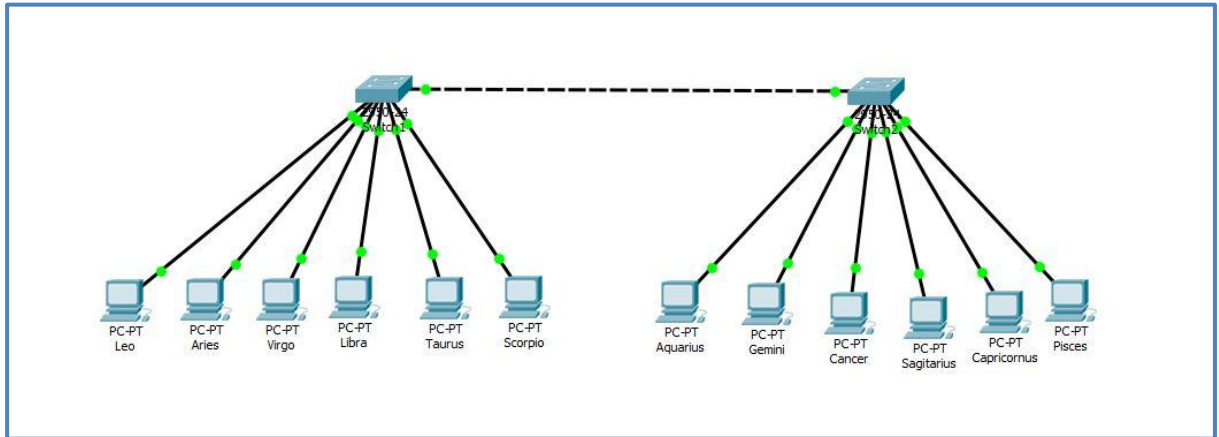


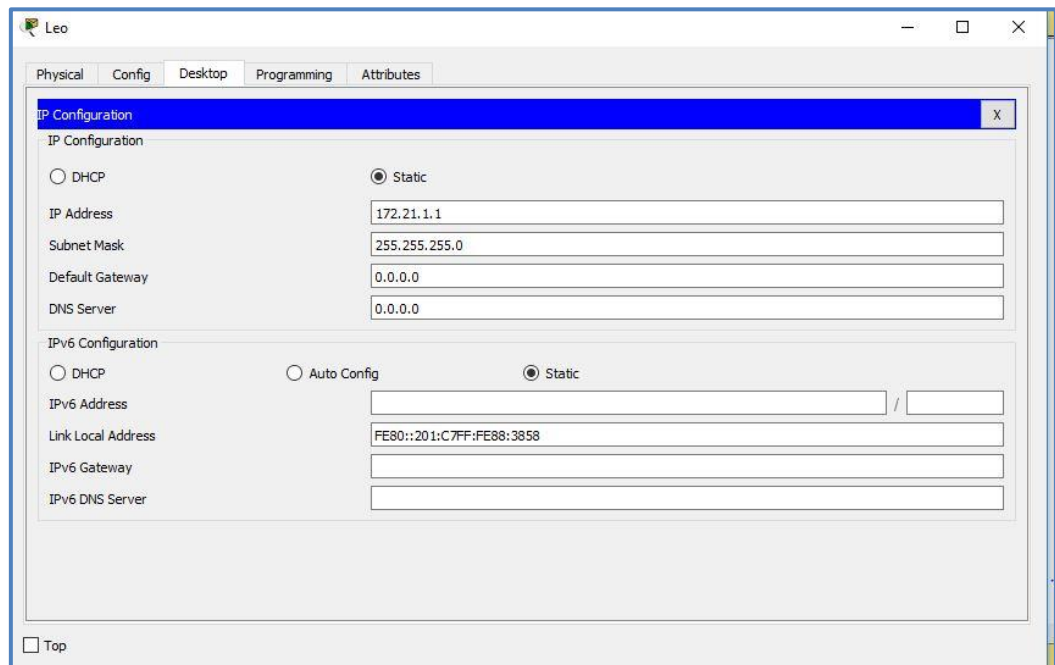
TUGAS MODUL IV VIRTUAL LAN DAN TRUNKING

Kegiatan 2. Topologi 2

1. Menggunakan cisco packet tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950.
2. Beri nama masing-masing perangkat sesuai dengan perintah dibuku.
Berikut adalah contoh bentuk topologi nya :



