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Modul : 4

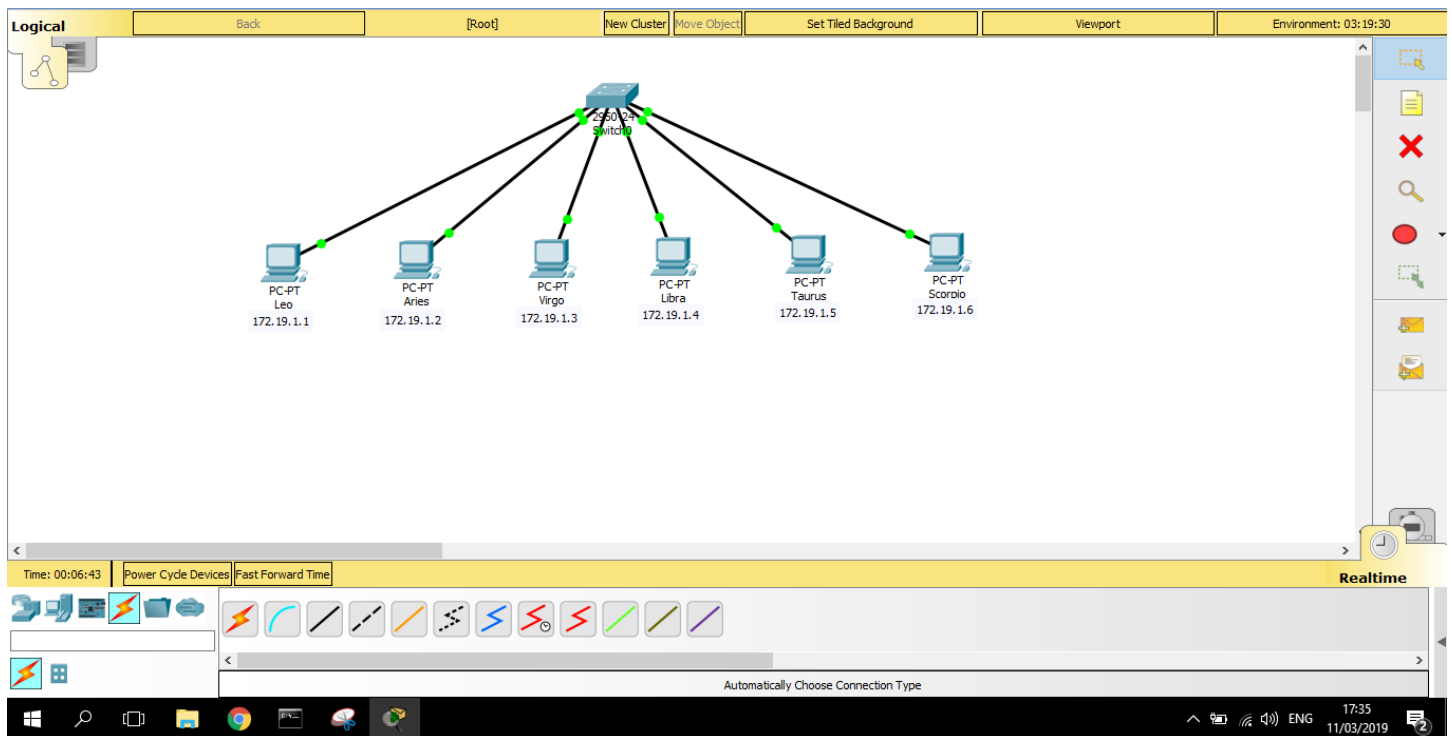
