PRACTICUM COMPUTER NETWORKS

MODUL 6

COMPUTER NETWORKS

By :

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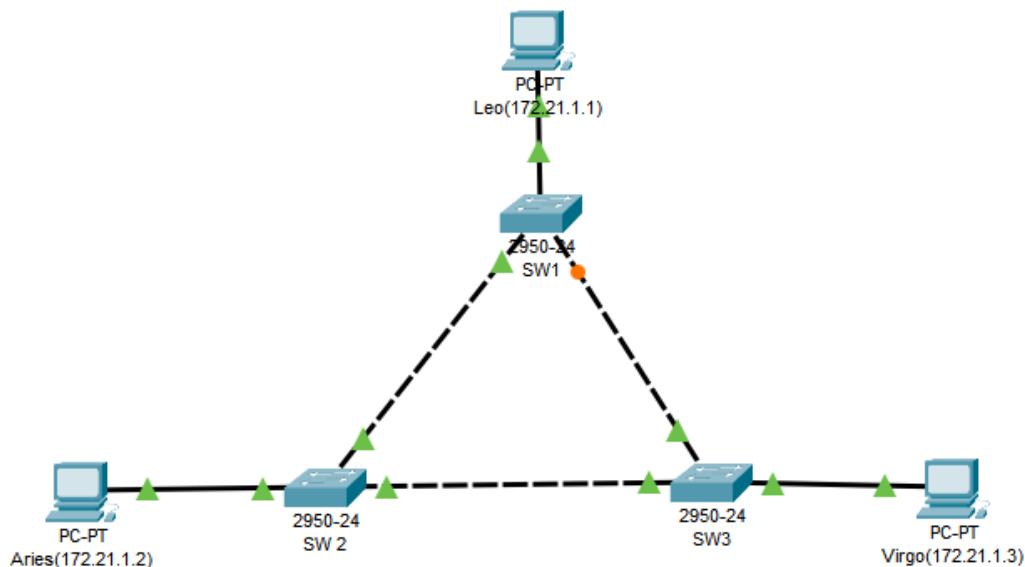L200183161

INFORMATION TECHNOLOGY

FACULTY OF COMMUNICATION AND INFORMATIC

MUHAMMADIYAH UNIVERSITY OF SURAKARTA

**#Kegiatan 1**

1. Design network topology
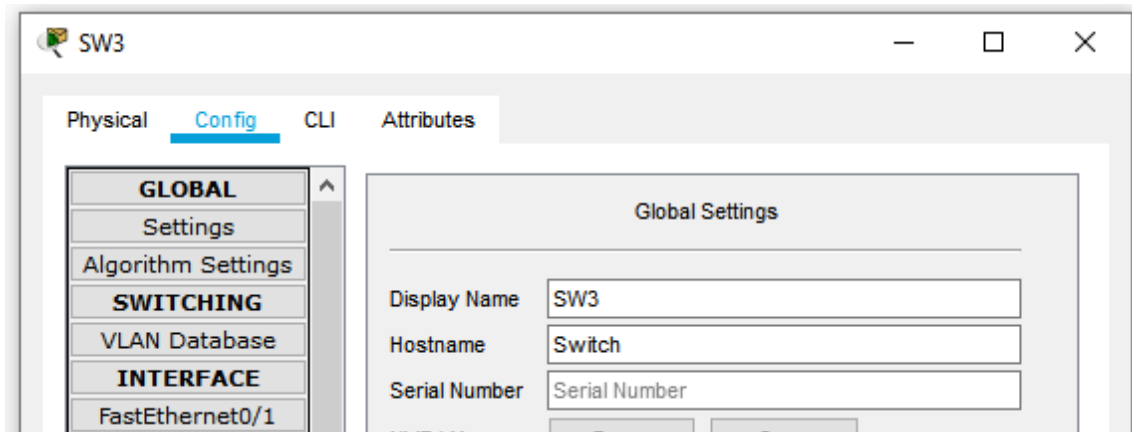

Pict 1. network topology

1A. Topology creation

Creation Topology in cisco packet tracer started with determine the device that is using on the topology itself, start with switch 2950-24 catalyst then the pc itself each give name Leo (172.21.1.1) , Aries (172.21.1.2), Virgo (172.21.1.3) and connected with LAN cable.

