan2.ncw), kemudian Save

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