Modul 4

VIRTUAL LAN DAN TRUNKING

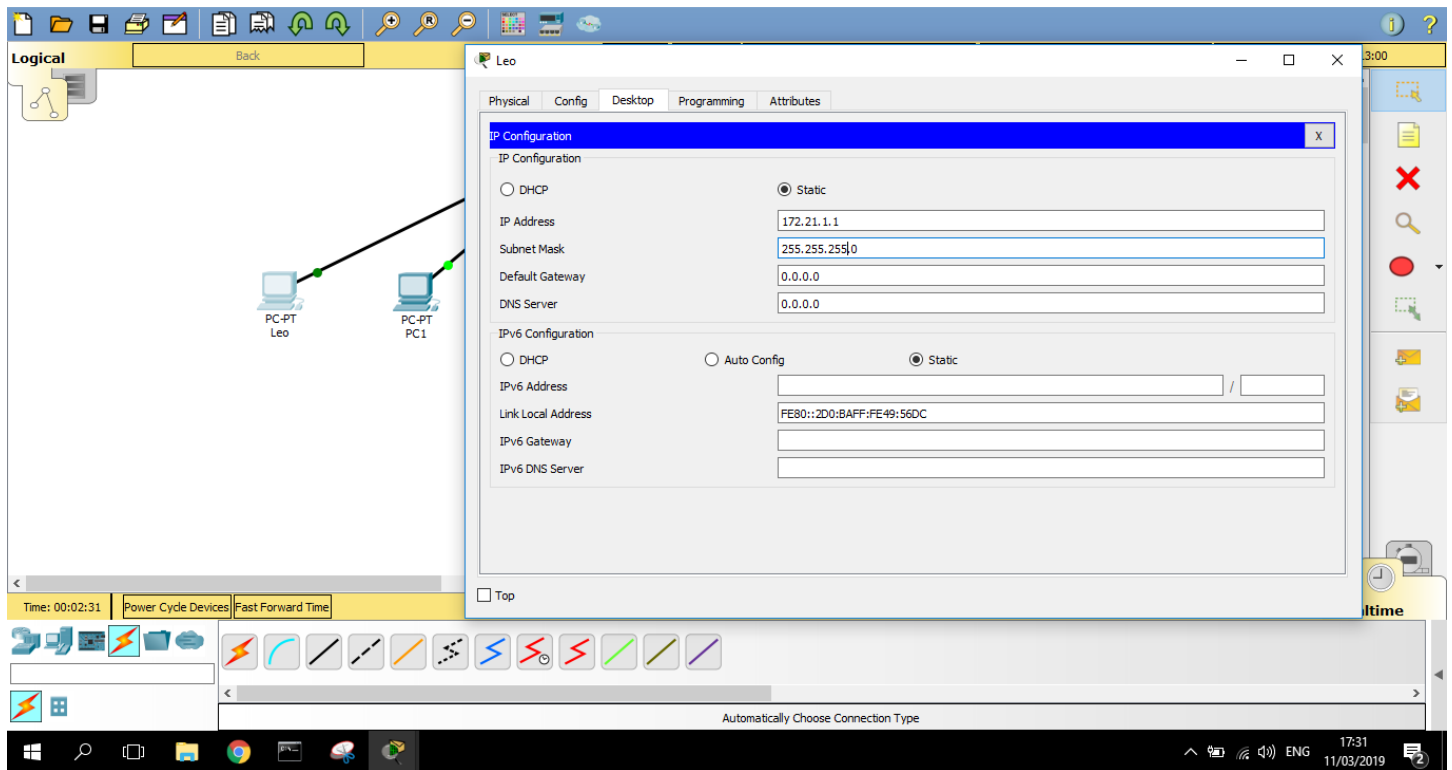
Kegiatan Praktikum

