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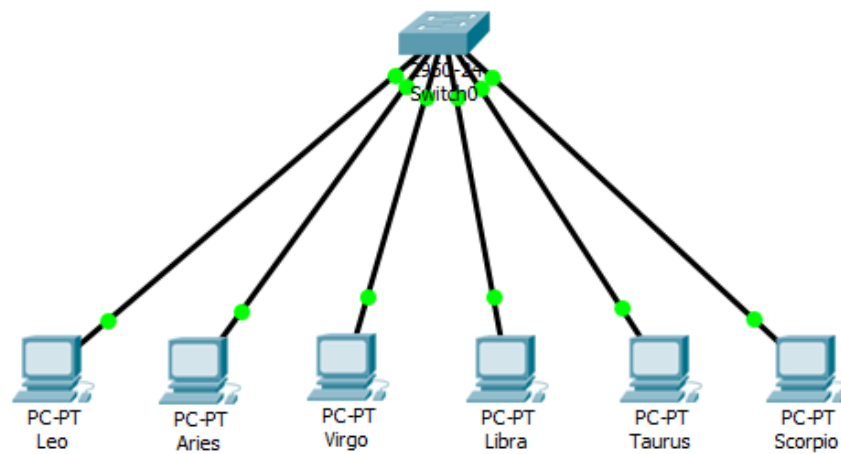
Kelas : C → D

MODUL IV

Virtual Land dan Trunking

Kegiatan 1. Topologi 1

1. Desain



2. Memberi nama dan IP address pada masing-masing PC

a. PC 1 : Leo

Global Settings

Display Name

Leo

Gateway/DNS IPv4

☐ DHCP

☒ Static

Gateway

0.0.0.0

DNS Server

0.0.0.0

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

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::240:BFF:FED6:97D2

IPv6 Gateway

IPv6 DNS Server

b. PC 2 : Aries

Global Settings

Display Name

Aries

Gateway/DNS IPv4

☐ DHCP

☒ Static

Gateway

0.0.0.0

DNS Server

0.0.0.0

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

IP Configuration

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:FEE4:291E

IPv6 Gateway

IPv6 DNS Server

c. PC 3 : Virgo

Global Settings

Display Name

Virgo

Gateway/DNS IPv4

☐ DHCP

☒ Static

Gateway

0.0.0.0

DNS Server

0.0.0.0

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

IP Configuration

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::260:2FFF:FE89:4914

IPv6 Gateway

IPv6 DNS Server

d. PC 4 : Libra

Global Settings

Display Name

Libra

Gateway/DNS IPv4

☐ DHCP

☒ Static

Gateway

0.0.0.0

DNS Server

0.0.0.0

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.1.4

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::209:7CFF:FE64:9811

IPv6 Gateway

IPv6 DNS Server

e. PC 5: Taurus

Global Settings

Display Name

Taurus

Gateway/DNS IPv4

☐ DHCP

☒ Static

Gateway

0.0.0.0

DNS Server

0.0.0.0

Gateway/DNS IPv6

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Gateway

IPv6 DNS Server

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.5

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::290:21FF:FEAB:566E

IPv6 Gateway

IPv6 DNS Server

f. PC 6 : Scorpio

Global Settings

Display Name Scorpio

Gateway/DNS IPv4

☐ DHCP ☒ Static

Gateway 0.0.0.0

DNS Server 0.0.0.0

Gateway/DNS IPv6

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Gateway

IPv6 DNS Server

X

IP Configuration

☐ DHCP
☒ Static

IP Address172.21.1.6

Subnet Mask255.255.255.0

Default Gateway0.0.0.0

DNS Server0.0.0.0

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address /

Link Local AddressFE80::2E0:F9FF:FE50:CA19

IPv6 Gateway

IPv6 DNS Server

3. Melakukan konfigurasi pada switch

```

Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan zodiak1
^
% Invalid input detected at '^' marker.

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)#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)#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)#int fa 0/3
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)#end
Switch#

```

4. Melihat konfigurasi VLAN yang telah di buat

```
%SYS-5-CONFIG_I: Configured from console by console
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# show vlan id 10
```

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

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
10	enet	100010	1500	-	-	-	-	-	0	0

```
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	Trans1	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	Trans1	Trans2
30	enet	100030	1500	-	-	-	-	-	0	0

