DATABASE SYSTEM

COMPUTER NETWORK

Disusun oleh:

Aulia Septianingrum Revyana Nurcahyani
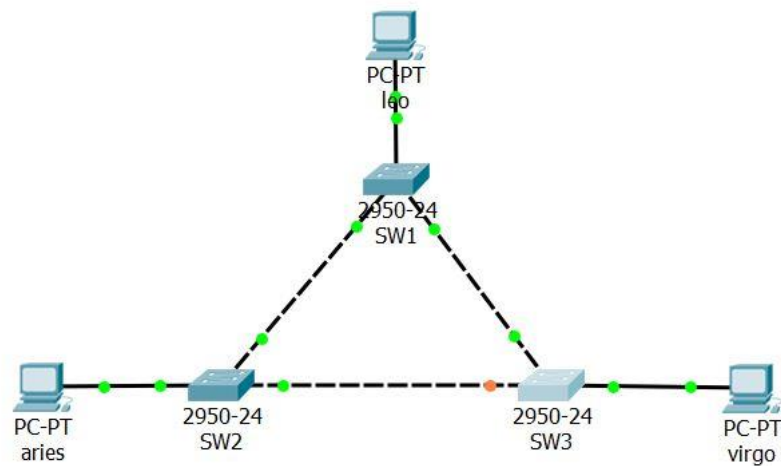
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INFORMATION STUDY PROGRAM