Kegiatan 1. Topologi 1

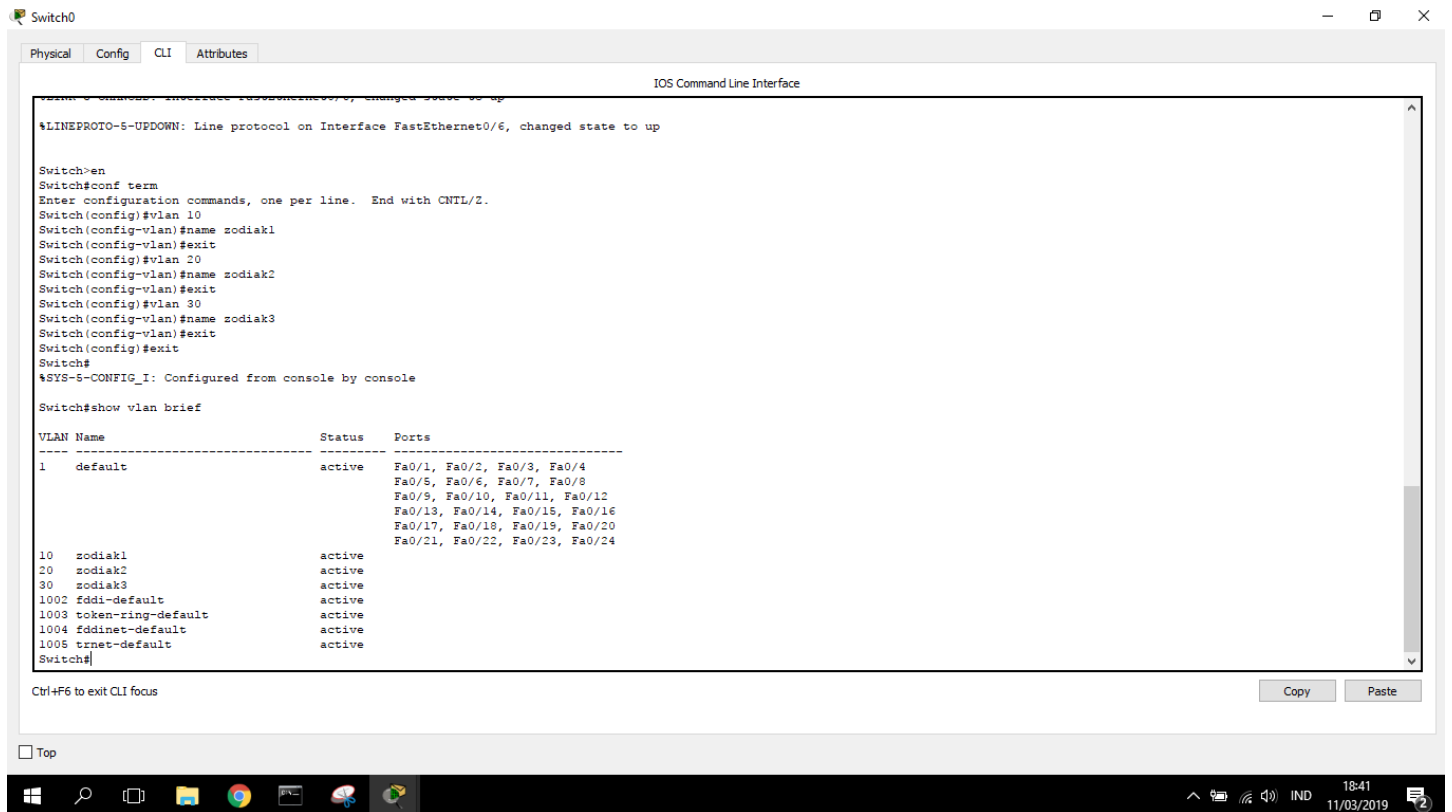
1.



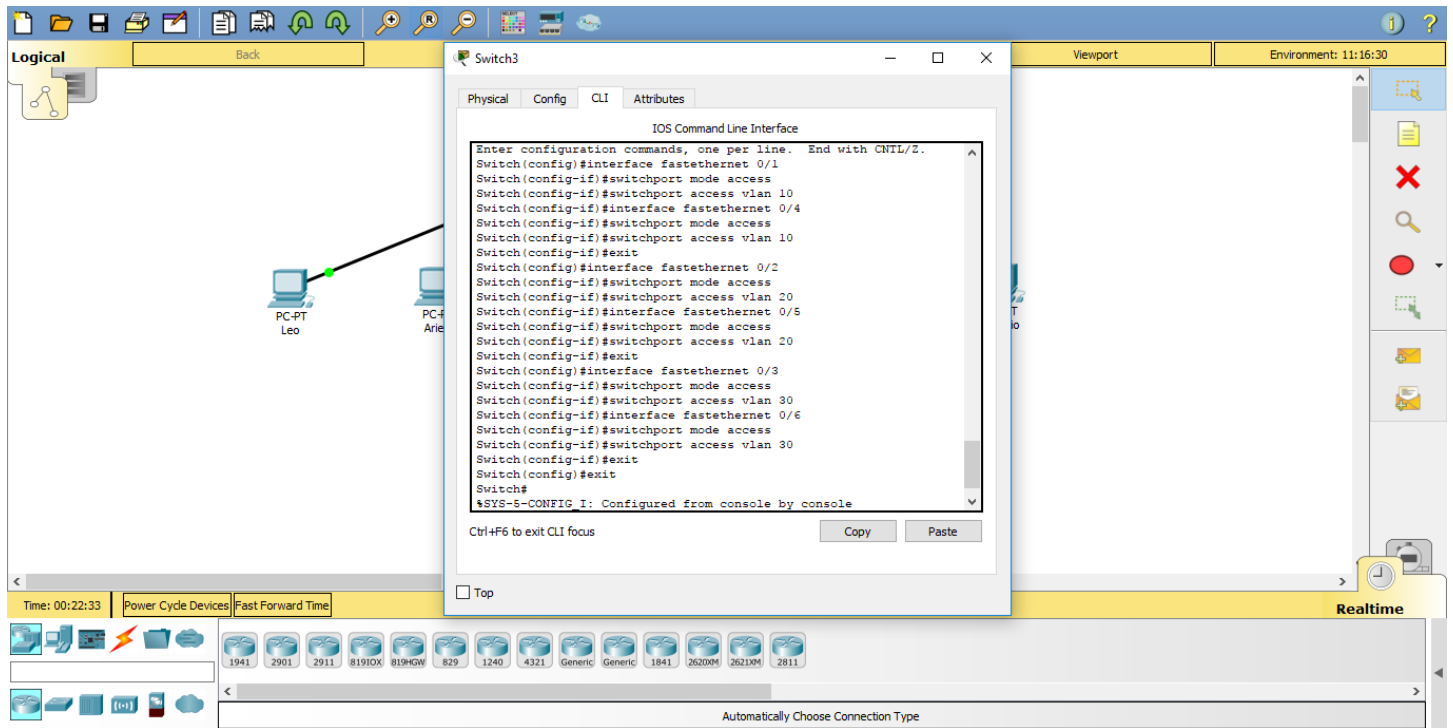
2.



