



**DOKUMENTASI PROYEK AKHIR  
DESAIN MANAJEMEN JARINGAN KOMPUTER**

Kelompok 25			
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**PROGRAM STUDI TEKNIK KOMPUTER  
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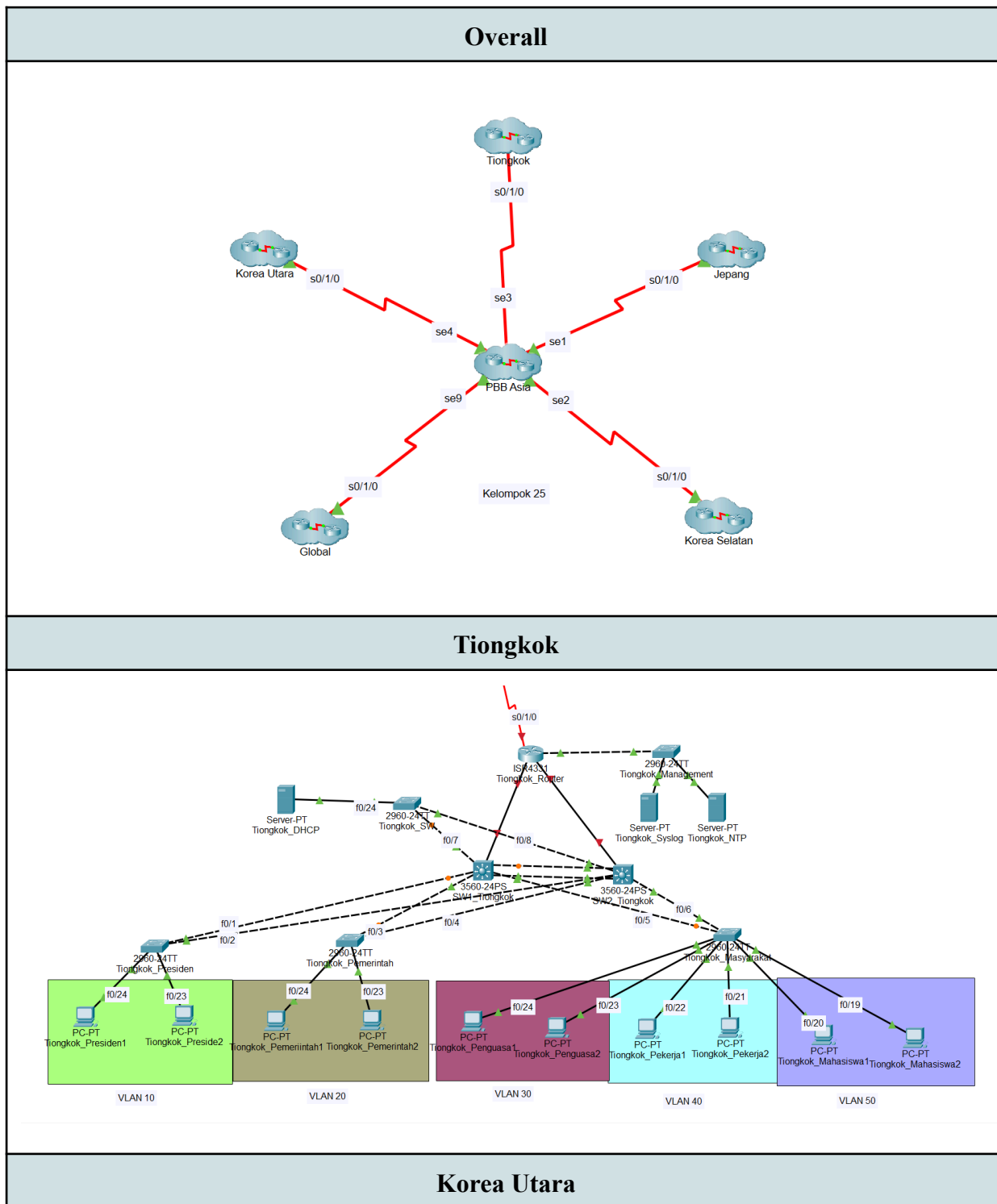
## DAFTAR ISI

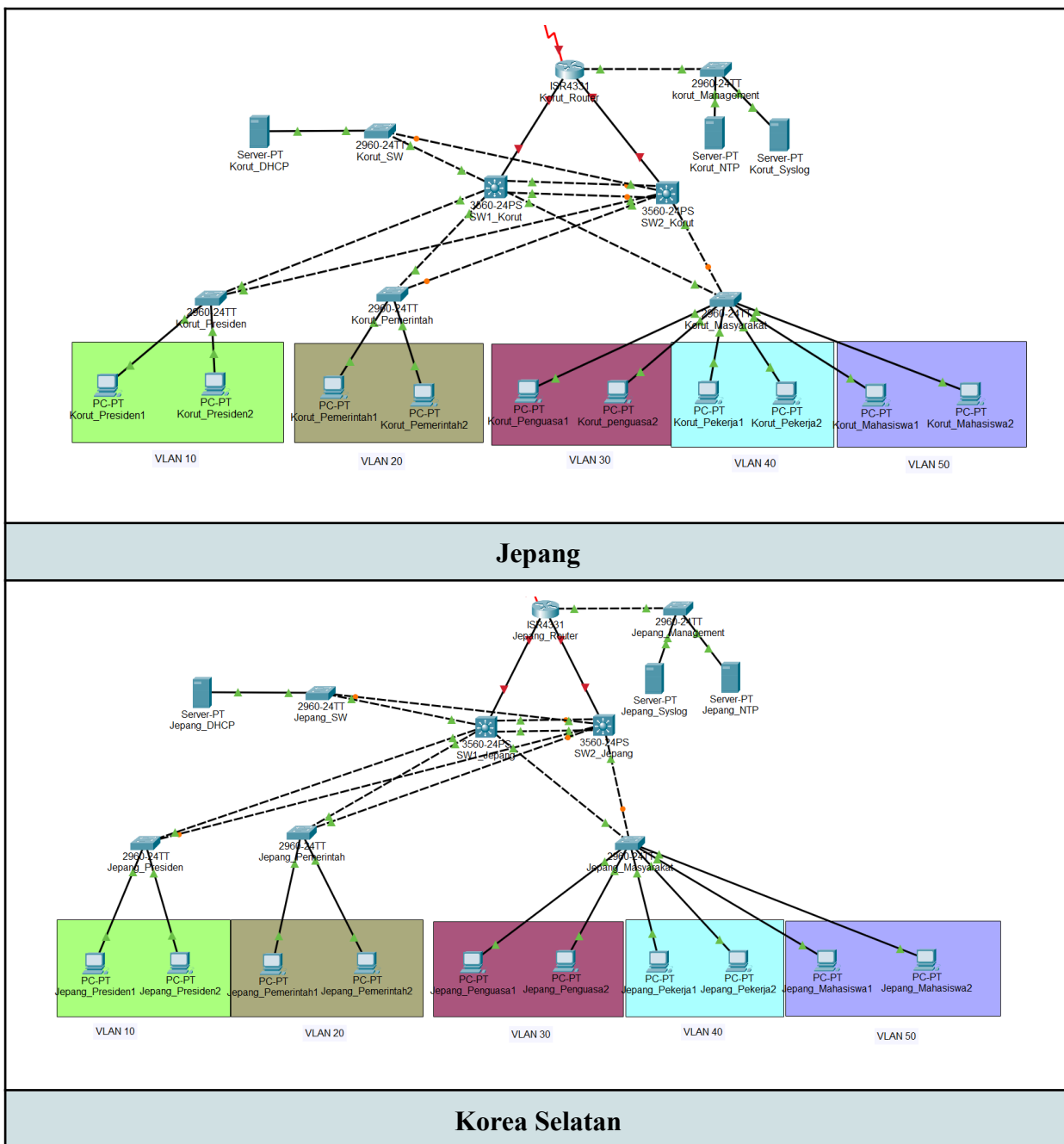
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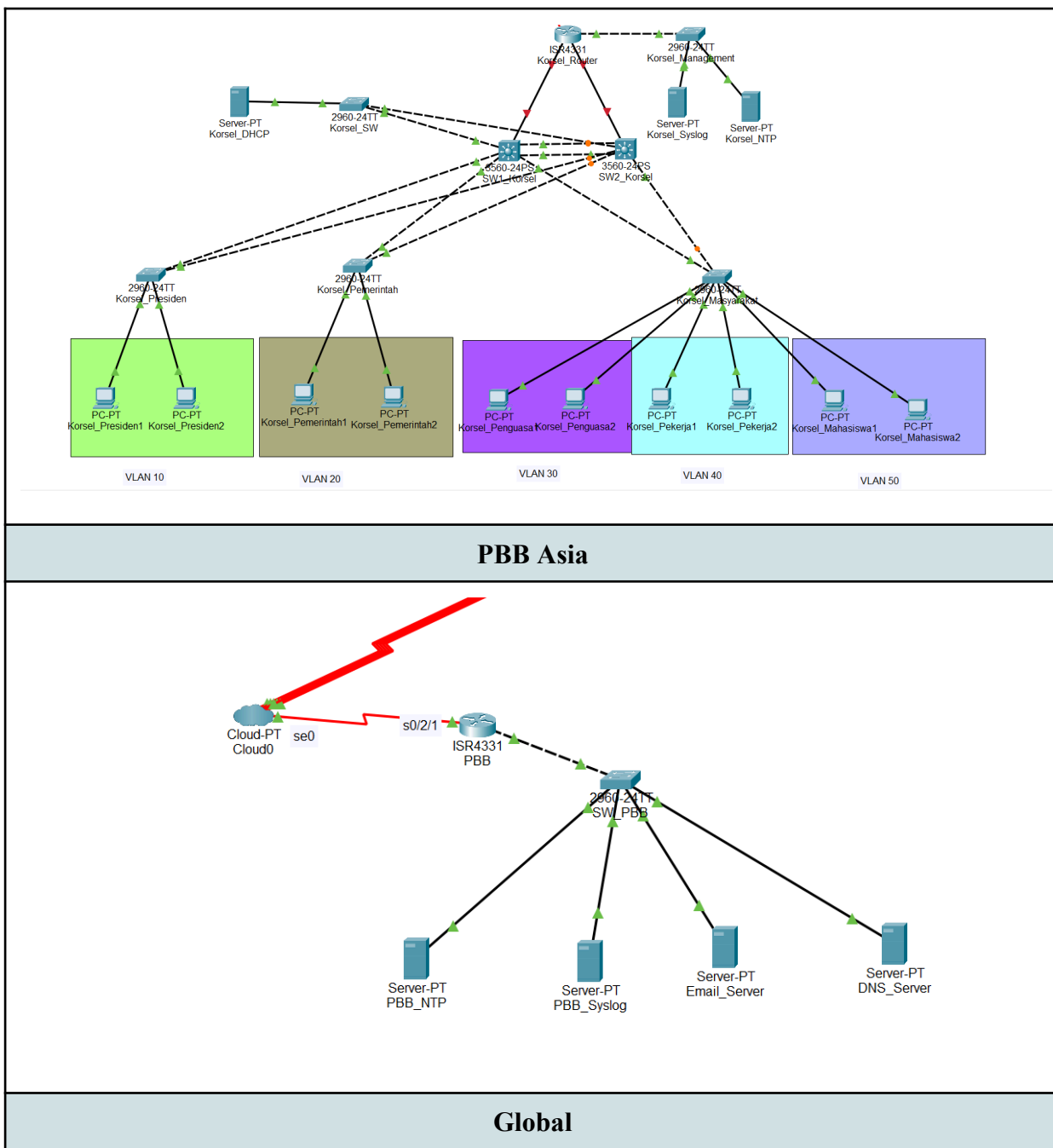
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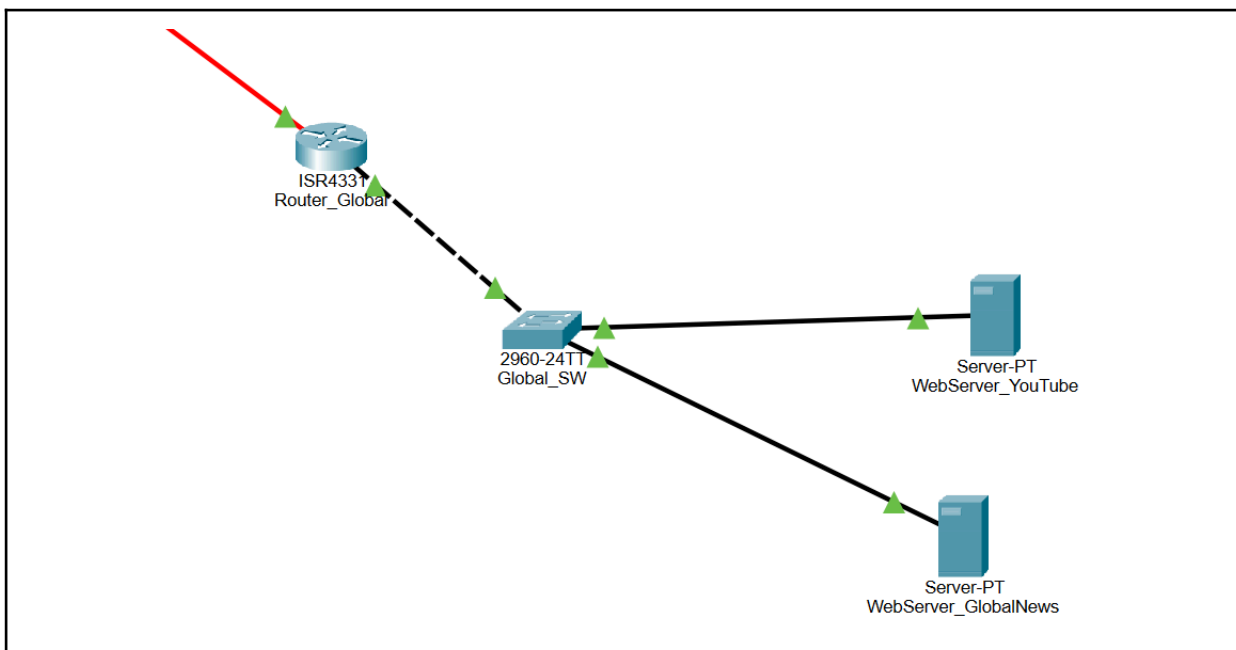
## PART I: TOPOLOGI