COMMUNICATION AND INFORMATION FACULTY

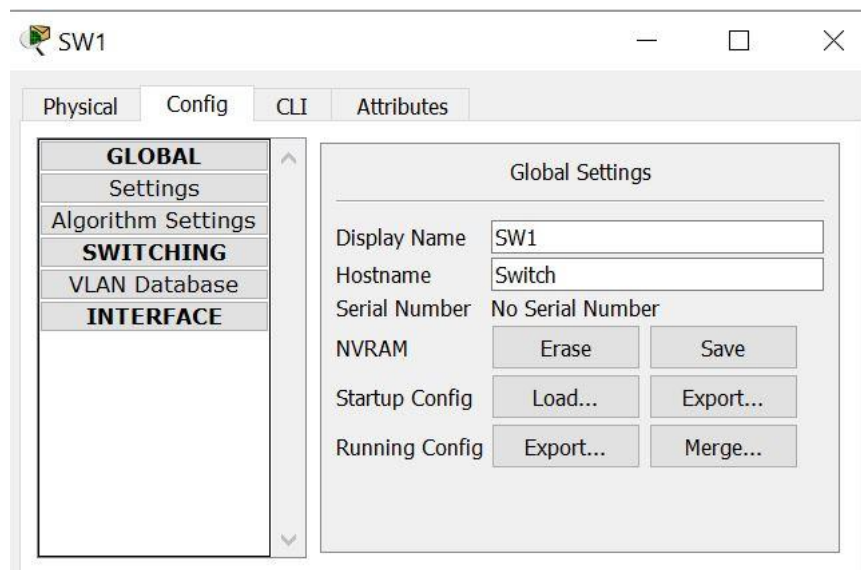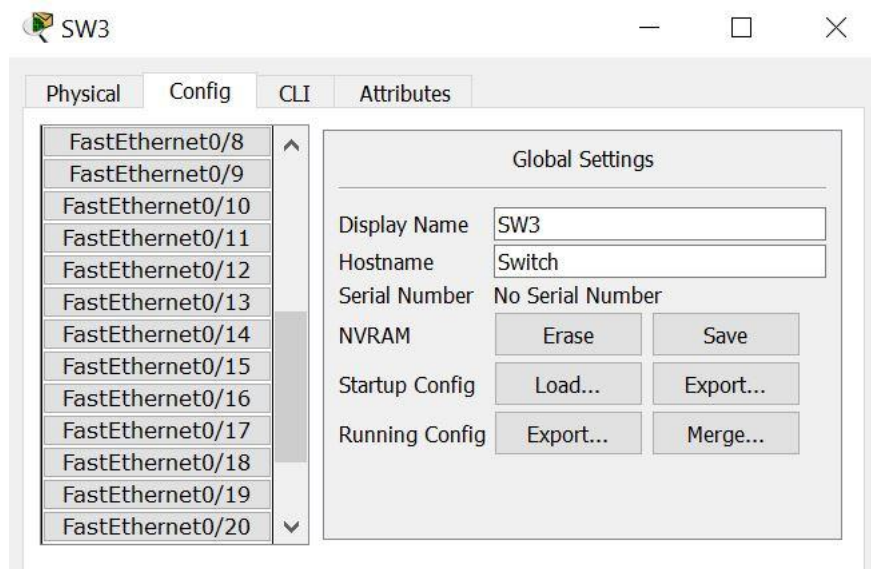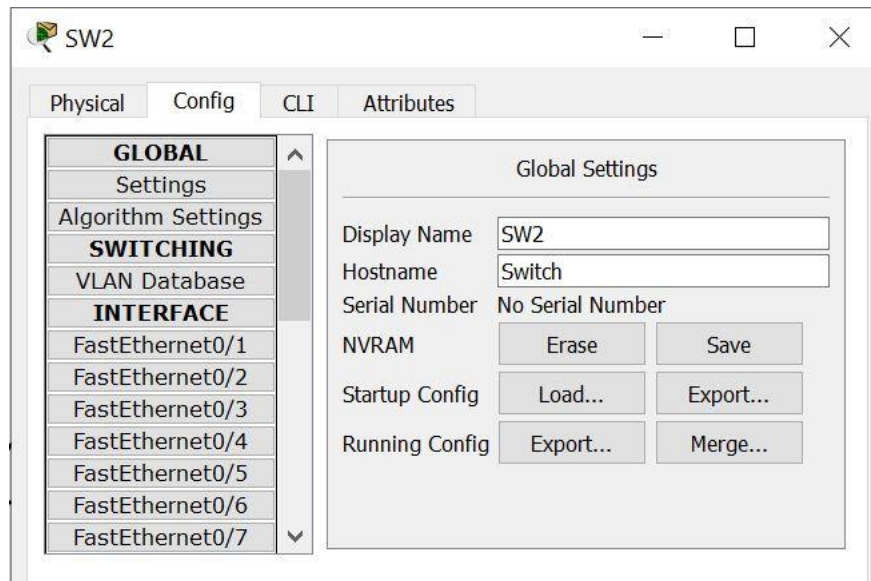MUHAMMADIYAH UNIVERSITY OF SURAKARTA

C. Practicum Activity

1. Activity 1. Topology 1

a. Make a topology using the Catalyst 2950 switch

b. Name each switch SW1, SW2 and SW3

SW2

Physical | **Config** | **CLI** | **Attributes**

GLOBAL	
Settings	
Algorithm Settings	
SWITCHING	
VLAN Database	
INTERFACE	
FastEthernet0/1	
FastEthernet0/2	
FastEthernet0/3	
FastEthernet0/4	
FastEthernet0/5	
FastEthernet0/6	
FastEthernet0/7	

Global Settings

Display Name: SW2
Hostname: Switch
Serial Number: No Serial Number
NVRAM: Erase | Save
Startup Config: Load... | Export...
Running Config: Export... | Merge...

SW3

Physical | **Config** | **CLI** | **Attributes**

FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/11
FastEthernet0/12
FastEthernet0/13
FastEthernet0/14
FastEthernet0/15
FastEthernet0/16
FastEthernet0/17
FastEthernet0/18
FastEthernet0/19
FastEthernet0/20

Global Settings

Display Name: SW3
Hostname: Switch
Serial Number: No Serial Number
NVRAM: Erase | Save
Startup Config: Load... | Export...
Running Config: Export... | Merge...