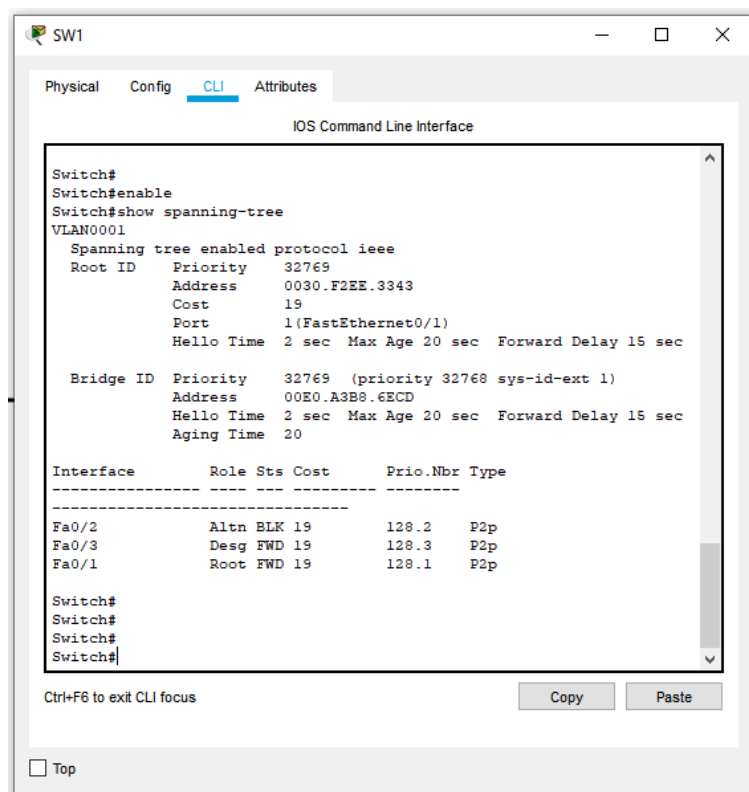**2A.** Change switch name into SW1, SW2, SW3 respectively
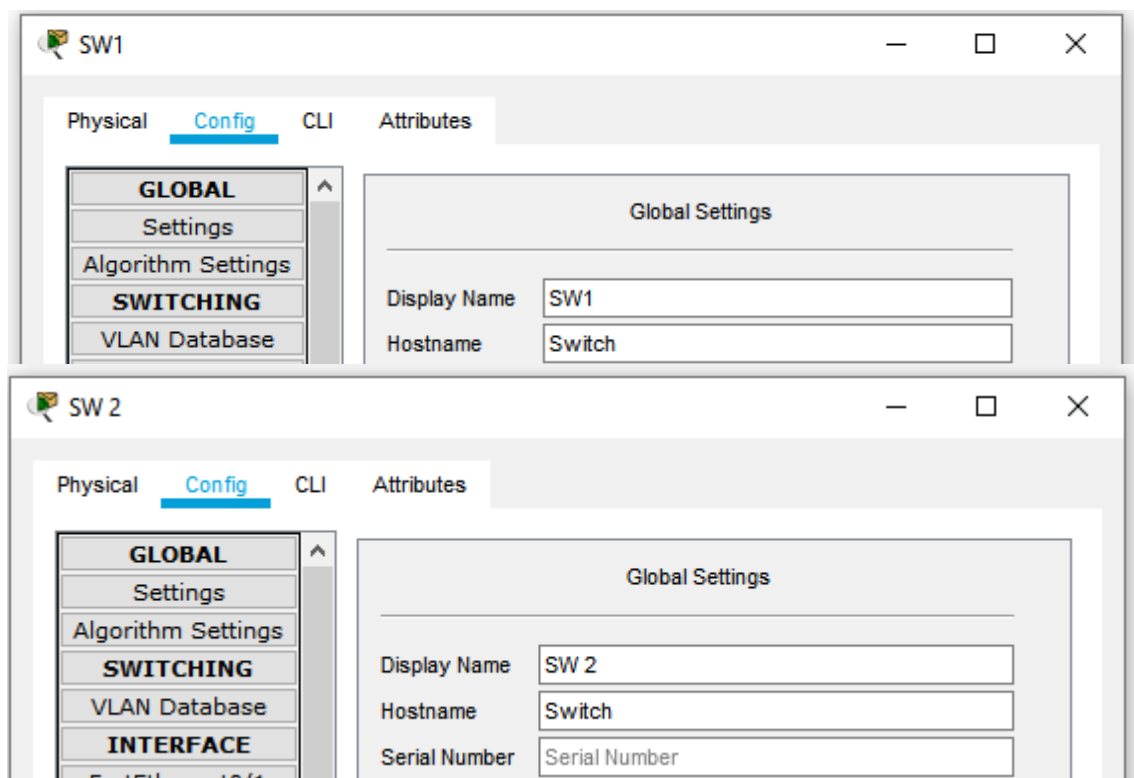