```
Switch#
```

• TUGAS 6A

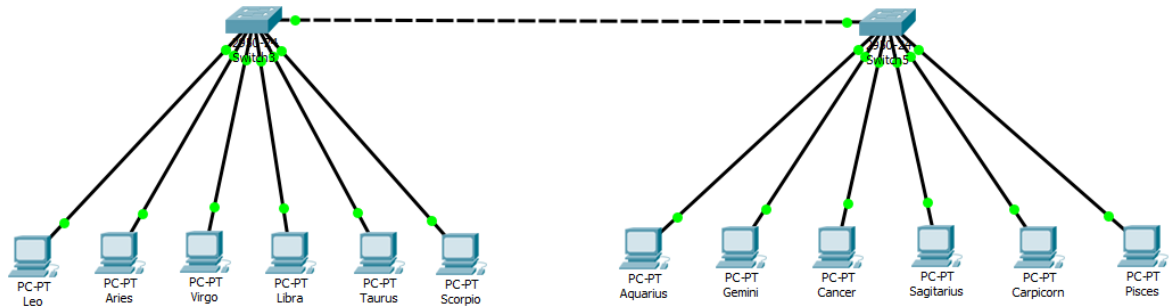
No	Vlan id>Nama/Status	Host
1.	10/Zodiak1/Aktif	Leo dan Libra
2.	20/Zodiak2/Aktif	Aries dan Taurus
3.	30/Zodiak3/Aktif	Virgo dan Scorpio

• TUGAS 6B

Dalam satu rangkaian switch terdapat 3 VLAN yang diberi nama zodiak1, zodiak2, dan zodiak3. Dimana masing-masing VLAN diisi 2 port

Kegiatan 2. Topologi 2

1. Desain



2. Memberi IP Address pada masing-masing PC

a. Leo

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	171.21.1.1
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

b. Aries

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	171.21.1.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

c. Virgo

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.2.1
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

d. Libra

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.2.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

e. Taurus

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.3.1
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

f. Scorpio

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.3.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

g. Aquarius

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> 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

h. Gemini

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.1.4
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

i. Cancer

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.2.3
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

j. Sagitarius

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.2.4
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

k. Capricorn

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.3.3
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

l. Pisces

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.3.4
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

3. Konfigurasi switch 1 dengan mode privileged dan konfigurasi port-port switch ke dalam VLAN.

a. Konfigurasi dengan mode privileged

```
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
```

b. Konfigurasi port-port ke dalam VLAN.

```
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)#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)#int fa 0/3
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)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

4. Konfigurasi VLAN trunking pada switch 1

```
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa 0/7
Switch(config-if)#sw 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
```

5. Melihat konfigurasi trunking yang telah dibuat pada mode privileged.

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

Switch#show int fa 0/7 switchport
Name: Fa0/7
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: All
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Appliance trust: none

Switch#show int 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--

6. Melakukan ping dari PC Leo ke PC Pisces

```
Packet Tracer PC Command Line 1.0
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),
```

7. Konfigurasi VLAN trunking pada switch 2

Switch#show vlan

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, 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
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
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0
1004	fdnet	101004	1500	-	-	-	ieee	-	0	0
1005	trnet	101005	1500	-	-	-	ibm	-	0	0

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
------	------	------	-----	--------	--------	----------	-----	----------	--------	--------

Remote SPAN VLANs

Primary	Secondary	Type	Ports
---------	-----------	------	-------

8. Konfigurasi port-port pada switch 2 ke dalam VLAN

```
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)#int fa 0/1
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int fa 0/2
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int fa 0/3
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#int fa 0/4
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 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)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

9. Melakukan Ping

a. Ping dari 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),
```


- b. Ping dari 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=60ms 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 = 60ms, Average = 15ms
```

- c. Ping dari 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),
```

- d. Ping dari PC Libra ke PC Cancer

```
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),
```

- e. Ping dari 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),
```

- **TUGAS 7A**

Konfigurasi turnking telah dilakukan pada langkah ke 6 dan langkah ke 7 tersebut merupakan proses untuk melihat hasil konfigurasi turnking.

- **TUGAS 8A**

Hasil ping yang dilakukan pada PC Leo ke PC Pisces adalah Request Time Out. Hal tersebut terjadi karena kedua PC tersebut memiliki IP Address yang berbeda.

- **TUGAS 10A**

Langkah pengoperasian untuk melihat hasil konfigurasi pada switch 2.

No	Vlan id>Nama/Status	Host
1.	10/Zodiak1/Aktif	Aquarius dan Gemini
2.	20/Zodiak2/Aktif	Cancer dan Sagitarius
3.	30/Zodiak3/Aktif	Capricorn dan Pisces

- **TUGAS 12A**

Hasil dari ping pada langkah 8 adalah Request Time Out.