### 1.1. Logical

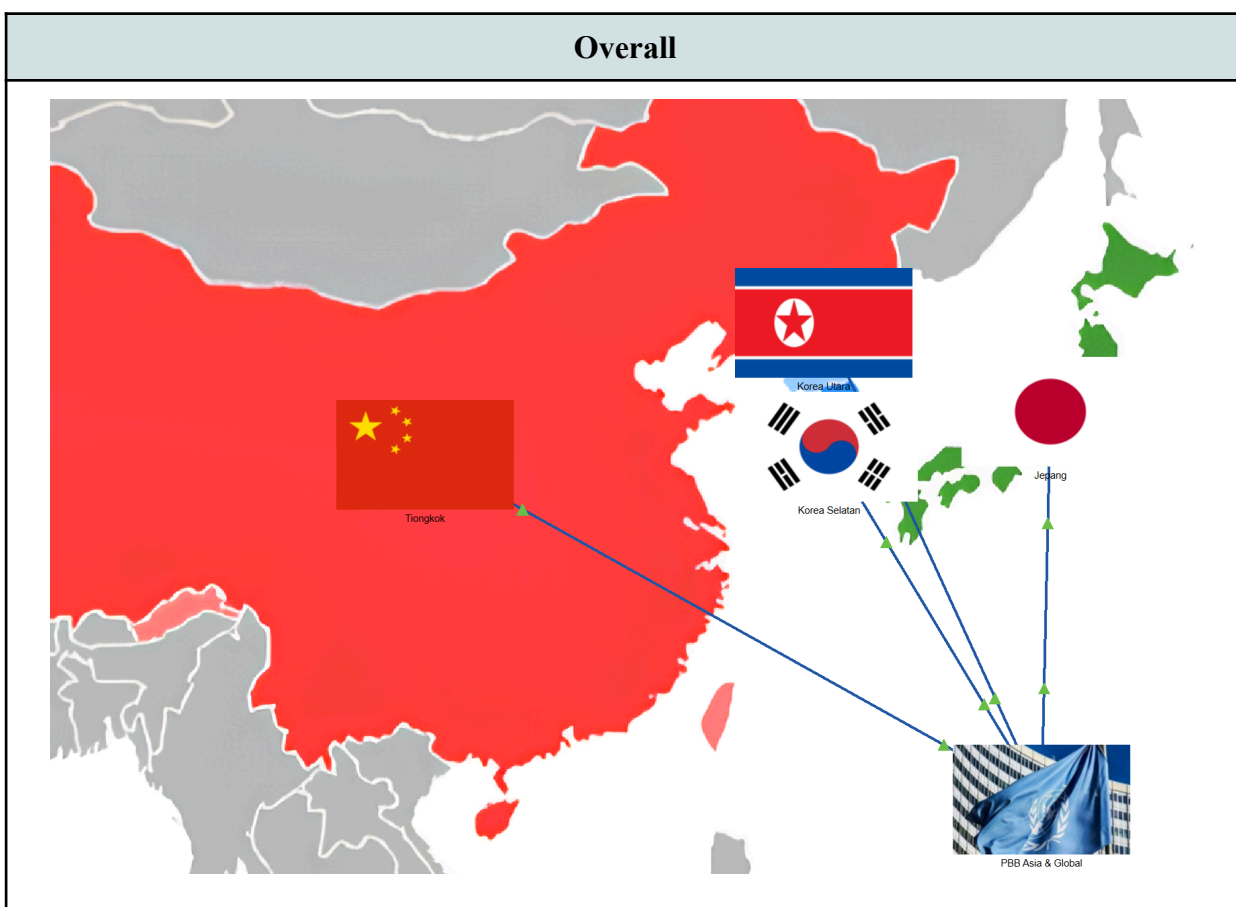








## 1.2. Physical



## PART II: RINCIAN JUMLAH HOST & SUBNETTING

Cluster		Jumlah (Per Negara/Bagian)	Subnet yang dibutuhkan
Tiongkok, Korut, Korsel, Jepang	Presiden	2	255.255.255.248/29
	Pemerintah	49	255.255.255.192/26
	Pengusaha	26	255.255.255.192/26
	Pekerja	156	255.255.255.0/24
	Mahasiswa	78	255.255.255.128/25
PBB		10	255.255.255.224 /27
Global		1	255.255.255.224 /27

### 2.1 Tiongkok

- Presiden
  - Total Host Dibutuhkan:  $2 + 1$  (gateway) = 3 Hosts
  - Network Address: 192.0.12.0
  - Subnet Mask: 255.255.255.248 (/29)
  - Usable Hosts: 6
  - Usable IP Range: 192.0.12.1 – 192.0.12.6
  - Broadcast Address: 192.0.12.7
- Pemerintah
  - Total Host Dibutuhkan:  $49 + 1$  (gateway) + 3 (servers) = 53 Hosts
  - Network Address: 192.0.11.192
  - Subnet Mask: 255.255.255.192 (/26)
  - Usable Hosts: 62
  - Usable IP Range: 192.0.11.193 – 192.0.11.254
  - Broadcast Address: 192.0.11.255
- Pengusaha
  - Total Host Dibutuhkan:  $26 + 1$  (gateway) = 27 Hosts



- Network Address: 192.0.11.128
- Subnet Mask: 255.255.255.192 (/26)
- Usable Hosts: 62
- Usable IP Range: 192.0.11.129 – 192.0.11.190
- Broadcast Address: 192.0.11.191
- **Pekerja**
  - Total Host Dibutuhkan:  $156 + 1$  (gateway) = 157 Hosts
  - Network Address: 192.0.10.0
  - Subnet Mask: 255.255.255.0 (/24)
  - Usable Hosts: 254
  - Usable IP Range: 192.0.10.1 – 192.0.10.254
  - Broadcast Address: 192.0.10.255
- **Mahasiswa**
  - Total Host Dibutuhkan:  $78 + 1$  (gateway) = 79 Hosts
  - Network Address: 192.0.11.0
  - Subnet Mask: 255.255.255.128 (/25)
  - Usable Hosts: 126
  - Usable IP Range: 192.0.11.1 – 192.0.11.126
  - Broadcast Address: 192.0.11.127