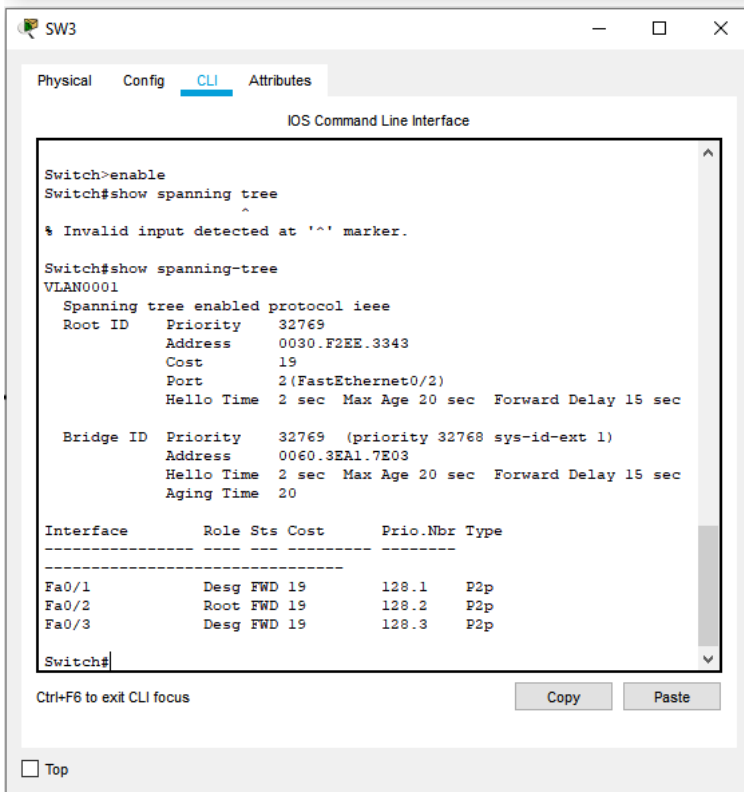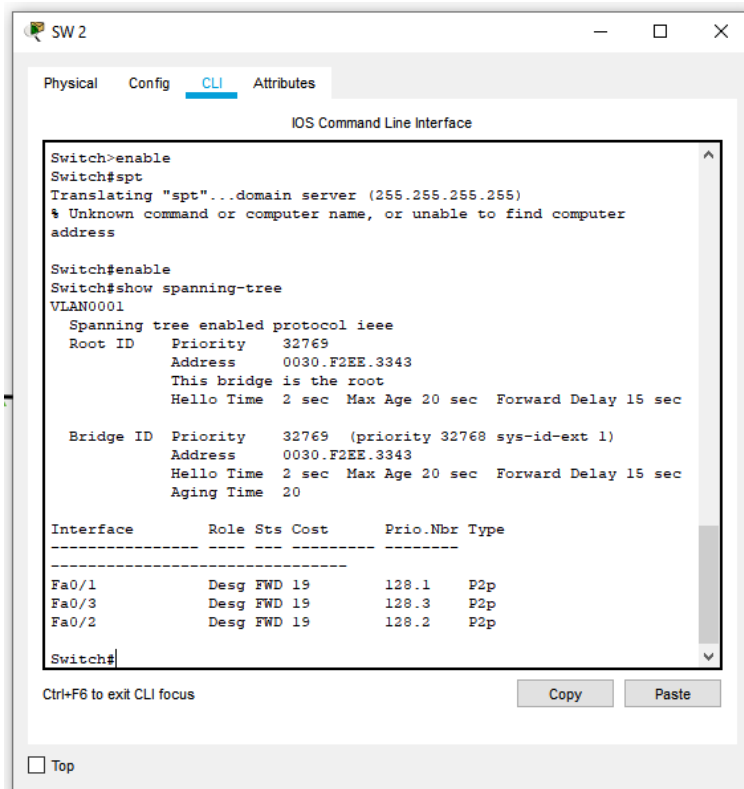
Setting IP in each PC:

Leo: 172.21.1.1/24

Aries: 172.21.1.2/24

Virgo: 172.21.1.3/24

4A. Status STP Switch

SW 2

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Switch>enable
Switch#spt
Translating "spt"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer
address

Switch#enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0030.F2EE.3343
             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     0030.F2EE.3343
             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

Switch#
```

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SW3

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Switch>enable
Switch#show spanning tree
                    ^
% Invalid input detected at '^' marker.

Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0030.F2EE.3343
             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     0060.3EA1.7E03
             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

Switch#
```

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4B.

SW1

No	Variable	Value
1.	Root ID	32769: 0030.F2EE.3343
2.	Priority	32769
3.	MAC Address	00E0.A3B8.6ECD
4.	Bridge ID	32769
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	Variable	Value
1.	Root ID	32769: 0030.F2EE.3343
2.	Priority	32769
3.	MAC Address	0030.F2EE.3343
4.	Bridge ID	32769
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	Variable	Value
1.	Root ID	32769: 0030.F2EE.3343
2.	Priority	32769
3.	MAC Address	0060.3EA1.7E03
4.	Bridge ID	32769
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: SW2
- Designated bridge: SW1 and SW3
- Root port: SW1 Port 1(FastEthernet0/1), SW3 Port 2 (FastEthernet0/2)
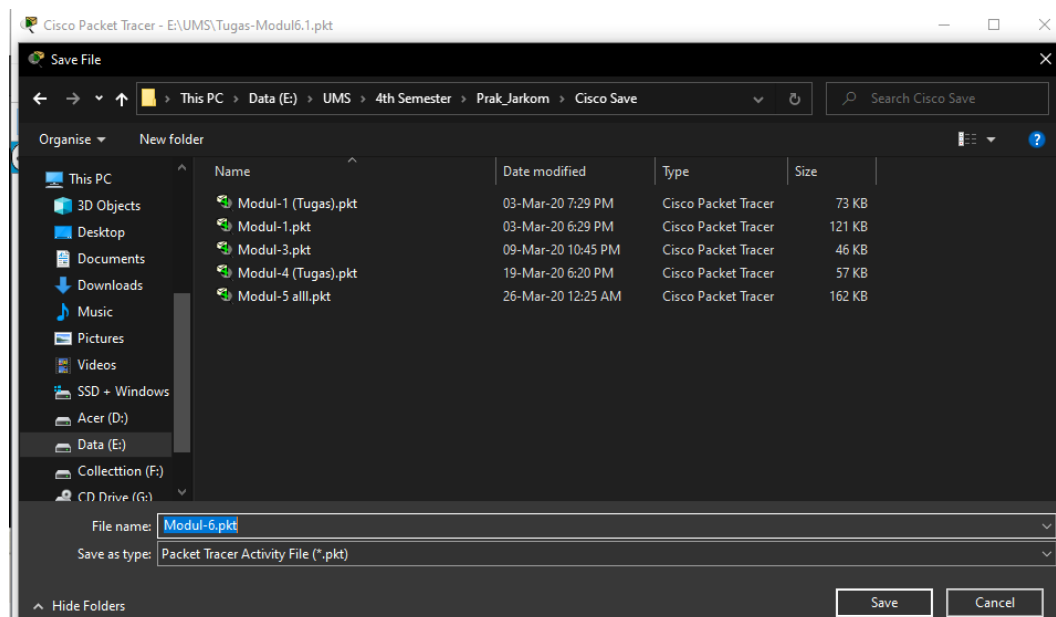- Designated Port: (SW1 Fa0/3), (SW2 Fa0/1, Fa0/2, Fa0/3), (SW3 Fa0/1, Fa0/3)

4D.