c. Configure each PC with an IP address

leo

Physical | **Config** | **Desktop** | **Programming** | **Attributes**

IP Configuration   X

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
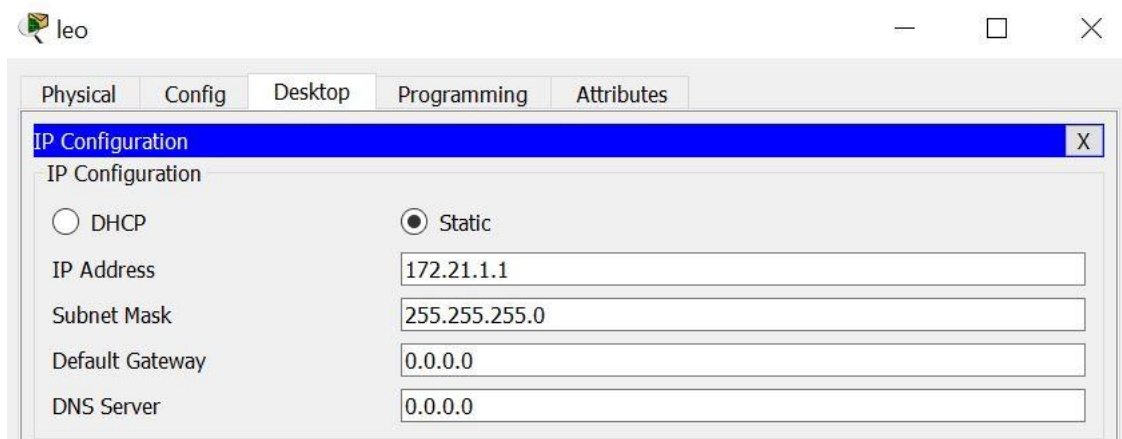
aries

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

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

d. In user mode or privilaged mode, see the STP status of each switch

Switch0

Physical | Config | CLI | Attributes

IOS Command Line Interface

```
Switch>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.1705.5575
             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     0002.1705.5575
             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
```

Ctrl+F6 to exit CLI focus   Copy   Paste

☐ Top

Switch1

Physical | **Config** | **CLI** | **Attributes**

IOS Command Line Interface

```
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.1705.5575
             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     0060.47E5.D6D4
             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             Root FWD 19          128.2    P2p
```

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☐ Top

Switch2

Physical | **Config** | **CLI** | **Attributes**

IOS Command Line Interface

```
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.1705.5575
             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     0090.2B62.4BD4
             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             Altn BLK 19          128.3    P2p
Fa0/1             Desg FWD 19          128.1    P2p
```

Ctrl+F6 to exit CLI focus   Copy   Paste

☐ Top

SW1

No.	Variabel	Nilai
1	Root ID	32769:0002.1705.5575
2	Priority	32769
3	Mac Address	0002.1705.5575
4	Bridge ID	32769:0002.1705.5575
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 sec

SW2

No.	Variabel	Nilai
1	Root ID	32769:0002.1705.5575
2	Priority	32769
3	Mac Address	0060.4765.D6D4
4	Bridge ID	32769:0060.47E5.D6D4
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 sec