3.



4.



Logical Viewport Environment: 11:16:30

Switch3

Physical Config CLI Attributes

IOS Command Line Interface

```

Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fastethernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#interface fastethernet 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface fastethernet 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#interface fastethernet 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface fastethernet 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#interface fastethernet 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
  
```

Ctrl+F6 to exit CLI focus

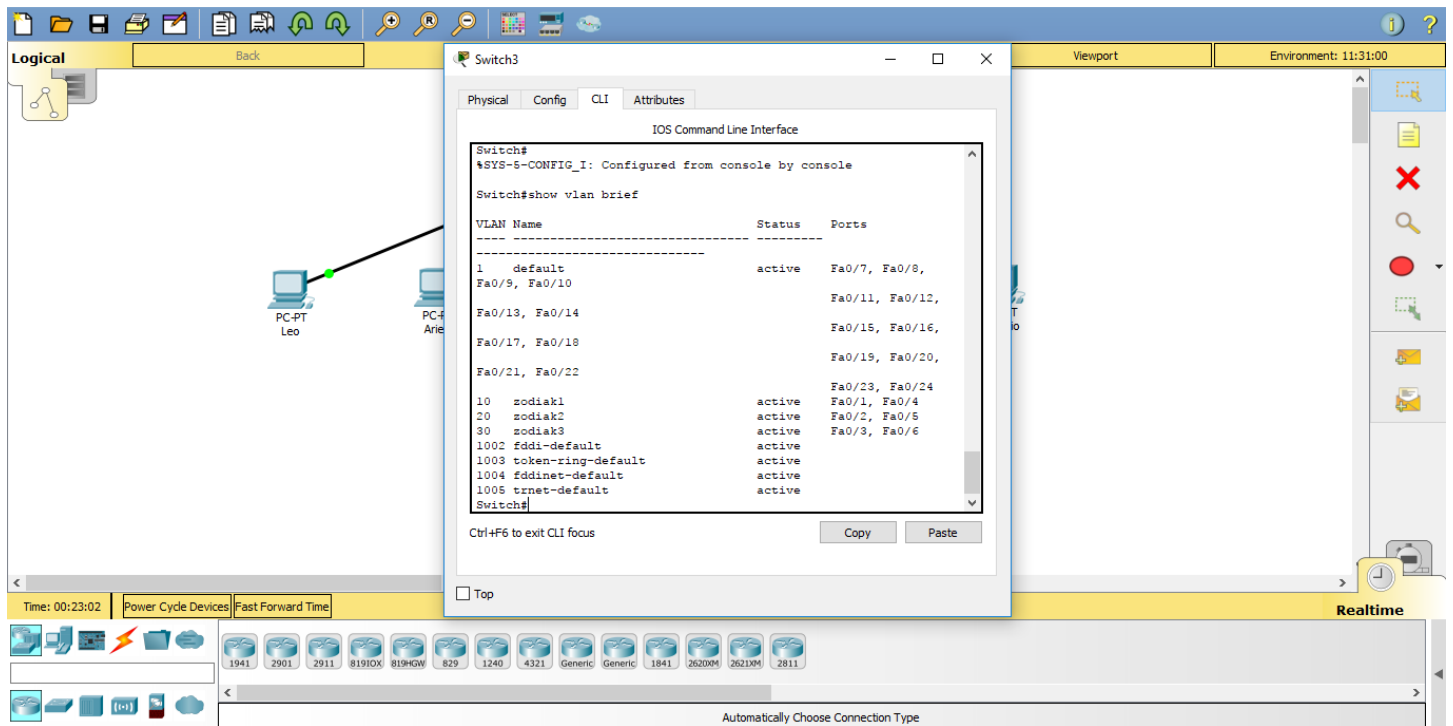
Copy Paste

Time: 00:22:33 Power Cycle Devices Fast Forward Time

Realtime

Automatically Choose Connection Type

5.



Logical Viewport Environment: 11:31:00

Switch3

Physical Config CLI Attributes

IOS Command Line Interface

```

Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#show vlan brief
  
```

VLAN Name	Status	Ports
1 default	active	Fa0/7, Fa0/8, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Fa0/13, Fa0/14, Fa0/15, Fa0/16, Fa0/17, Fa0/18, Fa0/19, Fa0/20, Fa0/21, Fa0/22, Fa0/23, Fa0/24
10 zodiak1	active	Fa0/1, Fa0/4
20 zodiak2	active	Fa0/2, Fa0/5
30 zodiak3	active	Fa0/3, Fa0/6
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

Switch#

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:23:02 Power Cycle Devices Fast Forward Time

Realtime

Automatically Choose Connection Type

6.

Logical Back Switch3 Viewport Environment: 11:58:30