## 2.2 Korea Utara

- **Presiden**
  - Total Host Dibutuhkan: 3
  - Network Address: 192.1.12.0
  - Subnet Mask: 255.255.255.248 (/29)
  - Usable Hosts: 6
  - Usable IP Range: 192.1.12.1 – 192.1.12.6
  - Broadcast Address: 192.1.12.7
- **Pemerintah**
  - Total Host Dibutuhkan: 53
  - Network Address: 192.1.11.192
  - Subnet Mask: 255.255.255.192 (/26)

- Usable Hosts: 62
- Usable IP Range: 192.1.11.193 – 192.1.11.254
- Broadcast Address: 192.1.11.255
- Pengusaha
  - Total Host Dibutuhkan: 27
  - Network Address: 192.1.11.128
  - Subnet Mask: 255.255.255.192 (/26)
  - Usable Hosts: 62
  - Usable IP Range: 192.1.11.129 – 192.1.11.190
  - Broadcast Address: 192.1.11.191
- Pekerja
  - Total Host Dibutuhkan: 157
  - Network Address: 192.1.10.0
  - Subnet Mask: 255.255.255.0 (/24)
  - Usable Hosts: 254
  - Usable IP Range: 192.1.10.1 – 192.1.10.254
  - Broadcast Address: 192.1.10.255
- Mahasiswa
  - Total Host Dibutuhkan: 79
  - Network Address: 192.1.11.0
  - Subnet Mask: 255.255.255.128 (/25)
  - Usable Hosts: 126
  - Usable IP Range: 192.1.11.1 – 192.1.11.126
  - Broadcast Address: 192.1.11.127

## 2.3 Jepang

- Presiden
  - Total Host Dibutuhkan: 3
  - Network Address: 192.2.12.0
  - Subnet Mask: 255.255.255.248 (/29)
  - Usable Hosts: 6
  - Usable IP Range: 192.2.12.1 – 192.2.12.6

- Broadcast Address: 192.2.12.7
- Pemerintah
  - Total Host Dibutuhkan: 53
  - Network Address: 192.2.11.192
  - Subnet Mask: 255.255.255.192 (/26)
  - Usable Hosts: 62
  - Usable IP Range: 192.2.11.193 – 192.2.11.254
  - Broadcast Address: 192.2.11.255
- Pengusaha
  - Total Host Dibutuhkan: 27
  - Network Address: 192.2.11.128
  - Subnet Mask: 255.255.255.192 (/26)
  - Usable Hosts: 62
  - Usable IP Range: 192.2.11.129 – 192.2.11.190
  - Broadcast Address: 192.2.11.191
- Pekerja
  - Total Host Dibutuhkan: 157
  - Network Address: 192.2.10.0
  - Subnet Mask: 255.255.255.0 (/24)
  - Usable Hosts: 254
  - Usable IP Range: 192.2.10.1 – 192.2.10.254
  - Broadcast Address: 192.2.10.255
- Mahasiswa
  - Total Host Dibutuhkan: 79
  - Network Address: 192.2.11.0
  - Subnet Mask: 255.255.255.128 (/25)
  - Usable Hosts: 126
  - Usable IP Range: 192.2.11.1 – 192.2.11.126
  - Broadcast Address: 192.2.11.127

## 2.4 Korea Selatan

- Presiden

- Total Host Dibutuhkan: 3
- Network Address: 192.3.12.0
- Subnet Mask: 255.255.255.248 (/29)
- Usable Hosts: 6
- Usable IP Range: 192.3.12.1 – 192.3.12.6
- Broadcast Address: 192.3.12.7
- Pemerintah
  - Total Host Dibutuhkan: 53
  - Network Address: 192.3.11.192
  - Subnet Mask: 255.255.255.192 (/26)
  - Usable Hosts: 62
  - Usable IP Range: 192.3.11.193 – 192.3.11.254
  - Broadcast Address: 192.3.11.255
- Pengusaha
  - Total Host Dibutuhkan: 27
  - Network Address: 192.3.11.128
  - Subnet Mask: 255.255.255.192 (/26)
  - Usable Hosts: 62
  - Usable IP Range: 192.3.11.129 – 192.3.11.190
  - Broadcast Address: 192.3.11.191
- Pekerja
  - Total Host Dibutuhkan: 157
  - Network Address: 192.3.10.0
  - Subnet Mask: 255.255.255.0 (/24)
  - Usable Hosts: 254
  - Usable IP Range: 192.3.10.1 – 192.3.10.254
  - Broadcast Address: 192.3.10.255
- Mahasiswa
  - Total Host Dibutuhkan: 79
  - Network Address: 192.3.11.0
  - Subnet Mask: 255.255.255.128 (/25)
  - Usable Hosts: 126

- Usable IP Range: 192.3.11.1 – 192.3.11.126
- Broadcast Address: 192.3.11.127

## 2.5 PBB

- Total Host Dibutuhkan: 10 Administrator + 1 Default Gateway + 4 Server = 15 Hosts
- Network Address: 40.0.0.0
- Subnet Mask: 255.255.255.224 (/27)
- Usable Hosts: 30
- Usable IP Range: 40.0.0.1 – 40.0.0.30
- Broadcast Address: 40.0.0.31

## 2.6 Global

- Total Host Dibutuhkan: 1 administrator + 1 default gateway + 2 server = 4 Hosts
- Network Address: 50.0.0.0
- Subnet Mask: 255.255.255.224 (/27)
- Usable Hosts: 6
- Usable IP Range: 50.0.0.1 – 50.0.0.6
- Broadcast Address: 50.0.0.7

## PART III: TABEL IP ADDRESS

### 3.1 Network Address

Cluster	VLAN	Network Address	Subnet	Gateway
Tiongkok	10	192.0.12.0	/29 (255.255.255.248)	192.0.12.1
	20	192.0.11.192	/26 (255.255.255.192)	192.0.11.193
	30	192.0.11.128	/26 (255.255.255.192)	192.0.11.129
	40	192.0.10.0	/24 (255.255.255.0)	192.0.10.1
	50	192.0.11.0	/25 (255.255.255.128)	192.0.11.1
Korea Utara	10	192.1.12.0	/29 (255.255.255.248)	192.1.12.1
	20	192.1.11.192	/26 (255.255.255.192)	192.1.11.193
	30	192.1.11.128	/26 (255.255.255.192)	192.1.11.129
	40	192.1.10.0	/24 (255.255.255.0)	192.1.10.1
	50	192.1.11.0	/25 (255.255.255.128)	192.1.11.1
Jepang	10	192.2.12.0	/29 (255.255.255.248)	192.2.12.1
	20	192.2.11.192	/26 (255.255.255.192)	192.2.11.193
	30	192.2.11.128	/26 (255.255.255.192)	192.2.11.129
	40	192.2.10.0	/24 (255.255.255.0)	192.2.10.1
	50	192.2.11.0	/25 (255.255.255.128)	192.2.11.1
Korea Selatan	10	192.3.12.0	/29 (255.255.255.248)	192.3.12.1
	20	192.3.11.192	/26 (255.255.255.192)	192.3.11.193
	30	192.3.11.128	/26 (255.255.255.192)	192.3.11.129
	40	192.3.10.0	/24 (255.255.255.0)	192.3.10.1
	50	192.3.11.0	/25 (255.255.255.128)	192.3.11.1
PBB	1	40.0.0.0	/27(255.255.255.224)	40.0.0.1
Global	1	50.0.0.0	/29(255.255.255.248)	50.0.0.1

### 3.2 IP Addressing per Device

Device	Interface	Address	Subnet
Router Tiongkok	s0/1/0	10.0.0.3	255.255.255.248 (/29)
DHCP Tiongkok	NIC	192.0.12.3	255.255.255.192 (/26)
NTP Tiongkok	NIC	192.0.12.4	255.255.255.192 (/26)
Syslog Tiongkok	NIC	192.0.12.5	255.255.255.192 (/26)
Router Jepang	s0/1/0	10.0.0.4	255.255.255.248 (/29)
DHCP Jepang	NIC	192.2.12.3	255.255.255.192 (/26)
NTP Jepang	NIC	192.2.12.4	255.255.255.192 (/26)
Syslog Jepang	NIC	192.2.12.5	255.255.255.192 (/26)
Router Korea Utara	s0/1/0	10.0.0.5	255.255.255.248 (/29)
DHCP Korea Utara	NIC	192.1.12.3	255.255.255.192 (/26)
NTP Korea Utara	NIC	192.1.12.4	255.255.255.192 (/26)
Syslog Korea Utara	NIC	192.1.12.5	255.255.255.192 (/26)
Router Korea Selatan	s0/1/0	10.0.0.6	255.255.255.248 (/29)
DHCP Korea Selatan	NIC	192.3.12.3	255.255.255.192 (/26)
NTP Korea Selatan	NIC	192.3.12.4	255.255.255.192 (/26)
Syslog Korea Selatan	NIC	192.3.12.5	255.255.255.192 (/26)
Router PBB	S0/2/1	40.0.0.2	255.255.255.248 (/29)
	g0/0/0	192.168.100.1	255.255.255.0(/24)
DNS Server	NIC	40.0.0.4	255.255.255.224 (/27)
E-mail Server	NIC	40.0.0.5	255.255.255.224 (/27)
Router Global	S0/1/0	50.0.0.2	255.255.255.248 (/29)
Web-Server	NIC	50.0.0.3	255.255.255.248 (/29)

#### PART IV: TABEL VLAN

Perwakilan	VLAN
Presiden	10
Pemerintah	20
Pengusaha	30
Pekerja	40
Mahasiswa	50
Native	99