- Forwarding port: (SW1 Fa0/1, Fa0/3), (SW2 Fa0/1, Fa0/2, Fa0/3), (SW3 Fa0/1 Fa0/1, Fa0/2, Fa0/3)
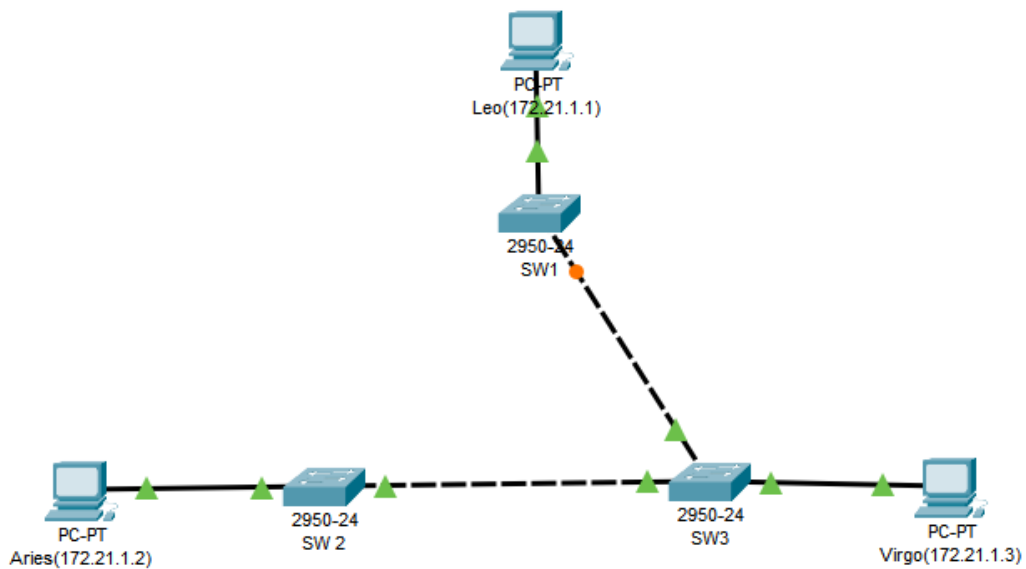- Blocking Port: SW1 Fa0/2

5A. PING Leo to Virgo
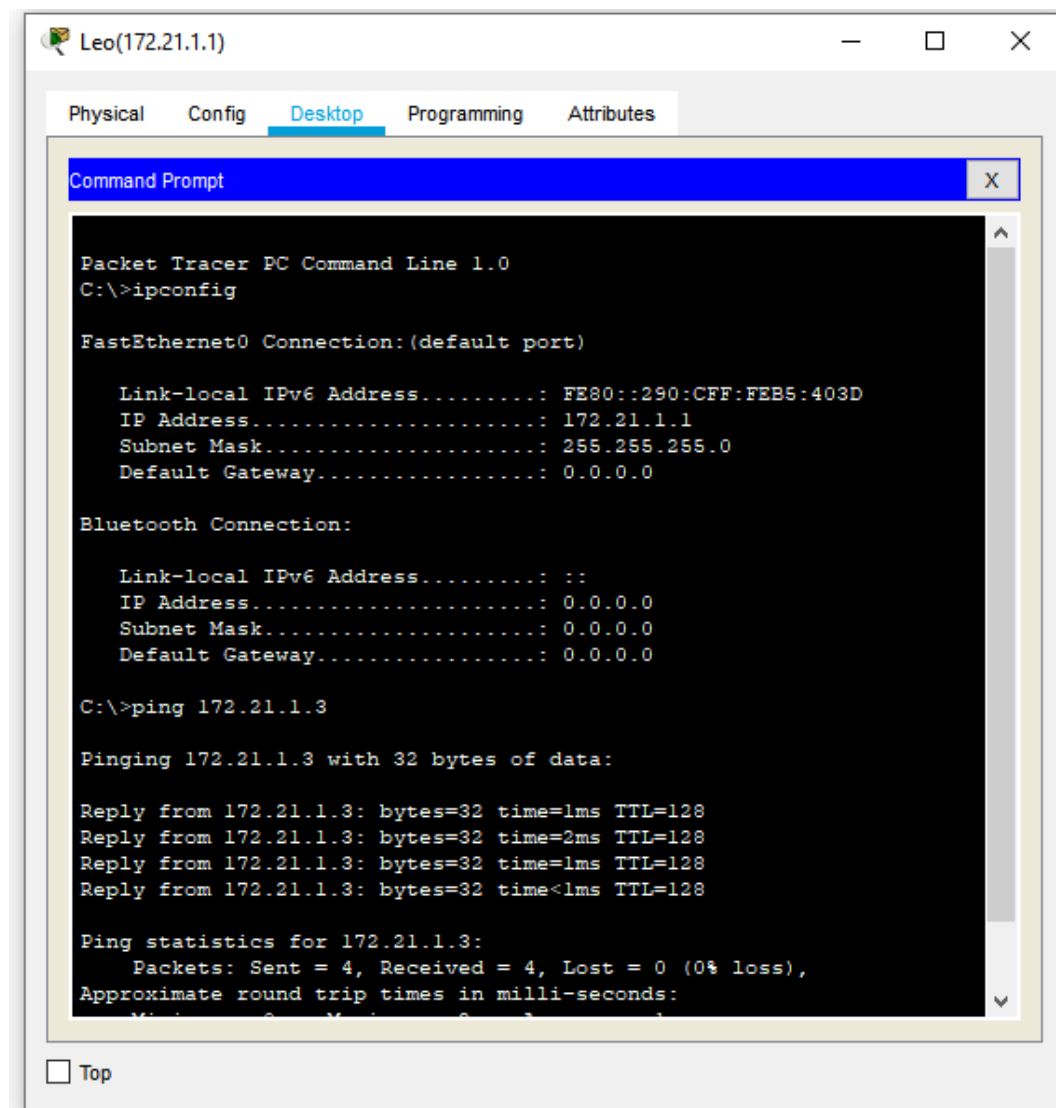
6A. Save your packet tracer