3. Konfigurasi masing-masing PC dengan nama dan alamat IP berikut ini :
 - Leo = 172.21.1.1/24



- Aries = 172.21.1.2/24

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The screenshot shows the 'Aries' configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, showing 'Static' as the selected option. The IP Address is 172.21.1.2, Subnet Mask is 255.255.255.0, Default Gateway is 0.0.0.0, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' section shows 'Static' as the selected option, with an empty IPv6 Address field, a Link Local Address of FE80::207:ECFF:FE8B:59A8, and empty fields for IPv6 Gateway and IPv6 DNS Server.

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> 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		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::207:ECFF:FE8B:59A8	
IPv6 Gateway		
IPv6 DNS Server		

- Virgo = 172.21.2.1/24

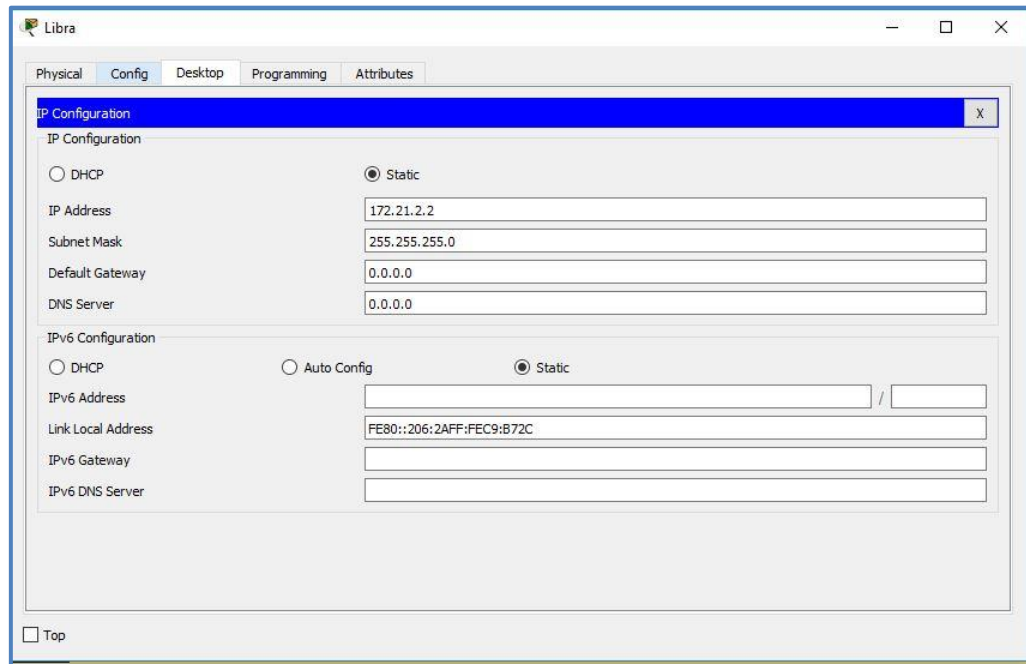
The screenshot shows the 'Virgo' configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, showing 'Static' as the selected option. The IP Address is 172.21.2.1, Subnet Mask is 255.255.255.0, Default Gateway is 0.0.0.0, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' section shows 'Static' as the selected option, with an empty IPv6 Address field, a Link Local Address of FE80::2E0:F7FF:FE72:C7A9, and empty fields for IPv6 Gateway and IPv6 DNS Server.