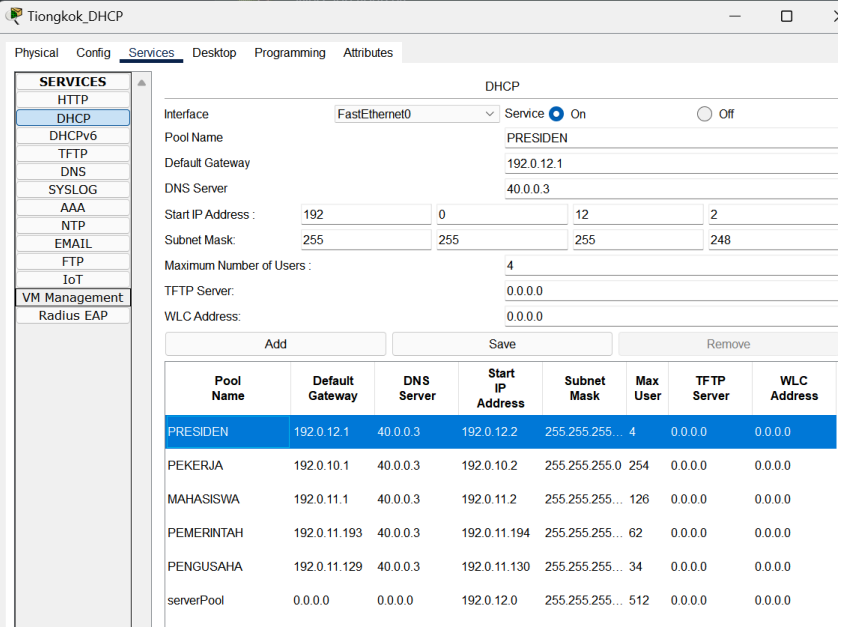
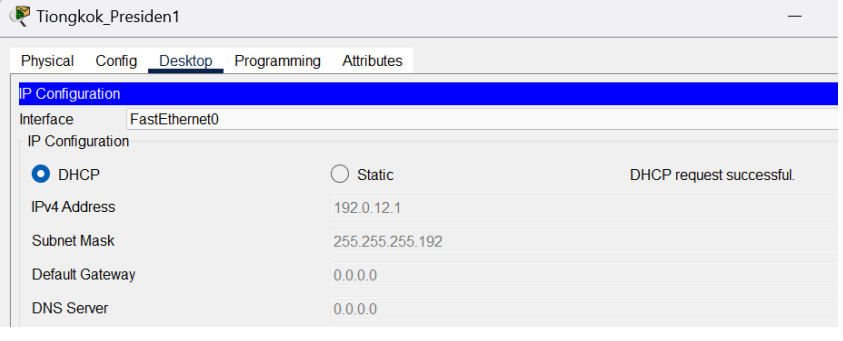
## PART V: KONFIGURASI

### 5.1 Tiongkok

#### a. Hostnames

Device	Screenshot
Tiongkok_Router	<pre>Router&gt;enable Router#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Router(config)#hostname Tiongkok_Router Tiongkok_Router(config)#</pre>
Tiongkok_SW	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Tiongkok_SW Tiongkok_SW(config)#</pre>
Tiongkok_Presiden	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Tiongkok_Presiden Tiongkok_Presiden(config)#</pre>
Tiongkok_Pemerintah	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Tiongkok_Pemerintah Tiongkok_Pemerintah(config)#</pre>
Tiongkok_Masyarakat	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Tiongkok_Masyarakat Tiongkok_Masyarakat(config)#</pre>
SW1_Tiongkok	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname SW1_Tiongkok SW1_Tiongkok(config)#</pre>
SW2_Tiongkok	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname SW2_Tiongkok SW2_Tiongkok(config)#</pre>
Tiongkok_Management	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Tiongkok_Management Tiongkok_Management(config)#</pre>

## b. DHCP

Device	Screenshot
Tiongkok_DHCP	
SW1_Tiongkok	<pre> SW1_Tiongkok&gt;en SW1_Tiongkok#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Tiongkok(config)#interface vlan 10 SW1_Tiongkok(config-if)#ip address 192.0.12.1 255.255.255.248 SW1_Tiongkok(config-if)#ip helper-address 192.0.12.3 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#ex SW1_Tiongkok(config)#interface vlan 20 SW1_Tiongkok(config-if)#ip address 192.0.11.193 255.255.255.192 SW1_Tiongkok(config-if)#ip helper-address 192.0.12.3 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#ex SW1_Tiongkok(config)#interface vlan 30 SW1_Tiongkok(config-if)#ip address 192.0.11.129 255.255.255.192 SW1_Tiongkok(config-if)#ip helper-address 192.0.12.3 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#ex SW1_Tiongkok(config)#interface vlan 40 SW1_Tiongkok(config-if)#ip address 192.0.10.1 255.255.255.0 SW1_Tiongkok(config-if)#ip helper-address 192.0.12.3 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#ex SW1_Tiongkok(config)#interface vlan 50 SW1_Tiongkok(config-if)#ip address 192.0.11.1 255.255.255.128 SW1_Tiongkok(config-if)#ip helper-address 192.0.12.3 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)# </pre>
Pembuktian sukses	

### c. Etherchannel

Device	Screenshot
SW1_Tiongkok	<pre> SW1_Tiongkok&gt; SW1_Tiongkok&gt;en SW1_Tiongkok#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Tiongkok(config)#int r fa0/23-24 SW1_Tiongkok(config-if-range)#switchport trunk encapsulation dot1q SW1_Tiongkok(config-if-range)#switchport mode trunk  SW1_Tiongkok(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Tiongkok(config-if-range)#channel-group 1 mode desirable SW1_Tiongkok(config-if-range)#no shut  SW1_Tiongkok(config-if-range)#int port-channel 1 SW1_Tiongkok(config-if)#switchport trunk encapsulation dot1q SW1_Tiongkok(config-if)#switchport mode trunk SW1_Tiongkok(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Tiongkok(config-if)#no shut </pre>
SW2_Tiongkok	<pre> SW2_Tiongkok&gt;en SW2_Tiongkok#conf t Enter configuration commands, one per line. End with CNTL/Z. SW2_Tiongkok(config)#int r fa0/23-24 SW2_Tiongkok(config-if-range)#switchport trunk encapsulation dot1q SW2_Tiongkok(config-if-range)#switchport mode trunk SW2_Tiongkok(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Tiongkok(config-if-range)#channel-group 1 mode auto SW2_Tiongkok(config-if-range)#no shut  SW2_Tiongkok(config-if-range)#int port-channel 1 SW2_Tiongkok(config-if)#switchport trunk encapsulation dot1q SW2_Tiongkok(config-if)#switchport mode trunk SW2_Tiongkok(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Tiongkok(config-if)#no shut </pre>

### d. VLAN

Device	Screenshot
Tiongkok_SW	<pre> Tiongkok_SW&gt;enable Tiongkok_SW#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Tiongkok_SW(config)#vlan 10 Tiongkok_SW(config-vlan)# name PRESIDEN Tiongkok_SW(config-vlan)#vlan 20 Tiongkok_SW(config-vlan)# name PEMERINTAH Tiongkok_SW(config-vlan)#vlan 30 Tiongkok_SW(config-vlan)# name PENGUSAHA Tiongkok_SW(config-vlan)#vlan 40 Tiongkok_SW(config-vlan)# name PEKERJA Tiongkok_SW(config-vlan)#vlan 50 Tiongkok_SW(config-vlan)# name MAHASISWA Tiongkok_SW(config-vlan)# </pre>

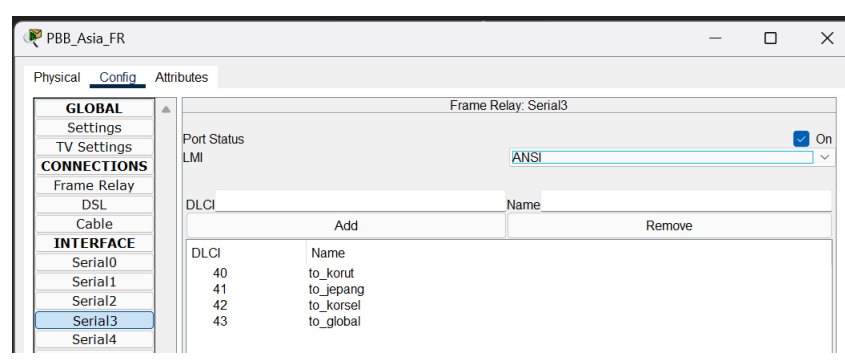
SW1_Tiongkok	<pre> SW1_Tiongkok&gt;enable SW1_Tiongkok#configure terminal Enter configuration commands, one per line. End with CNTL/Z. SW1_Tiongkok(config)#ip routing SW1_Tiongkok(config)#interface vlan 10 SW1_Tiongkok(config-if)#ip address 192.0.12.1 255.255.255.248 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#interface vlan 20 SW1_Tiongkok(config-if)#ip address 192.0.11.193 255.255.255.192 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#interface vlan 30 SW1_Tiongkok(config-if)#ip address 192.0.11.129 255.255.255.192 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#interface vlan 40 SW1_Tiongkok(config-if)#ip address 192.0.10.1 255.255.255.0 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#interface vlan 50 SW1_Tiongkok(config-if)#ip address 192.0.11.1 255.255.255.128 SW1_Tiongkok(config-if)#no shutdown SW1_Tiongkok(config-if)#ex SW1_Tiongkok(config)#interface range fa0/1, fa0/3, fa0/5, fa0/7 SW1_Tiongkok(config-if-range)#interface range fa0/1, fa0/3, fa0/5, fa0/7 SW1_Tiongkok(config-if-range)#switchport trunk encapsulation dot1q SW1_Tiongkok(config-if-range)#switchport mode trunk </pre>
SW2_Tiongkok	<pre> SW2_Tiongkok&gt;enable SW2_Tiongkok#configure terminal Enter configuration commands, one per line. End with CNTL/Z. SW2_Tiongkok(config)#ip routing SW2_Tiongkok(config)#interface vlan 10 SW2_Tiongkok(config-if)#ip address 192.0.12.1 255.255.255.248 SW2_Tiongkok(config-if)#no shutdown SW2_Tiongkok(config-if)#interface vlan 20 SW2_Tiongkok(config-if)#ip address 192.0.11.193 255.255.255.192 SW2_Tiongkok(config-if)#no shutdown SW2_Tiongkok(config-if)#interface vlan 30 SW2_Tiongkok(config-if)#ip address 192.0.11.129 255.255.255.192 SW2_Tiongkok(config-if)#no shutdown SW2_Tiongkok(config-if)#interface vlan 40 SW2_Tiongkok(config-if)#ip address 192.0.10.1 255.255.255.0 SW2_Tiongkok(config-if)#no shutdown SW2_Tiongkok(config-if)#interface vlan 50 SW2_Tiongkok(config-if)#ip address 192.0.11.1 255.255.255.128 SW2_Tiongkok(config-if)#no shutdown SW2_Tiongkok(config-if)#ex SW2_Tiongkok(config)#interface range fa0/2, fa0/4, fa0/6, fa0/8 SW2_Tiongkok(config-if-range)#switchport trunk encapsulation dot1q SW2_Tiongkok(config-if-range)#switchport mode trunk </pre>
Tiongkok_Presiden	<pre> Tiongkok_Presiden&gt;enable Tiongkok_Presiden#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Tiongkok_Presiden(config)#vlan 10 Tiongkok_Presiden(config-vlan)#name PRESIDEN Tiongkok_Presiden(config-vlan)#interface range fa0/23 - 24 Tiongkok_Presiden(config-if-range)#switchport mode access Tiongkok_Presiden(config-if-range)#switchport access vlan 10 Tiongkok_Presiden(config-if-range)#interface range fa0/1-2 Tiongkok_Presiden(config-if-range)#switchport mode trunk Tiongkok_Presiden(config-if-range)# </pre>
Tiongkok_Pemerintah	<pre> Tiongkok_Pemerintah&gt;enable Tiongkok_Pemerintah#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Tiongkok_Pemerintah(config)#vlan 20 Tiongkok_Pemerintah(config-vlan)#name PEMERINTAH Tiongkok_Pemerintah(config-vlan)#interface range fa0/23 - 24 Tiongkok_Pemerintah(config-if-range)#switchport mode access Tiongkok_Pemerintah(config-if-range)#switchport access vlan 20 Tiongkok_Pemerintah(config-if-range)#interface range fa0/3-4 Tiongkok_Pemerintah(config-if-range)#switchport mode trunk Tiongkok_Pemerintah(config-if-range)# </pre>