Physical Config CLI Attributes

IOS Command Line Interface

```

Fa0/21, Fa0/22
10 zodiak1 active Fa0/23, Fa0/24
20 zodiak2 active Fa0/1, Fa0/4
30 zodiak3 active Fa0/2, Fa0/5
1002 fddi-default active Fa0/3, Fa0/6
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active
Switch#show vlan id 10

```

VLAN Name	Status	Ports
10 zodiak1	active	Fa0/1, Fa0/4

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode
10	enet	100010	1500	-	-	-	-

Switch#

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:23:57 Power Cycle Devices Fast Forward Time

1941 2901 2911 8191OX 819KOW 829 1240 4321 Generic Generic 1841 2620M 2621M 2811

Automatically Choose Connection Type

Realtime

7.

Logical Back Switch3 Viewport Environment: 18:23:30

Physical Config CLI Attributes

IOS Command Line Interface

```

Switch#show vlan id 20
VLAN Name Status Ports
-----
20 zodiak2 active Fa0/2, Fa0/5
VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode
Transl Trans2
20 enet 100020 1500 - - - - -
0 0
Switch#show vlan id 30
VLAN Name Status Ports
-----
30 zodiak3 active Fa0/3, Fa0/6
VLAN Type SAID MTU Parent RingNo BridgeNo Stp BrdgMode
Transl Trans2

```

VLAN Name	Status	Ports
20 zodiak2	active	Fa0/2, Fa0/5
30 zodiak3	active	Fa0/3, Fa0/6

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode
20	enet	100020	1500	-	-	-	-

Switch#

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:36:45 Power Cycle Devices Fast Forward Time

1941 2901 2911 8191OX 819KOW 829 1240 4321 Generic Generic 1841 2620M 2621M 2811

Automatically Choose Connection Type

Realtime

Tugas 6A.