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

IPv6 Configuration		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::2E0:F7FF:FE72:C7A9	
IPv6 Gateway		
IPv6 DNS Server		

- Libra = 172.21.2.2/24

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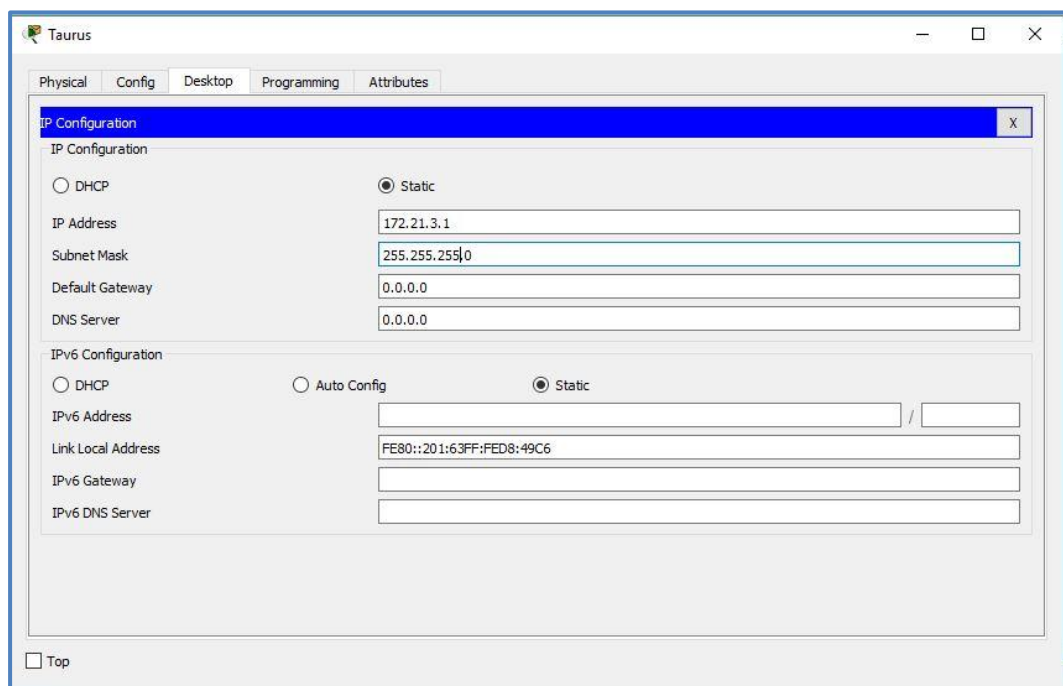


The screenshot shows the 'Libra' network configuration window. The 'Config' tab is selected. Under 'IP Configuration', the 'Static' radio button is chosen. The IP Address is set to 172.21.2.2, Subnet Mask to 255.255.255.0, Default Gateway to 0.0.0.0, and DNS Server to 0.0.0.0. Under 'IPv6 Configuration', the 'Static' radio button is also chosen. The IPv6 Address field is empty, Link Local Address is FE80::206:2AFF:FEC9:B72C, and both IPv6 Gateway and IPv6 DNS Server fields are empty. A 'Top' button is at the bottom left.

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

IPv6 Configuration		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::206:2AFF:FEC9:B72C	
IPv6 Gateway		
IPv6 DNS Server		