SW3

No.	Variabel	Nilai
1	Root ID	32769:0002.1705.5575
2	Priority	32769
3	Mac Address	0090.2B62.4BD4
4	Bridge ID	32769:0090.2B62.4BD4
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 sec
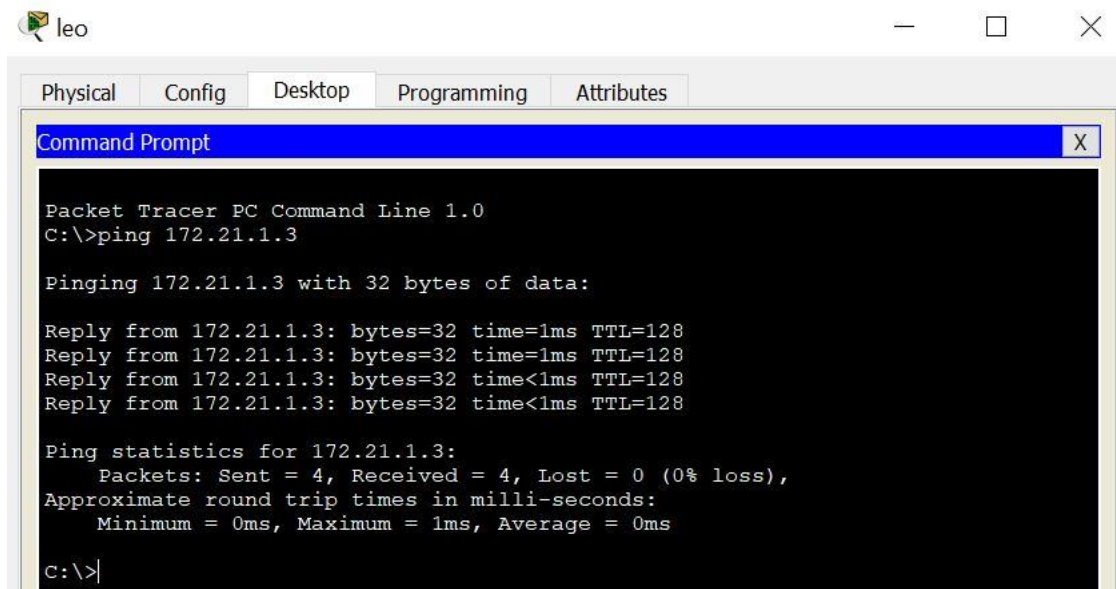
4C.

- Root bridge : SW3

- Designated bride : SW1 and SW2

- Root port : SW1(Fa0/3), SW2(Fa0/2)

- Designated port : SW1(Fa0/1), SW2(Fa0/1, Fa0/2), SW3(Fa0/1, Fa0/2, Fa0/3)

4D.

• The port is in the forwarding state : SW1(Fa0/1, Fa0/2), SW2(Fa0/1, Fa0/2, Fa0/3), SW3(Fa0/1, Fa0/2, Fa0/3)

• Port yang berada pada keadan blocking : SW1(Fa0/2)

e. Ping leo to virgo

f. Save the network configuration with the name lab2.pkt

2. Activity 2. Topology 2

a. Make a topology
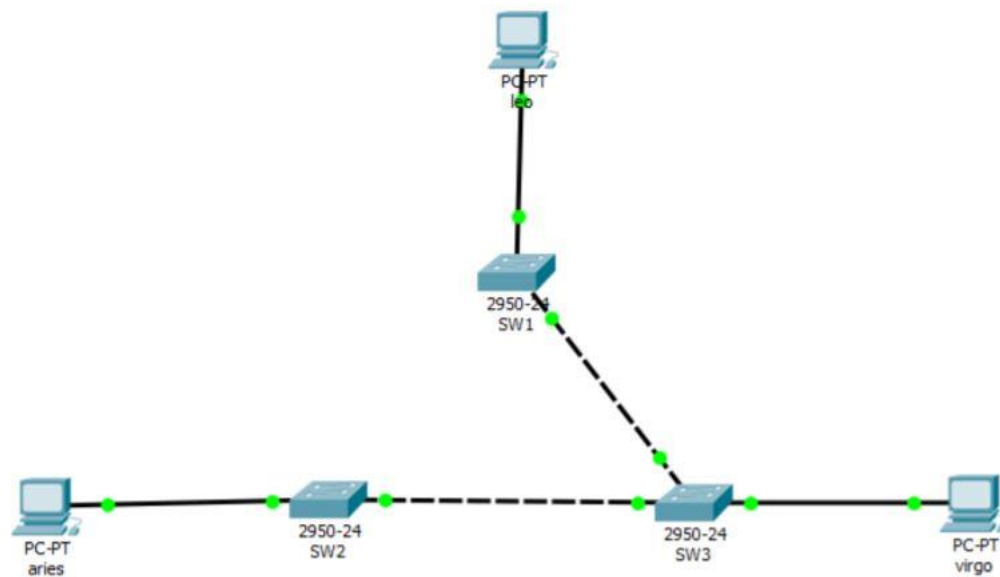
b. In user mode or privilaged mode, see the STP status of each switch