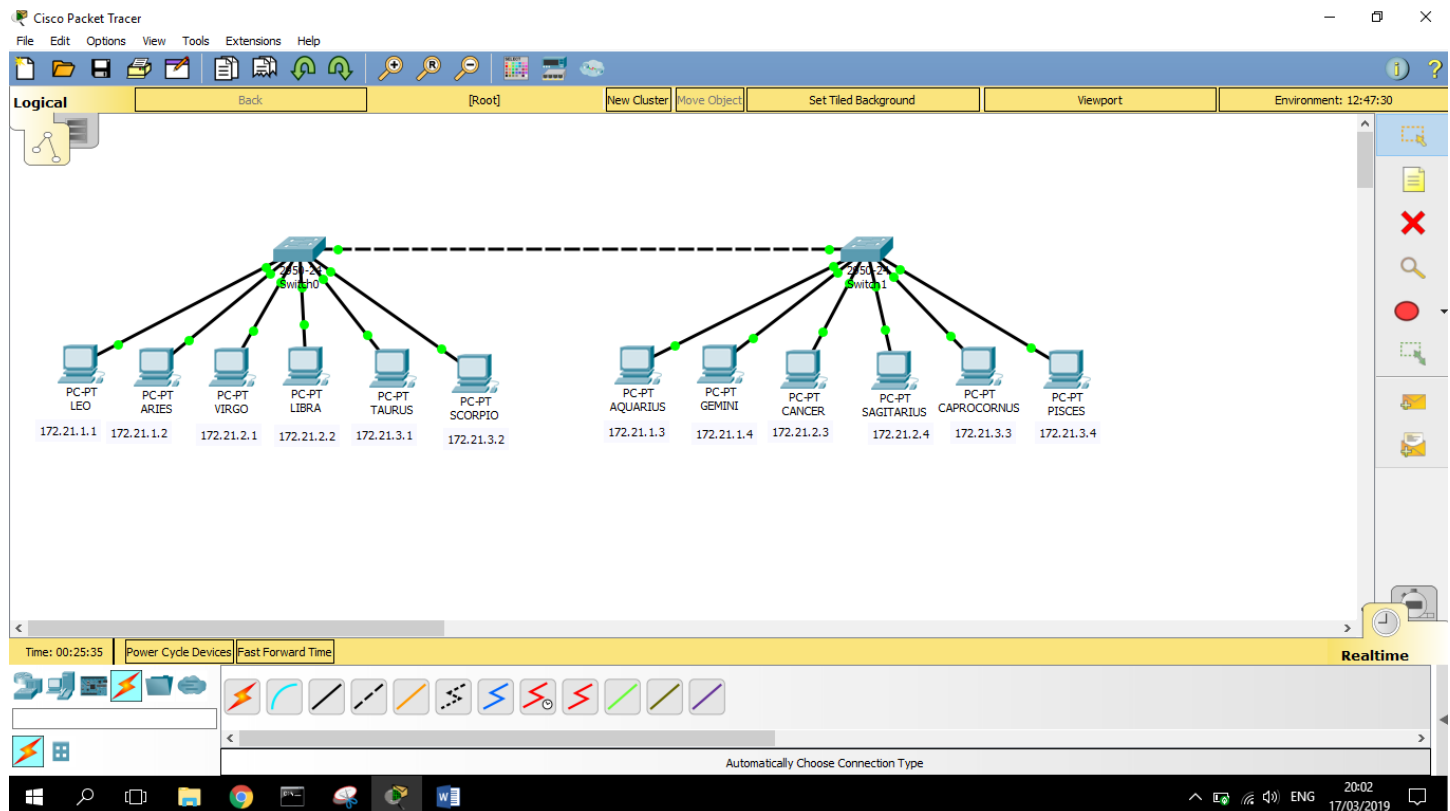
No	Variabel	Nilai		
1.	Nomor Vlan	10	20	30
2.	Nama Vlan	zodiak1	zodiak2	zodiak3
3.	Port	Fa 0/1, Fa 0/4	Fa 0/2, Fa 0/5	Fa 0/3, Fa 0/6
4.	Status	Active	Active	Active

Tugas 6B :

Penjelasan dari table diatas :

- Nomor Vlan 10 nama Vlan zodiak1, memiliki port Fa 0/2(leo) dan Fa 0/4 (Libra). Yang sudah di konfigurasikan sesuai dengan yang ada di modul yang statusnya bersifat active. Yang setiap PC sudah mempunya Ip nya masing masing.
- Nomor Vlan 20 nama Vlan zodiak1, memiliki port Fa 0/2(Aries) dan Fa 0/5 (Taurus). Yang sudah di konfigurasikan sesuai dengan yang ada di modul yang statusnya bersifat active. Yang setiap PC sudah mempunya Ip nya masing masing.
- Nomor Vlan 30 nama Vlan zodiak1, memiliki port Fa 0/3(virgo) dan Fa 0/6 (Scorpio). Yang sudah di konfigurasikan sesuai dengan yang ada di modul yang statusnya bersifat active. Yang setiap PC sudah mempunya Ip nya masing masing.