- Taurus = 172.21.3.1/24



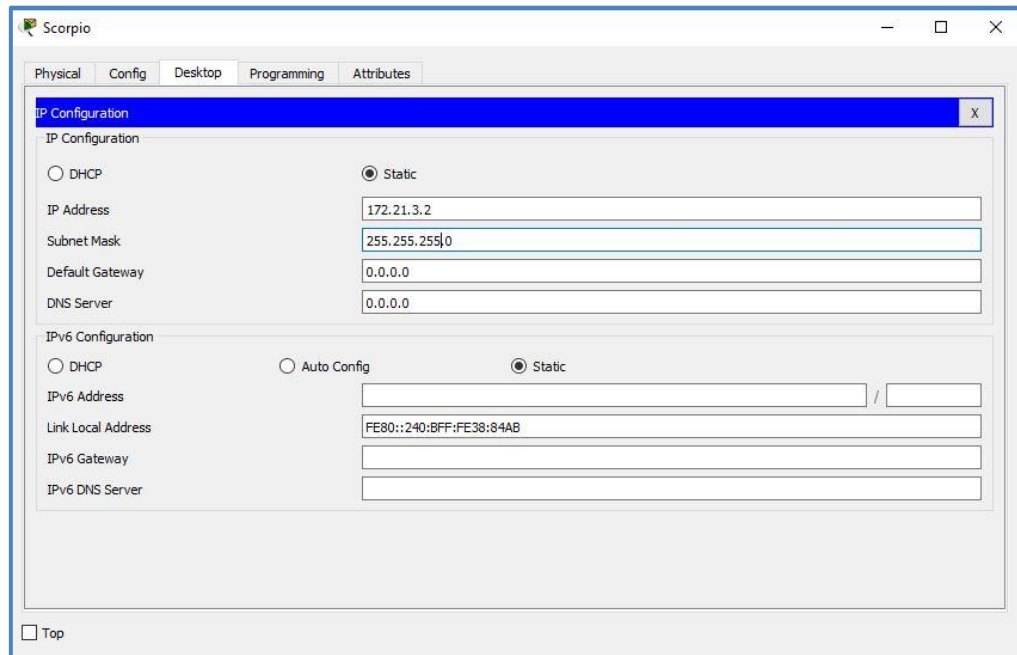
The screenshot shows the 'Taurus' network configuration window. The 'Config' tab is selected. Under 'IP Configuration', the 'Static' radio button is chosen. The IP Address is set to 172.21.3.1, Subnet Mask to 255.255.255.0, Default Gateway to 0.0.0.0, and DNS Server to 0.0.0.0. Under 'IPv6 Configuration', the 'Static' radio button is also chosen. The IPv6 Address field is empty, Link Local Address is FE80::201:63FF:FED8:49C6, and both IPv6 Gateway and IPv6 DNS Server fields are empty. A 'Top' button is at the bottom left.

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

IPv6 Configuration		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::201:63FF:FED8:49C6	
IPv6 Gateway		
IPv6 DNS Server		

- Scorpio = 172.21.3.2/24

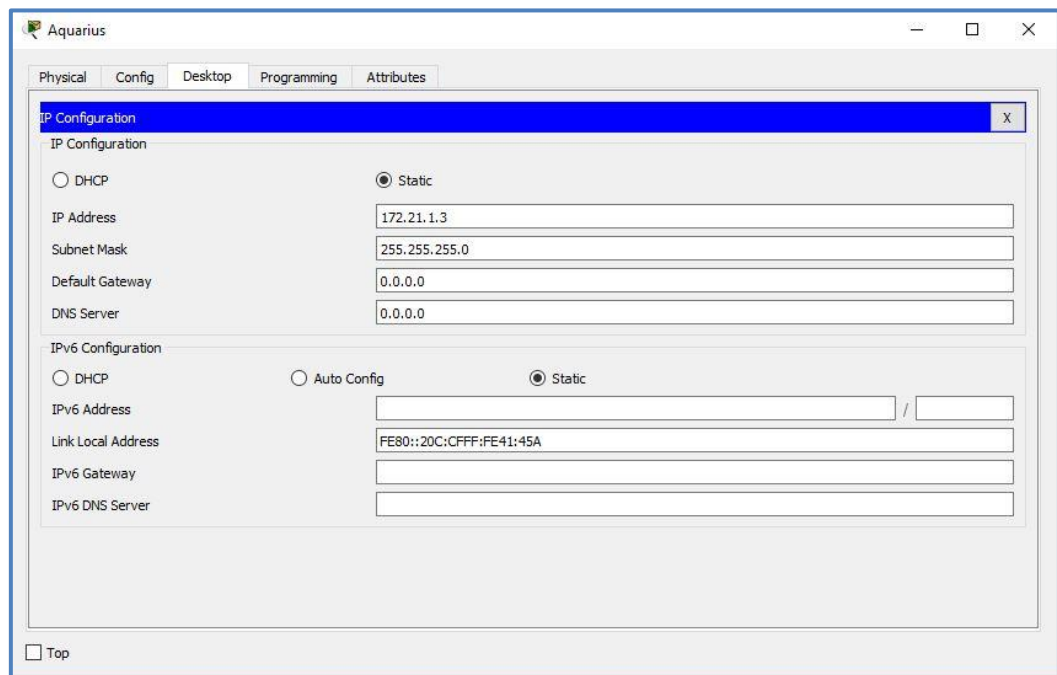
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The image shows the 'Scorpio' network configuration window. It has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Config' tab is active, showing 'IP Configuration' and 'IPv6 Configuration' sections. In the 'IP Configuration' section, 'Static' is selected, and the fields are: IP Address (172.21.3.2), Subnet Mask (255.255.255.0), Default Gateway (0.0.0.0), and DNS Server (0.0.0.0). In the 'IPv6 Configuration' section, 'Static' is selected, and the fields are: IPv6 Address (empty), Link Local Address (FE80::240:BFF:FE38:84AB), IPv6 Gateway (empty), and IPv6 DNS Server (empty). A 'Top' button is at the bottom left.