SW2 — IOS Command Line Interface

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0001.4328.BA34
             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     0001.6319.3BD8
             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

Switch#
```


SW3 — IOS Command Line Interface

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0001.4328.BA34
             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     0001.4328.BA34
             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

Switch#
```

SW1

No.	Variabel	Nilai
1	Root ID	32769 : 0001.4328.BA34
2	Priority	32769
3	Mac Address	0060.3EA9.C487
4	Bridge ID	32769 : 0060.3EA9.C487
5	Cost (0/1,0/3)	(19,19)
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

SW2
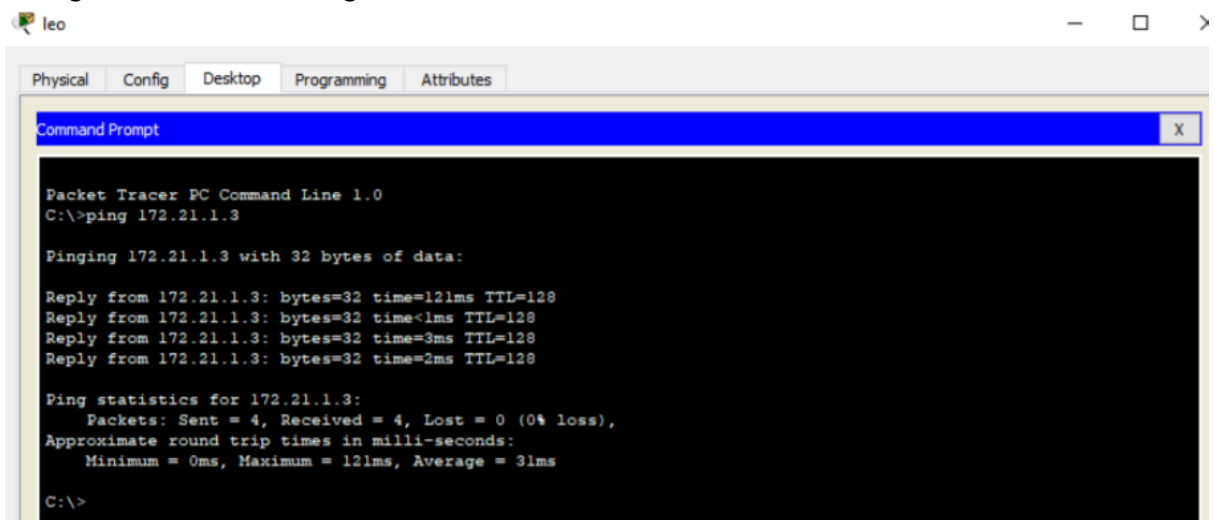
No.	Variabel	Nilai
1	Root ID	32769 : 0001.4328.BA34
2	Priority	32769
3	Mac Address	0001.6319.3BD8
4	Bridge ID	32769 : 0001.6319.3BD8
5	Cost (0/2,0/3)	(19,19)
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

SW3

No.	Variabel	Nilai
1	Root ID	32769 : 0001.4328.BA34
2	Priority	32769
3	Mac Address	0001.4328.BA34
4	Bridge ID	32769 : 0001.4328.BA34
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 sec

- Root bridge : SW3
- Designated bride : SW1 and SW2
- Root port : SW1(0/3), SW2(0/2)
- Designated port : SW1(0/1), SW2(0/3), SW3(0/1, 0/2 0/3)
- The port is in the forwarding state : SW1(0/1, 0/3), SW2(0/2, 0/3), SW3(0/1, 0/2,0/3). So, all switches are forwarded,
- Port yang berada pada keadan blocking : no ports are blocked

c. Ping from PC Leo to PC Virgo