Tionggok_Masyarakat	<pre> Tionggok_Masyarakat&gt;enable Tionggok_Masyarakat#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Tionggok_Masyarakat(config)#vlan 30 Tionggok_Masyarakat(config-vlan)#name PENGUSAHA Tionggok_Masyarakat(config-vlan)#vlan 40 Tionggok_Masyarakat(config-vlan)#name PEKERJA Tionggok_Masyarakat(config-vlan)#vlan 50 Tionggok_Masyarakat(config-vlan)#name MAHASISWA Tionggok_Masyarakat(config-vlan)#interface range fa0/23 - 24 Tionggok_Masyarakat(config-if-range)#switchport mode access Tionggok_Masyarakat(config-if-range)#switchport access vlan 30 Tionggok_Masyarakat(config-if-range)#interface range fa0/21 - 22 Tionggok_Masyarakat(config-if-range)#switchport mode access Tionggok_Masyarakat(config-if-range)#switchport access vlan 40 Tionggok_Masyarakat(config-if-range)#interface range fa0/19 - 20 Tionggok_Masyarakat(config-if-range)#switchport mode access Tionggok_Masyarakat(config-if-range)#switchport access vlan 50 Tionggok_Masyarakat(config-if-range)#interface range fa0/5-6 Tionggok_Masyarakat(config-if-range)#switchport mode trunk Tionggok_Masyarakat(config-if-range)# </pre>
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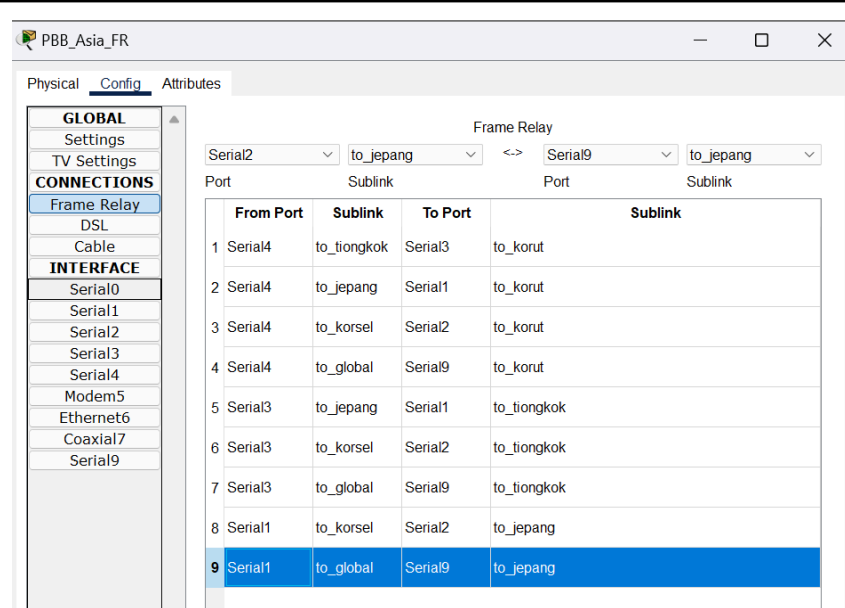
#### e. EIGRP

Device	Screenshot
Tionggok_Router	<pre> Tionggok_Router&gt;enable Tionggok_Router#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Tionggok_Router(config)#interface s0/1/0 Tionggok_Router(config-if)#ip address 10.0.0.3 255.255.255.248 Tionggok_Router(config-if)#encapsulation frame-relay Tionggok_Router(config-if)#no shutdown Tionggok_Router(config-if)#frame-relay map ip 10.0.0.5 40 broadcast Tionggok_Router(config-if)#frame-relay map ip 10.0.0.4 41 broadcast Tionggok_Router(config-if)#frame-relay map ip 10.0.0.6 42 broadcast Tionggok_Router(config-if)#frame-relay map ip 10.0.0.2 43 broadcast Tionggok_Router(config-if)#exit Tionggok_Router(config)#router eigrp 25 Tionggok_Router(config-router)#network 192.0.10.0 0.0.0.255 Tionggok_Router(config-router)#network 192.0.11.0 0.0.0.127 Tionggok_Router(config-router)#network 192.0.11.128 0.0.0.63 Tionggok_Router(config-router)#network 192.0.11.192 0.0.0.63 Tionggok_Router(config-router)#network 192.0.12.0 0.0.0.7 Tionggok_Router(config-router)#network 10.0.0.0 0.0.0.7 Tionggok_Router(config-router)#no auto-summary Tionggok_Router(config-router)#exit Tionggok_Router(config)# </pre>

#### f. WAN (Frame Relay)

Device	Screenshot
PBB_Asia_FR	

PBB\_Asia\_FR



The screenshot shows the configuration window for PBB\_Asia\_FR. The 'Config' tab is active, and the 'Frame Relay' section is selected. A table lists the connections between ports and sublinks:

From Port	Sublink	To Port	Sublink
1 Serial4	to_tiongkok	Serial3	to_korut
2 Serial4	to_jepang	Serial1	to_korut
3 Serial4	to_korsel	Serial2	to_korut
4 Serial4	to_global	Serial9	to_korut
5 Serial3	to_jepang	Serial1	to_tiongkok
6 Serial3	to_korsel	Serial2	to_tiongkok
7 Serial3	to_global	Serial9	to_tiongkok
8 Serial1	to_korsel	Serial2	to_jepang
9 Serial1	to_global	Serial9	to_jepang