Kegiatan 2. Topologi 2



Untuk SW1 Sudah di sertakan pada SS an kegiatan pertama

Untuk SW2 :

```
Physical Config CLI Attributes
IOS Command Line Interface

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed state to up

Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#inter Fa 0/1
Switch(config-if)#switchport mode acces
Switch(config-if)#switchport access vlan 10
Switch(config-if)#inter Fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int Fa 0/3
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#inter Fa 0/4
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#exit
Switch(config)#inter Fa 0/5
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30

Ctrl+F6 to exit CLI focus
```

- Untuk langkah Nomor 6 dan 7

```
Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa 0/7
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed state to up

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

Switch#show interface trunk
Port      Mode      Encapsulation  Status      Native vlan
Fa0/7     on        802.1q         trunking    1

Port      Vlans allowed on trunk
Fa0/7     1-1005

Port      Vlans allowed and active in management domain
Fa0/7     1,10,20,30

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/7     1,10,20,30

Switch#show vlan

VLAN Name                Status    Ports
-----
1    default                active    Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                           Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                           Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                           Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                           Fa0/24
10   zodiak1                active    Fa0/1, Fa0/4
```

Physical Config CLI Attributes

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

Switch#show interface trunk
Port      Mode      Encapsulation  Status      Native vlan
Fa0/7     on        802.1q         trunking    1

Port      Vlans allowed on trunk
Fa0/7     1-1005

Port      Vlans allowed and active in management domain
Fa0/7     1,10,20,30

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/7     1,10,20,30

Switch#show vlan

VLAN Name                Status    Ports
-----
1    default                active    Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                           Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                           Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                           Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                           Fa0/24
10   zodiak1                active    Fa0/1, Fa0/4
20   zodiak2                active    Fa0/2, Fa0/5
30   zodiak3                active    Fa0/3, Fa0/6
1002 fddi-default          active
1003 token-ring-default    active
1004 fddinet-default        active
1005 trnet-default          active

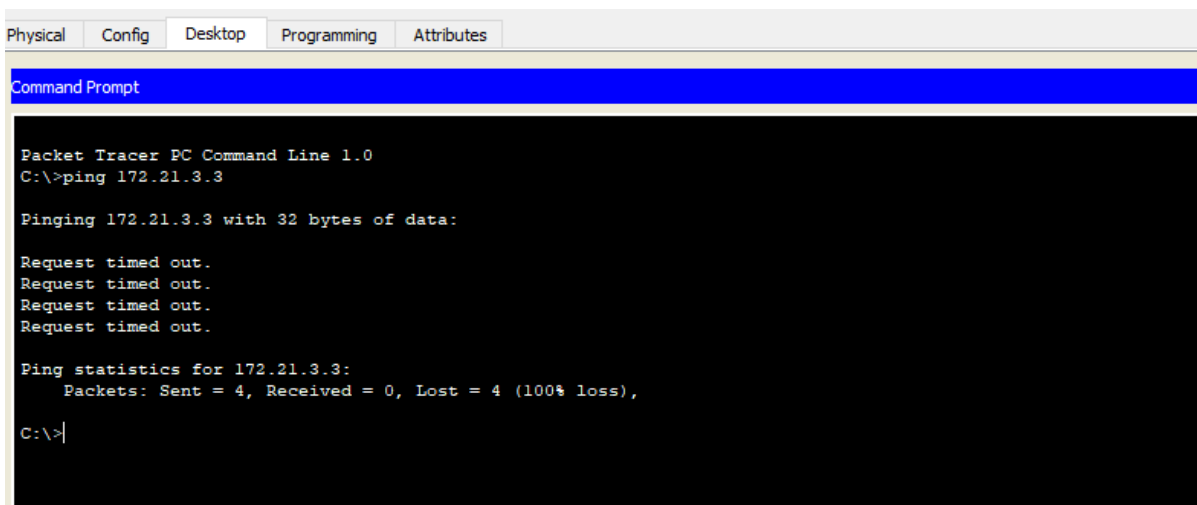
VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp    BrdgMode Transl Trans2
-----
1    enet  100001   1500   -      -      -      -      -      0      0
10   enet  100010   1500   -      -      -      -      -      0      0
20   enet  100020   1500   -      -      -      -      -      0      0
30   enet  100030   1500   -      -      -      -      -      0      0
--More--
```

Penjelasan

Hasil yang diperoleh pada mode privileged pada switch 1 yaitu pada vlans allowed on trunk mempunyai nilai 1-1005 pada port fa 0/7 yang artinya menggunakan jaringan skala kecil dan menengah. Vlan allowed and active in management domain (config untuk manajemen switch) memiliki nilai 1,10,20,30. vlans spanning tree forwarding state and not pruned mempunyai nilai 1,10,20,30.

Mempunyai status trunking mode on, encapsulation 802.1q (protokol umum yang didukung oleh banyak vektor)

- ping PC leo dan PC pisces

A screenshot of the Packet Tracer PC Command Line 1.0 interface. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Command Prompt area shows the following text:

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.3.3

Pinging 172.21.3.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.3.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

Penjelasan :

Hasil ping dari pc leo ke pc pisces bukanlah reply, tetapi request timed out (RTO), karena permintaan koneksi yang lama dan subnet address nya sudah berbeda.