Section	Option	Field	Value
IP Configuration	<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
IPv6 Configuration	<input checked="" type="radio"/> Static	IPv6 Address	
		Link Local Address	FE80::240:BFF:FE38:84AB
		IPv6 Gateway	
		IPv6 DNS Server	

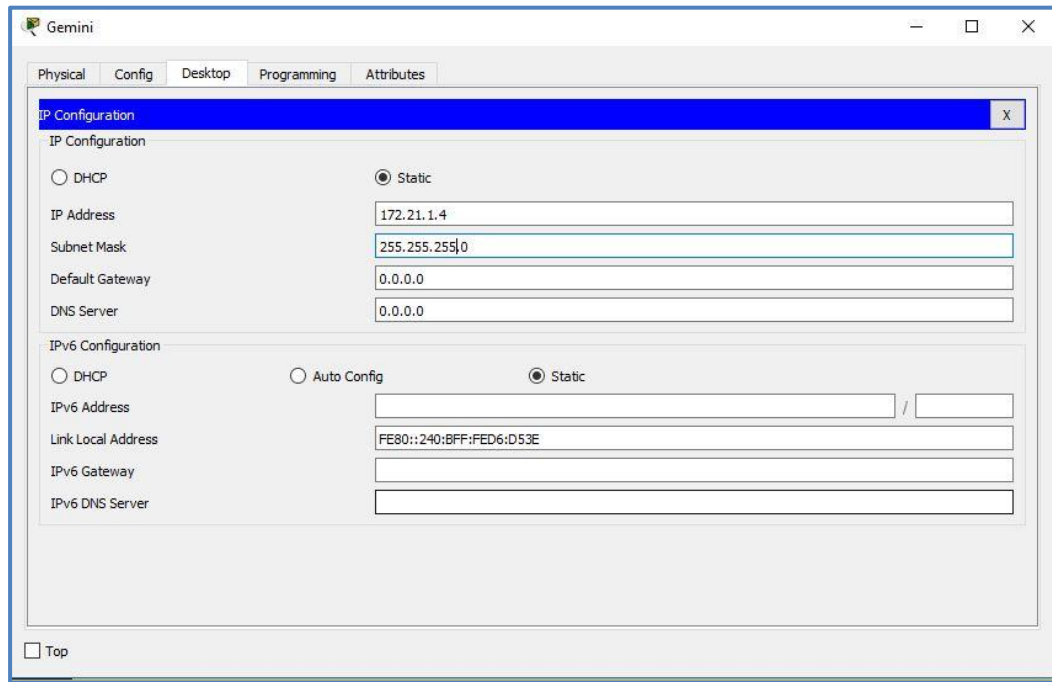
- Aquarius = 172.21.1.3/24



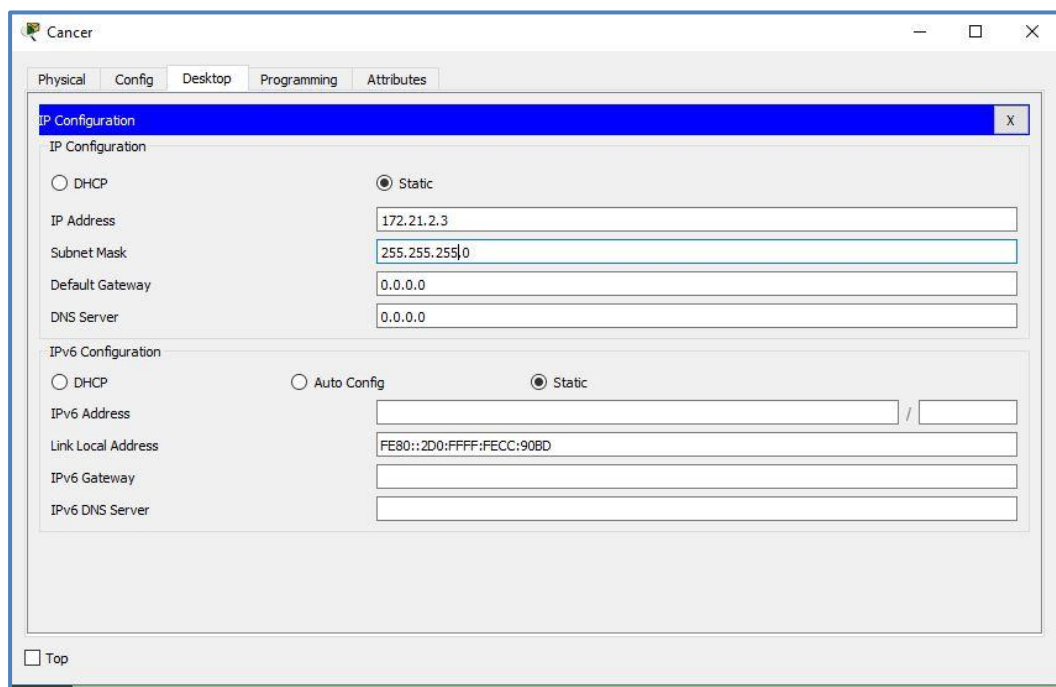
The image shows the 'Aquarius' network configuration window. It has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Config' tab is active, showing 'IP Configuration' and 'IPv6 Configuration' sections. In the 'IP Configuration' section, 'Static' is selected, and the fields are: IP Address (172.21.1.3), Subnet Mask (255.255.255.0), Default Gateway (0.0.0.0), and DNS Server (0.0.0.0). In the 'IPv6 Configuration' section, 'Static' is selected, and the fields are: IPv6 Address (empty), Link Local Address (FE80::20C:CFFF:FE41:45A), IPv6 Gateway (empty), and IPv6 DNS Server (empty). A 'Top' button is at the bottom left.

Section	Option	Field	Value
IP Configuration	<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
IPv6 Configuration	<input checked="" type="radio"/> Static	IPv6 Address	
		Link Local Address	FE80::20C:CFFF:FE41:45A
		IPv6 Gateway	
		IPv6 DNS Server	

- Gemini = 172.21.1.4/24



- Cancer = 172.21.2.3/24



- Sagitarius = 172.21.2.4/24

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The screenshot shows the 'Sagittarius' network configuration window. The 'Config' tab is selected. The 'IP Configuration' section is active, showing 'Static' as the selected option. The IP Address is set to 172.21.2.4, Subnet Mask to 255.255.255.0, Default Gateway to 0.0.0.0, and DNS Server to 0.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected and the Link Local Address set to FE80::203:E4FF:FE65:D87B.

Field	Value
IP Address	172.21.2.4
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

Field	Value
IPv6 Address	
Link Local Address	FE80::203:E4FF:FE65:D87B
IPv6 Gateway	
IPv6 DNS Server	