### g. ACL

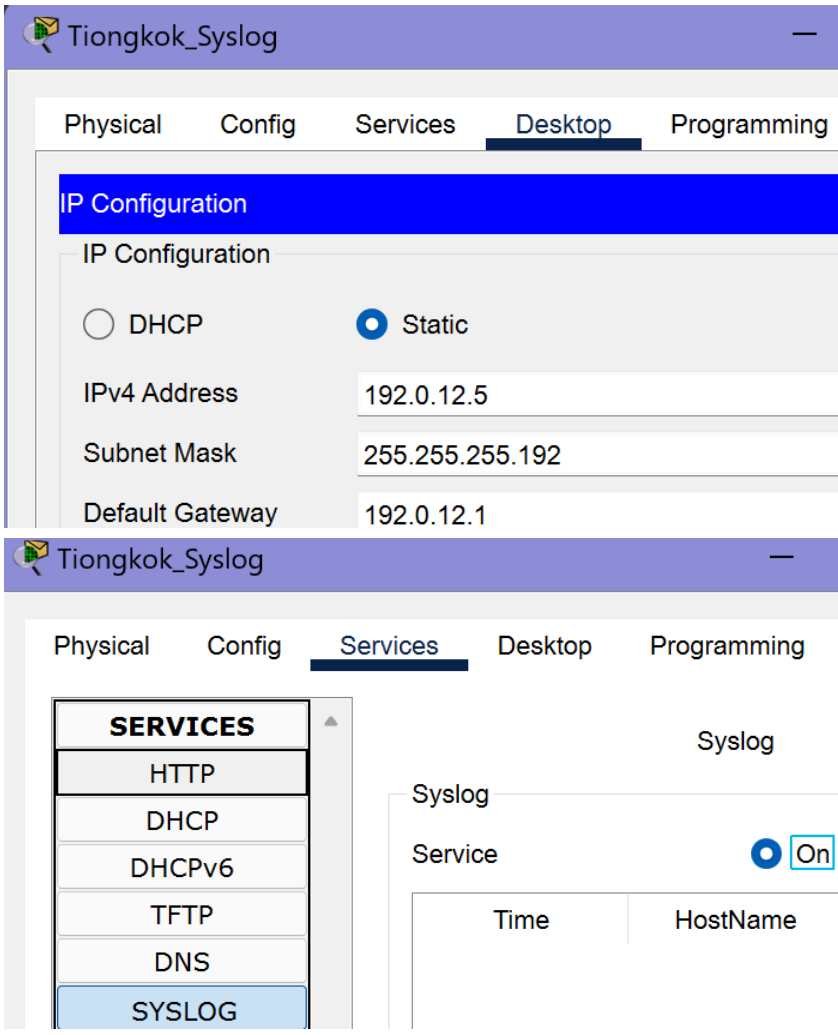
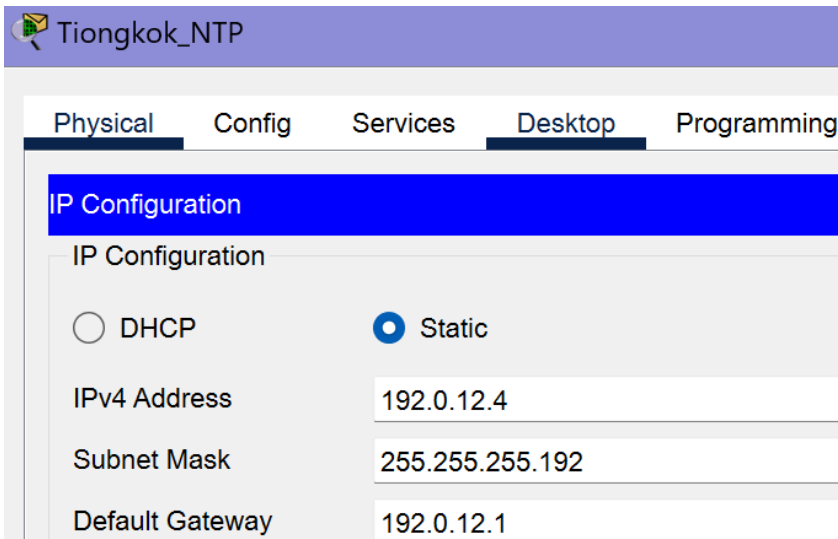
Device	Screenshot
Tiongkok_Router	<pre> Tiongkok_Router&gt;en Tiongkok_Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Tiongkok_Router(config)#access-list 100 permit ip 192.0.12.0 0.0.0.7 192.1.12.0 0.0.0.7 Tiongkok_Router(config)#access-list 100 permit ip 192.0.12.0 0.0.0.7 40.0.0.0 0.0.0.31 Tiongkok_Router(config)#access-list 100 permit ip 192.0.11.192 0.0.0.63 192.1.11.192 0.0.0.63 Tiongkok_Router(config)#access-list 100 permit ip 192.0.11.192 0.0.0.63 40.0.0.0 0.0.0.31 Tiongkok_Router(config)#access-list 100 deny ip 192.0.11.128 0.0.0.63 any Tiongkok_Router(config)#access-list 100 deny ip 192.0.10.0 0.0.0.255 any Tiongkok_Router(config)#access-list 100 deny ip 192.0.11.0 0.0.0.127 any Tiongkok_Router(config)#access-list 100 deny ip any 50.0.0.0 0.0.0.31 Tiongkok_Router(config)#access-list 100 permit ip any any Tiongkok_Router(config)# Tiongkok_Router(config)#interface serial0/1/0 Tiongkok_Router(config-if)# ip access-group 100 out Tiongkok_Router(config-if)# Tiongkok_Router(config-if)#access-list 101 permit gre host 10.0.0.3 host 10.0.0.5 Tiongkok_Router(config-if)#access-list 101 permit ip any any Tiongkok_Router(config)# Tiongkok_Router(config)#interface tunnel0 Tiongkok_Router(config-if)# ip access-group 101 in %LINK-5-CHANGED: Interface Tunnel0, changed state to up </pre>

### h. NAT

Device	Screenshot
Tiongkok_Router	<pre> Tiongkok_Router&gt;en Tiongkok_Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Tiongkok_Router(config)#access-list 10 permit 192.0.12.0 0.0.0.7 Tiongkok_Router(config)#access-list 10 permit 192.0.11.192 0.0.0.63 Tiongkok_Router(config)# Tiongkok_Router(config)#ip nat inside source list 10 interface serial0/1/0 overload Tiongkok_Router(config)# Tiongkok_Router(config)#interface g0/0/0 Tiongkok_Router(config-if)# ip nat inside Tiongkok_Router(config-if)#interface g0/0/1 Tiongkok_Router(config-if)# ip nat inside Tiongkok_Router(config-if)#interface serial0/1/0 Tiongkok_Router(config-if)# ip nat outside </pre>



## i. Syslog & NTP

Device	Screenshot
Tiongkok_Syslog	
Tiongkok_NTP	

Tiongkok\_NTP

Physical Config Services Desktop Programming

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

NTP

Service ☒ On

Authentication

☐ Enable
 ☒ Disable

Key:  Password:

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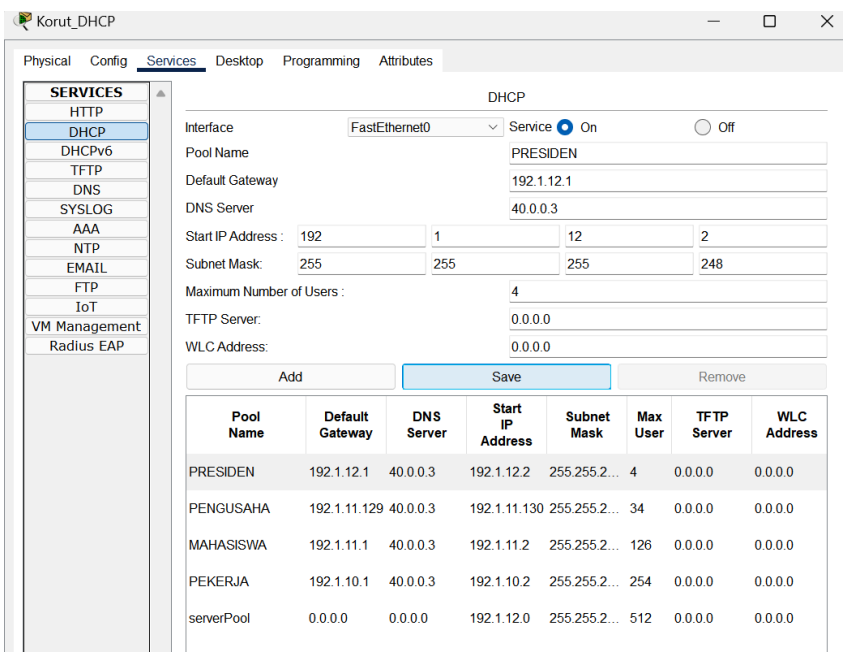


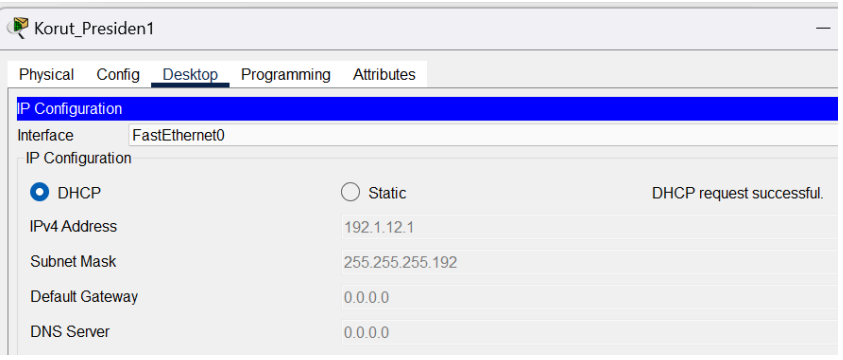
## 5.2 Korea Utara

### a. Hostnames

Device	Screenshot
Korut_Router	<pre>Router&gt;enable Router#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Router(config)#hostname Korut_Router Korut_Router(config)#</pre>
Korut_SW	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korut_SW Korut_SW(config)#</pre>
Korut_Presiden	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korut_Presiden Korut_Presiden(config)#</pre>
Korut_Pemerintah	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korut_Pemerintah Korut_Pemerintah(config)#</pre>
Korut_Masyarakat	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korut_Masyarakat Korut_Masyarakat(config)#</pre>
SW1_Korut	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname SW1_Korut SW1_Korut(config)#</pre>
SW2_Korut	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname SW2_Korut SW2_Korut(config)#</pre>
korut_Management	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname korut_Management korut_Management(config)#</pre>

## b. DHCP

Device	Screenshot
Korut_DHCP	
SW1_Korut	<pre> SW1_Korut&gt;en SW1_Korut#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Korut(config)#interface vlan 10 SW1_Korut(config-if)#ip address 192.1.12.1 255.255.255.248 SW1_Korut(config-if)#ip helper-address 192.1.12.3 SW1_Korut(config-if)#no shutdown SW1_Korut(config-if)#exit SW1_Korut(config)#interface vlan 20 SW1_Korut(config-if)#ip address 192.1.11.193 255.255.255.192 SW1_Korut(config-if)#ip helper-address 192.1.12.3 SW1_Korut(config-if)#no shutdown SW1_Korut(config-if)#exit SW1_Korut(config)#interface vlan 30 SW1_Korut(config-if)#ip address 192.1.11.129 255.255.255.192 SW1_Korut(config-if)#ip helper-address 192.1.12.3 SW1_Korut(config-if)#no shutdown SW1_Korut(config-if)#exit SW1_Korut(config)#interface vlan 40 SW1_Korut(config-if)#ip address 192.1.10.1 255.255.255.0 SW1_Korut(config-if)#ip helper-address 192.1.12.3 SW1_Korut(config-if)#no shutdown SW1_Korut(config-if)#exit SW1_Korut(config)#interface vlan 50 SW1_Korut(config-if)#ip address 192.1.11.1 255.255.255.128 SW1_Korut(config-if)#ip helper-address 192.1.12.3 SW1_Korut(config-if)#no shutdown SW1_Korut(config-if)#exit SW1_Korut(config)# </pre>

Pembuktian sukses	DHCP	
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### c. Etherchannel