```

Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa 0/7
Switch(config-if)#sw mode trunk
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#

```

- Pada Mode privileged

Physical
Config
CLI
Attributes

IOS Command Line Interface

```

Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa 0/7
Switch(config-if)#sw mode trunk
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan

```

VLAN	Name	Status	Ports
1	default	active	Fa0/6, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Fa0/24
10	zodiak1	active	Fa0/1, Fa0/2
20	zodiak2	active	Fa0/3, Fa0/4
30	zodiak3	active	Fa0/5
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
10	enet	100010	1500	-	-	-	-	-	0	0
20	enet	100020	1500	-	-	-	-	-	0	0
30	enet	100030	1500	-	-	-	-	-	0	0

```

--More--

```

Ctrl+F6 to exit CLI focus

Physical
Config
CLI
Attributes

IOS Command Line Interface

```

Switch#show interface trunk
Port      Mode      Encapsulation  Status      Native vlan
Fa0/7     on        802.1q         trunking    1

Port      Vlans allowed on trunk
Fa0/7     1-1005

Port      Vlans allowed and active in management domain
Fa0/7     1,10,20,30

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/7     1,10,20,30

Switch#show vlan

VLAN Name                Status    Ports
-----
1    default                active    Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                           Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                           Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                           Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                           Fa0/24
10   zodiak1                 active    Fa0/1, Fa0/4
20   zodiak2                 active    Fa0/2, Fa0/5
30   zodiak3                 active    Fa0/3, Fa0/6
1002 fddi-default           active
1003 token-ring-default    active
1004 fddinet-default        active
1005 trnet-default          active

VLAN Type  SAID      MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
1   enet    100001    1500  -      -      -      -   -         0       0
10  enet    100010    1500  -      -      -      -   -         0       0
20  enet    100020    1500  -      -      -      -   -         0       0
30  enet    100030    1500  -      -      -      -   -         0       0
--More--

```

Ctrl+F6 to exit CLI focus

Penjelasan :

Hasil yang diperoleh pada mode privileged pada switch 1 yaitu pada vlans allowed on trunk mempunyai nilai 1-1005 pada port fa 0/7 yang artinya menggunakan jaringan skala kecil dan menengah. Vlan allowed and active in management domain (config untuk manajemen switch) memiliki nilai 1,10,20,30. vlans spanning tree forwarding state and not pruned mempunyai nilai 1,10,20,30.

Mempunyai status trunking mode on, encapsulation 802.1q (protokol umum yang didukung oleh banyak vektor)

Physical Config CLI Attributes

IOS Command Line Interface

```
*LINEPROTO-S-UPDOWN: Line protocol on Interface FastEthernet0/6, changed state to up

Switch(config)#int Fa 0/1
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int Fa 0/4
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#exit
Switch(config)#int Fa 0/2
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#int Fa 0/5
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#exit
Switch(config)#int Fa 0/3
Switch(config-if)#sw mode access vlan 30'
      ^
% Invalid input detected at '^' marker.

Switch(config-if)#sw mode access vlan 30
      ^
% Invalid input detected at '^' marker.

Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30
Switch(config-if)#int Fa 0/6
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show id 10
      ^
% Invalid input detected at '^' marker.
```

Ctrl+F6 to exit CLI focus

a) Ping PC leo ke PC aries

```
C:\>ping 172.21.1.2

Pinging 172.21.1.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

b) Ping PC leo ke PC aquarius

```
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:\>|
```

c) Ping PC leo ke PC pisces

```
C:\>ping 172.21.3.4

Pinging 172.21.3.4 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.3.4:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

d) Ping PC libra ke PC cancer

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.2.3

Pinging 172.21.2.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.2.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

e) Ping PC libra ke PC leo

```
C:\>ping 172.21.1.1

Pinging 172.21.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>|
```

Penjelasan :

Hasil ping PC leo ke PC pisces adalah request time out permintaan koneksi yang lama dan karena subnet address nya sudah berbeda.