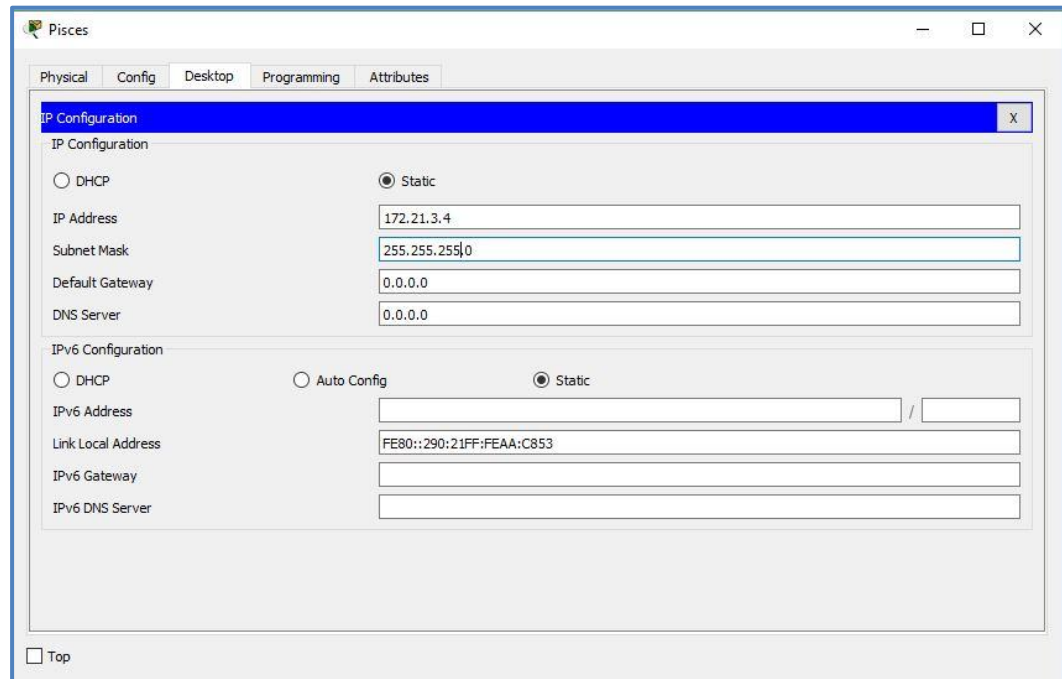
- Capricornus = 172.21.3.3/24

The screenshot shows the 'Capricornus' network configuration window. The 'Config' tab is selected. The 'IP Configuration' section is active, showing 'Static' as the selected option. The IP Address is set to 172.21.3.3, Subnet Mask to 255.255.255.0, Default Gateway to 0.0.0.0, and DNS Server to 0.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected and the Link Local Address set to FE80::250:FFF:FE81:11BD.

Field	Value
IP Address	172.21.3.3
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0

Field	Value
IPv6 Address	
Link Local Address	FE80::250:FFF:FE81:11BD
IPv6 Gateway	
IPv6 DNS Server	

- Pisces = 172.21.3.4/24



4. Lakukan langkah 4 dan 5 kegiatan 1 untuk switch 1.

```
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#ex
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#ex
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#ex
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 0/5
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
```


5. Lakukan konfigurasi VLAN trunking pada switch 1.
Langkah pengoperasian seperti gambar dibawah ini :

```
Switch#conf t
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
```