#Kegiatan 2

2. Design network topology

Pict 1. network topology

6A. Topology creation

Creation Topology in cisco packet tracer started with determine the device that is using on the topology itself, start with switch 2950-24 catalyst then the pc itself each give name Leo (172.21.1.1), Aries (172.21.1.2), Virgo (172.21.1.3) and connected with LAN cable.

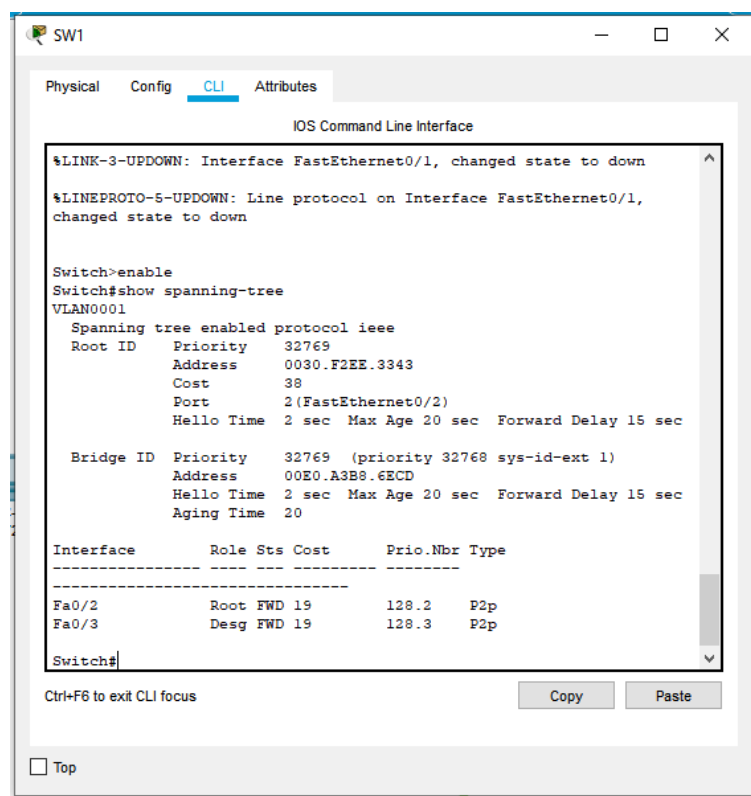**7A.** Change switch name into SW1, SW2, SW3 respectively
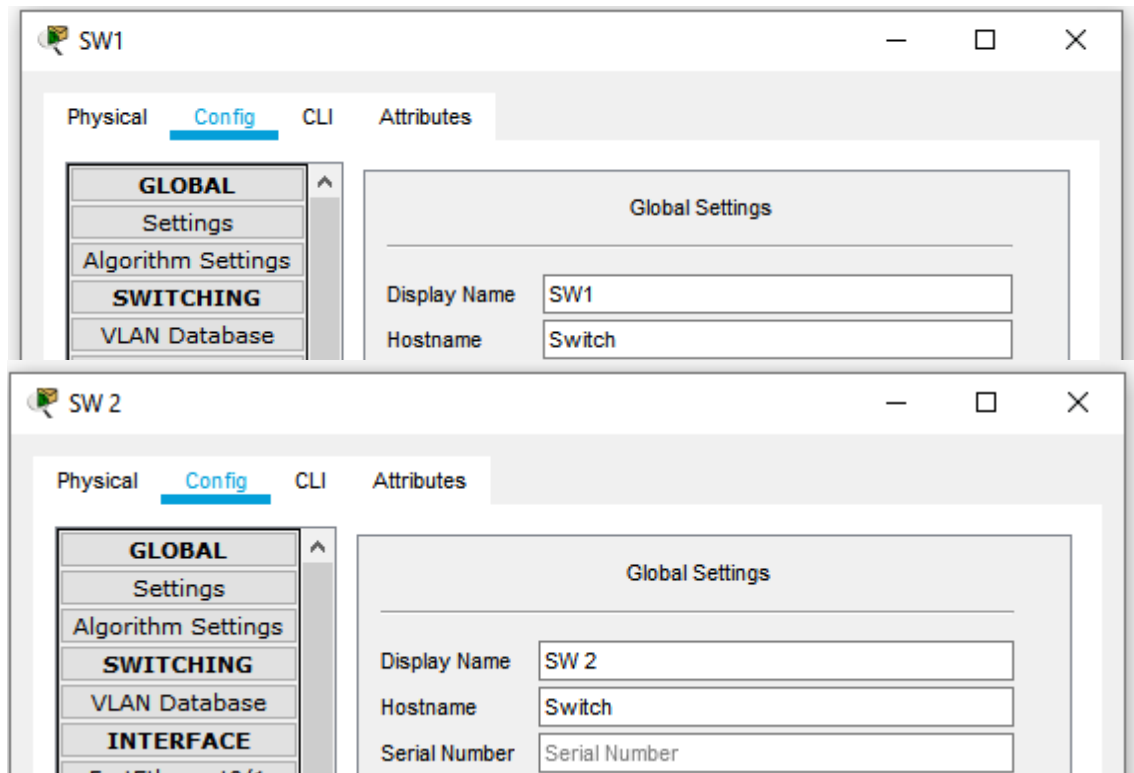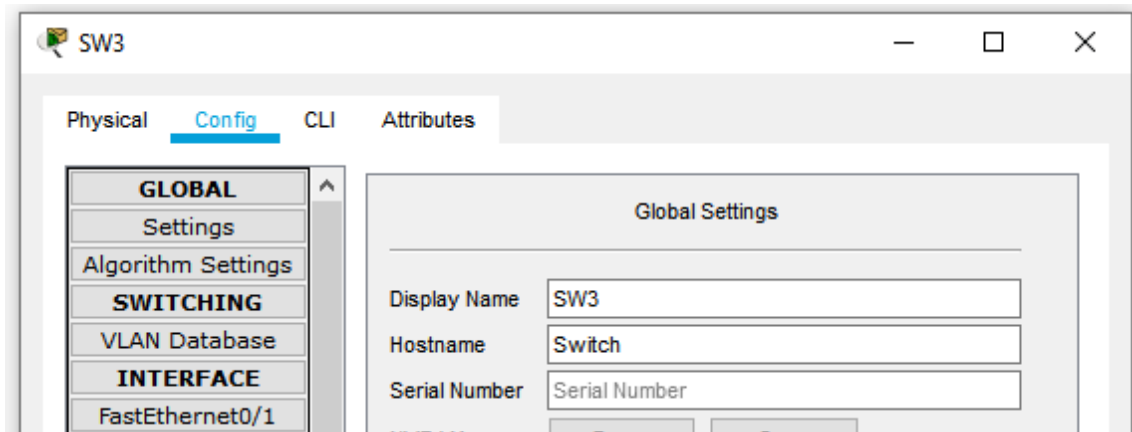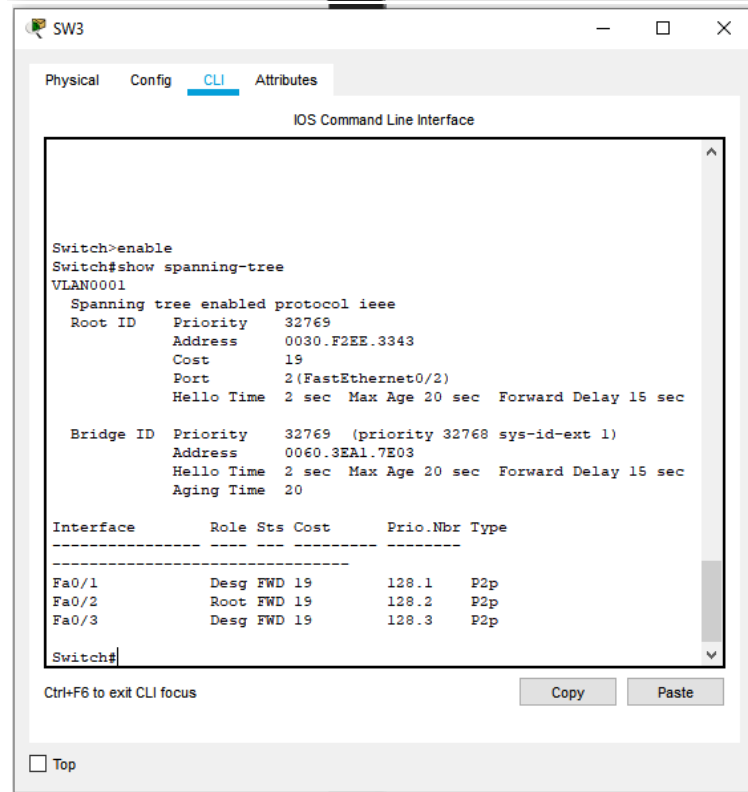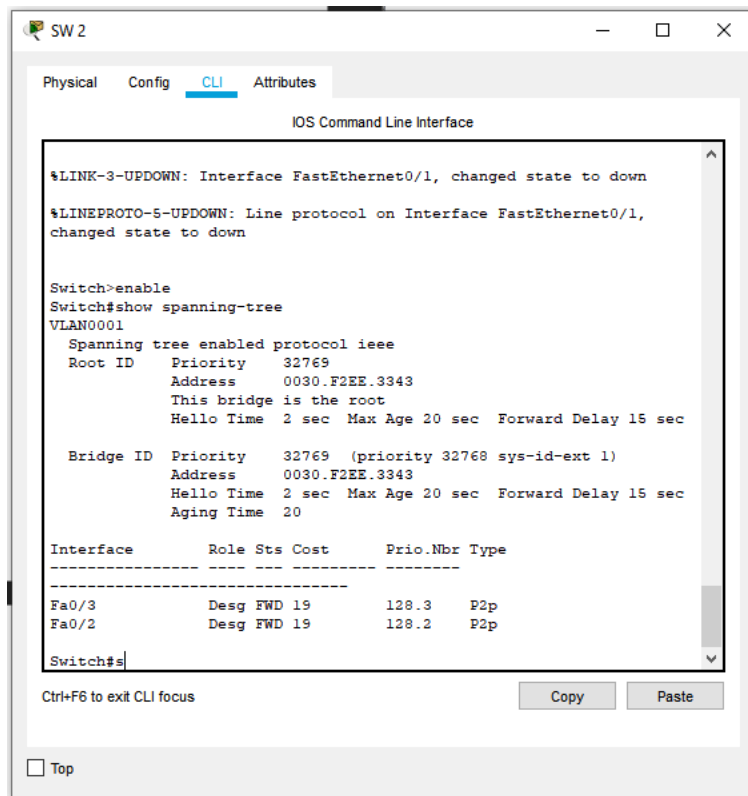
Setting IP in each PC:

Leo: 172.21.1.1/24

Aries: 172.21.1.2/24

Virgo: 172.21.1.3/24

8A. Status STP Switch

SW 2

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
%LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to down

%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     0030.F2EE.3343
             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     0030.F2EE.3343
             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            Desg FWD 19        128.2    P2p

Switch#s
```

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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     0030.F2EE.3343
             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     0060.3EA1.7E03
             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

Switch#
```

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8B.

SW1

No	Variable	Value
1.	Root ID	32769: 0030.F2EE.3343
2.	Priority	32769
3.	MAC Address	00E0.A3B8.6ECD
4.	Bridge ID	32769
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	Variable	Value
1.	Root ID	32769: 0030.F2EE.3343
2.	Priority	32769
3.	MAC Address	0030.F2EE.3343
4.	Bridge ID	32769
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	Variable	Value
1.	Root ID	32769: 0030.F2EE.3343
2.	Priority	32769
3.	MAC Address	0060.3EA1.7E03
4.	Bridge ID	32769
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

8C.

- Root bridge: SW2
- Designated bridge: SW1 and SW3
- Root port: SW1 Port 2(FastEthernet0/2), SW3 Port 2 (FastEthernet0/2)
- Designated Port: (SW1 Fa0/3), (SW2 Fa0/1, Fa0/2, Fa0/3), (SW3 Fa0/1, Fa0/3)

8D.

- Forwarding port: (SW1 Fa0/2, Fa0/3), (SW2 Fa0/2, Fa0/3), (SW3 Fa0/1 Fa0/1, Fa0/2, Fa0/3)
- Blocking Port: Since it ain't loop so it has no blocking port

9A. PING Leo to Virgo