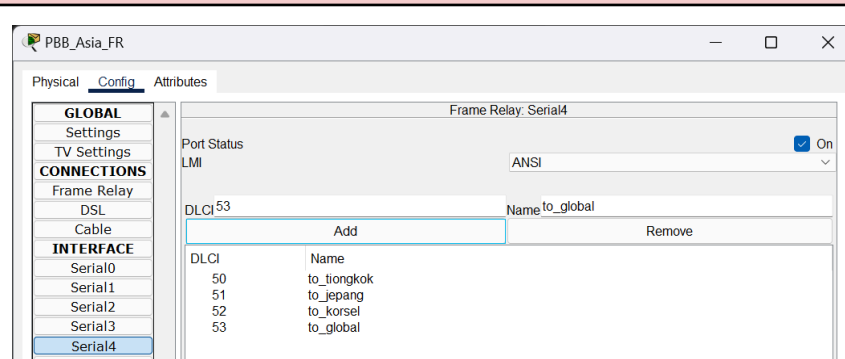
Device	Screenshot
SW1_Korut	<pre>SW1_Korut&gt;en SW1_Korut#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Korut(config)#int r fa0/23-24 SW1_Korut(config-if-range)#switchport trunk encapsulation dot1q SW1_Korut(config-if-range)#switchport mode trunk  SW1_Korut(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Korut(config-if-range)#channel-group 1 mode desirable SW1_Korut(config-if-range)#no shut  SW1_Korut(config-if-range)#int port-channel 1 SW1_Korut(config-if)#switchport trunk encapsulation dot1q SW1_Korut(config-if)#switchport mode trunk SW1_Korut(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Korut(config-if)#no shut</pre>
SW2_Korut	<pre>SW2_Korut&gt;en SW2_Korut#conf t Enter configuration commands, one per line. End with CNTL/Z. SW2_Korut(config)#int r fa0/23-24 SW2_Korut(config-if-range)#switchport trunk encapsulation dot1q SW2_Korut(config-if-range)#switchport mode trunk SW2_Korut(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Korut(config-if-range)#channel-group 1 mode auto SW2_Korut(config-if-range)#no shut  SW2_Korut(config-if-range)#int port-channel 1 SW2_Korut(config-if)#switchport trunk encapsulation dot1q SW2_Korut(config-if)#switchport mode trunk SW2_Korut(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Korut(config-if)#no shut</pre>

### d. EIGRP

Device	Screenshot
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Korut_Router	<pre> Korut_Router&gt;enable Korut_Router#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Korut_Router(config)#interface s0/1/0 Korut_Router(config-if)#ip address 10.0.0.5 255.255.255.248 Korut_Router(config-if)#encapsulation frame-relay Korut_Router(config-if)#no shutdown Korut_Router(config-if)#frame-relay map ip 10.0.0.3 50 broadcast Korut_Router(config-if)#frame-relay map ip 10.0.0.4 51 broadcast Korut_Router(config-if)#frame-relay map ip 10.0.0.6 52 broadcast Korut_Router(config-if)#frame-relay map ip 10.0.0.2 53 broadcast Korut_Router(config-if)#exit Korut_Router(config)#router eigrp 25 Korut_Router(config-router)#network 192.1.10.0 0.0.0.255 Korut_Router(config-router)#network 192.1.11.0 0.0.0.127 Korut_Router(config-router)#network 192.1.11.128 0.0.0.63 Korut_Router(config-router)#network 192.1.11.192 0.0.0.63 Korut_Router(config-router)#network 192.1.12.0 0.0.0.7 Korut_Router(config-router)#network 10.0.0.0 0.0.0.7 Korut_Router(config-router)#no auto-summary Korut_Router(config-router)#exit Korut_Router(config)# </pre>
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#### e. WAN (Frame Relay)

Device	Screenshot
PBB_Asia_FR	

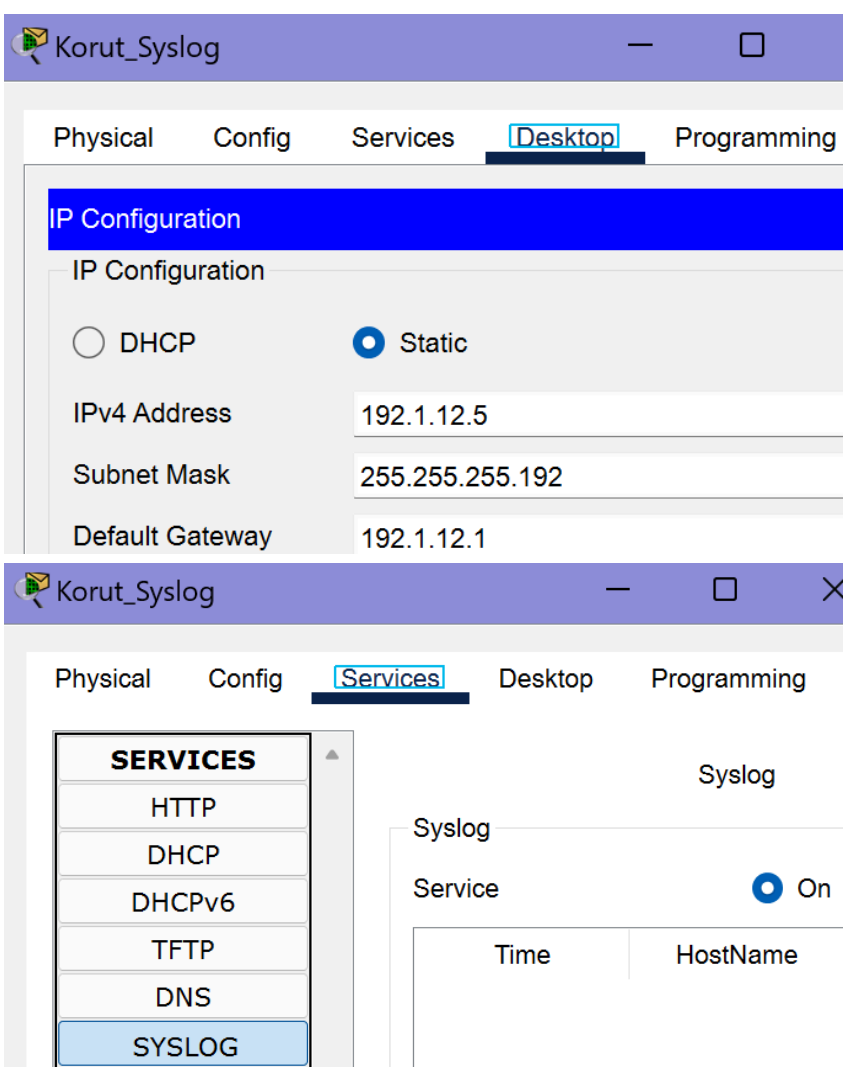
#### f. ACL

Device	Screenshot
Korut_Router	<pre> Korut_Router&gt;en Korut_Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Korut_Router(config)#access-list 100 permit ip 192.1.12.0 0.0.0.7 192.0.12.0 0.0.0.7 Korut_Router(config)#access-list 100 permit ip 192.1.12.0 0.0.0.7 40.0.0.0 0.0.0.31 Korut_Router(config)#access-list 100 deny ip 192.1.11.192 0.0.0.63 any Korut_Router(config)#access-list 100 deny ip 192.1.11.128 0.0.0.63 any Korut_Router(config)#access-list 100 deny ip 192.1.10.0 0.0.0.255 any Korut_Router(config)#access-list 100 deny ip 192.1.11.0 0.0.0.127 any Korut_Router(config)#access-list 100 deny ip any 50.0.0.0 0.0.0.31 Korut_Router(config)#access-list 100 permit ip any any Korut_Router(config)# Korut_Router(config)#interface serial0/1/0 Korut_Router(config-if)# ip access-group 100 out Korut_Router(config-if)# Korut_Router(config-if)#access-list 101 permit gre host 10.0.0.5 host 10.0.0.3 Korut_Router(config)#access-list 101 permit ip any any Korut_Router(config)# Korut_Router(config)#interface tunnel0 Korut_Router(config-if)# ip access-group 101 in </pre>

### g. NAT

Device	Screenshot
Korut_Router	<pre> Korut_Router&gt;en Korut_Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Korut_Router(config)#access-list 10 permit 192.1.12.0 0.0.0.7 Korut_Router(config)# Korut_Router(config)#ip nat inside source list 10 interface serial0/1/0 overload Korut_Router(config)# Korut_Router(config)#interface g0/0/0 Korut_Router(config-if)# ip nat inside Korut_Router(config-if)#interface g0/0/1 Korut_Router(config-if)# ip nat inside Korut_Router(config-if)#interface serial0/1/0 Korut_Router(config-if)# ip nat outside </pre>

### h. Syslog & NTP

Device	Screenshot
Korut_Syslog	 <p>The top screenshot shows the 'Desktop' tab of the Korut_Syslog interface. Under 'IP Configuration', the 'Static' option is selected. The IPv4 Address is 192.1.12.5, Subnet Mask is 255.255.255.192, and Default Gateway is 192.1.12.1.</p> <p>The bottom screenshot shows the 'Services' tab of the Korut_Syslog interface. The 'Syslog' service is listed in the 'SERVICES' list and is turned 'On'.</p>

Korut\_NTP

Korut\_NTP

Physical Config Services Desktop Programming

IP Configuration

IP Configuration

☐ DHCP
 ☒ Static

IPv4 Address 192.1.12.4

Subnet Mask 255.255.255.192

Default Gateway 192.1.12.1

Korut\_NTP

Physical Config Services Desktop Programming

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

NTP

Service ☒ On

Authentication

☐ Enable
 ☒ Disable

Key: Password

May 2025

## 5.3 Jepang

### a. Hostnames

Device	Screenshot
Jepang_Router	<pre>Router&gt;enable Router#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Router(config)#hostname Jepang_Router Jepang_Router(config)#</pre>
Jepang_SW	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Jepang_SW Jepang_SW(config)#</pre>
Jepang_Presiden	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Jepang_Presiden Jepang_Presiden(config)#</pre>
Jepang_Pemerintah	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Jepang_Pemerintah Jepang_Pemerintah(config)#</pre>
Jepang_Masyarakat	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname Jepang_Masyarakat Jepang_Masyarakat(config)#</pre>
SW1_Jepang	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname SW1_Jepang SW1_Jepang(config)#</pre>
SW2_Jepang	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line.  End with CNTL/Z. Switch(config)#hostname SW2_Jepang SW2_Jepang(config)#</pre>