6. Langkah pengoperasian untuk melihat konfigurasi, seperti gambar dibawah ini :

```
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#
```

```
Switch#
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    Fa0/6, 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, Fa0/4
20   zodiak2                 active    Fa0/2
30   zodiak3                 active    Fa0/3, Fa0/5
1002 fddi-default            act/unsup
1003 token-ring-default    act/unsup
1004 fddinet-default        act/unsup
1005 trnet-default          act/unsup

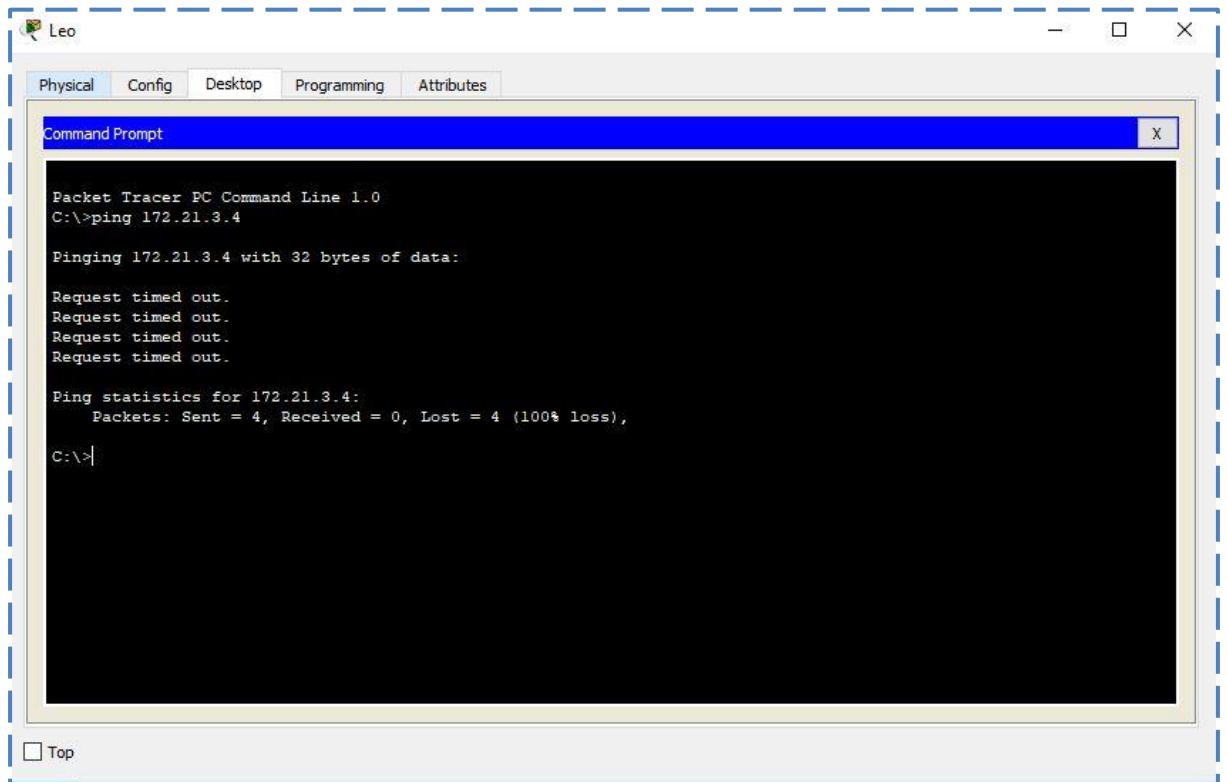
VLAN Type  SAID      MTU   Parent RingNo BridgeNo Stp  BrdgMode Transl Trans2
-----
1    enet    100001    1500  -      -      -      -   -         0      0
10   enet    100010    1500  -      -      -      -   -         0      0
20   enet    100020    1500  -      -      -      -   -         0     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

Remote SPAN VLANs
-----

Primary Secondary Type      Ports
-----
Switch#
```

- Melakukan ping dari PC Leo ke PC Pisces



8. Lakukan konfigurasi VLAN trunking pada switch 2 seperti langkah 5.

```
Switch>en
Switch#conf t
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)#exit
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

9. Langkah pengoperasian untuk melihat konfigurasi, seperti gambar dibawah ini :

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

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        act/unsup
1003 token-ring-default  act/unsup
1004 fddinet-default     act/unsup
1005 trnet-default       act/unsup

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

Remote SPAN VLANs
-----

Primary Secondary Type    Ports
-----

Switch#
```

10. Pada mode configuration, konfigurasi port-port switch ke dalam VLAN zodiak1, zodiak2, zodiak3 dengan anggota sebagai berikut :

- Zodiak1 = aquarius dan gemini
- Zodiak2 = cancer dan sagitarius
- Zodiak3 = capricornus dan pisces

Langkahnya seperti gambar dibawah ini :

```
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#ex
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#ex
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
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)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

11. Lakukan 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:\>
```

Ping PC Leo ke PC Aquarius

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```
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=49ms TTL=128
Reply from 172.21.1.3: bytes=32 time=12ms TTL=128
Reply from 172.21.1.3: bytes=32 time=11ms 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 = 1ms, Maximum = 49ms, Average = 18ms

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:\>
```

Ping 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),

C:\>
```

Ping PC Libra ke PC Leo

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```
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:\>
```