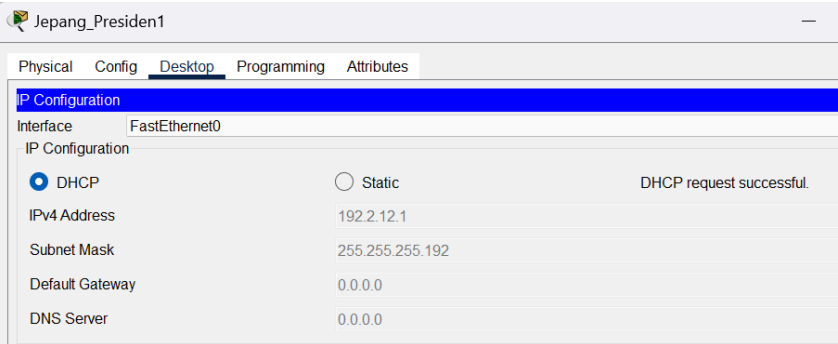
Jepang_Management	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Jepang_Management Jepang_Management(config)#</pre>
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## b. DHCP

Device	Screenshot																																																								
Jepang_DHCP	<div><div><div>Physical</div><div>Config</div><div>Services</div><div>Desktop</div><div>Programming</div><div>Attributes</div></div><div><div>SERVICES</div><div>HTTP</div><div>DHCP</div><div>DHCPv6</div><div>TFTP</div><div>DNS</div><div>SYSLOG</div><div>AAA</div><div>NTP</div><div>EMAIL</div><div>FTP</div><div>IoT</div><div>VM Management</div><div>Radius EAP</div></div></div> <div><div>DHCP</div><div>InterfaceFastEthernet0ServiceOnOff</div><div>Pool NamePRESIDEN</div><div>Default Gateway192.2.12.1</div><div>DNS Server40.0.0.3</div><div>Start IP Address : 19221221212</div><div>Subnet Mask255255255248</div><div>Maximum Number of Users :4</div><div>TFTP Server:0.0.0.0</div><div>WLC Address:0.0.0.0</div><div>AddSaveRemove</div><table><thead><tr><th>Pool Name</th><th>Default Gateway</th><th>DNS Server</th><th>Start IP Address</th><th>Subnet Mask</th><th>Max User</th><th>TFTP Server</th><th>WLC Address</th></tr></thead><tbody><tr><td>PRESIDEN</td><td>192.2.12.1</td><td>40.0.0.3</td><td>192.2.12.12</td><td>255.255.2...</td><td>4</td><td>0.0.0.0</td><td>0.0.0.0</td></tr><tr><td>PEMERINTAH</td><td>192.2.11.193</td><td>40.0.0.3</td><td>192.2.10.194</td><td>255.255.2...</td><td>6</td><td>0.0.0.0</td><td>0.0.0.0</td></tr><tr><td>MAHASISWA</td><td>192.2.11.1</td><td>40.0.0.3</td><td>192.2.10.2</td><td>255.255.2...</td><td>126</td><td>0.0.0.0</td><td>0.0.0.0</td></tr><tr><td>PEKERJA</td><td>192.2.10.1</td><td>40.0.0.3</td><td>192.2.10.3</td><td>255.255.2...</td><td>253</td><td>0.0.0.0</td><td>0.0.0.0</td></tr><tr><td>PENGUSAHA</td><td>192.2.11.129</td><td>40.0.0.3</td><td>192.2.10.130</td><td>255.255.2...</td><td>34</td><td>0.0.0.0</td><td>0.0.0.0</td></tr><tr><td>serverPool</td><td>0.0.0.0</td><td>0.0.0.0</td><td>192.2.12.0</td><td>255.255.2...</td><td>512</td><td>0.0.0.0</td><td>0.0.0.0</td></tr></tbody></table></div>	Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address	PRESIDEN	192.2.12.1	40.0.0.3	192.2.12.12	255.255.2...	4	0.0.0.0	0.0.0.0	PEMERINTAH	192.2.11.193	40.0.0.3	192.2.10.194	255.255.2...	6	0.0.0.0	0.0.0.0	MAHASISWA	192.2.11.1	40.0.0.3	192.2.10.2	255.255.2...	126	0.0.0.0	0.0.0.0	PEKERJA	192.2.10.1	40.0.0.3	192.2.10.3	255.255.2...	253	0.0.0.0	0.0.0.0	PENGUSAHA	192.2.11.129	40.0.0.3	192.2.10.130	255.255.2...	34	0.0.0.0	0.0.0.0	serverPool	0.0.0.0	0.0.0.0	192.2.12.0	255.255.2...	512	0.0.0.0	0.0.0.0
Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address																																																		
PRESIDEN	192.2.12.1	40.0.0.3	192.2.12.12	255.255.2...	4	0.0.0.0	0.0.0.0																																																		
PEMERINTAH	192.2.11.193	40.0.0.3	192.2.10.194	255.255.2...	6	0.0.0.0	0.0.0.0																																																		
MAHASISWA	192.2.11.1	40.0.0.3	192.2.10.2	255.255.2...	126	0.0.0.0	0.0.0.0																																																		
PEKERJA	192.2.10.1	40.0.0.3	192.2.10.3	255.255.2...	253	0.0.0.0	0.0.0.0																																																		
PENGUSAHA	192.2.11.129	40.0.0.3	192.2.10.130	255.255.2...	34	0.0.0.0	0.0.0.0																																																		
serverPool	0.0.0.0	0.0.0.0	192.2.12.0	255.255.2...	512	0.0.0.0	0.0.0.0																																																		
SW1_Jepang	<pre>SW1_Jepang&gt; SW1_Jepang&gt;en SW1_Jepang#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Jepang(config)#interface vlan 10 SW1_Jepang(config-if)#ip address 192.2.12.1 255.255.255.248 SW1_Jepang(config-if)#ip helper-address 192.2.12.3 SW1_Jepang(config-if)#no shutdown SW1_Jepang(config-if)#exit SW1_Jepang(config)#interface vlan 20 SW1_Jepang(config-if)#ip address 192.2.11.193 255.255.255.192 SW1_Jepang(config-if)#ip helper-address 192.2.12.3 SW1_Jepang(config-if)#no shutdown SW1_Jepang(config-if)#exit SW1_Jepang(config)#interface vlan 30 SW1_Jepang(config-if)#ip address 192.2.11.129 255.255.255.192 SW1_Jepang(config-if)#ip helper-address 192.2.12.3 SW1_Jepang(config-if)#no shutdown SW1_Jepang(config-if)#exit SW1_Jepang(config)#interface vlan 40 SW1_Jepang(config-if)#ip address 192.2.10.1 255.255.255.0 SW1_Jepang(config-if)#ip helper-address 192.2.12.3 SW1_Jepang(config-if)#no shutdown SW1_Jepang(config-if)#exit SW1_Jepang(config)#interface vlan 50 SW1_Jepang(config-if)#ip address 192.2.11.1 255.255.255.128 SW1_Jepang(config-if)#ip helper-address 192.2.12.3 SW1_Jepang(config-if)#no shutdown SW1_Jepang(config-if)#exit SW1_Jepang(config)#</pre>																																																								



### c. Etherchannel

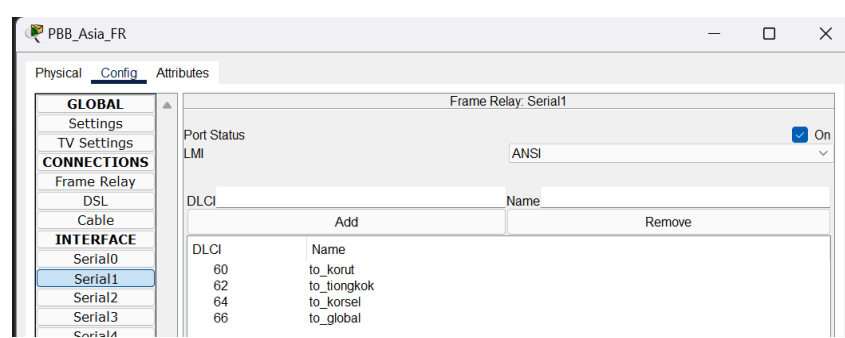
Device	Screenshot
SW1_Jepang	<pre> SW1_Jepang&gt;en SW1_Jepang#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Jepang(config)#int r fa0/23-24 SW1_Jepang(config-if-range)#switchport trunk encapsulation dot1q SW1_Jepang(config-if-range)#switchport mode trunk  SW1_Jepang(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Jepang(config-if-range)#channel-group 1 mode desirable SW1_Jepang(config-if-range)#no shut  SW1_Jepang(config-if-range)#int port-channel 1 SW1_Jepang(config-if)#switchport trunk encapsulation dot1q SW1_Jepang(config-if)#switchport mode trunk SW1_Jepang(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Jepang(config-if)#no shut </pre>
SW2_Jepang	<pre> SW2_Jepang&gt;en SW2_Jepang#conf t Enter configuration commands, one per line. End with CNTL/Z. SW2_Jepang(config)#int r fa0/23-24 SW2_Jepang(config-if-range)#switchport trunk encapsulation dot1q SW2_Jepang(config-if-range)#switchport mode trunk SW2_Jepang(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Jepang(config-if-range)#channel-group 1 mode auto SW2_Jepang(config-if-range)#no shut  SW2_Jepang(config-if-range)#int port-channel 1 SW2_Jepang(config-if)#switchport trunk encapsulation dot1q SW2_Jepang(config-if)#switchport mode trunk SW2_Jepang(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Jepang(config-if)#no shut </pre>
Pembuktian sukses DHCP	

### d. EIGRP

Device	Screenshot
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Jepang_Router	<pre> Jepang_Router&gt;enable Jepang_Router#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Jepang_Router(config)#interface s0/1/0 Jepang_Router(config-if)#ip address 10.0.0.4 255.255.255.248 Jepang_Router(config-if)#encapsulation frame-relay Jepang_Router(config-if)#no shutdown Jepang_Router(config-if)#frame-relay map ip 10.0.0.5 60 broadcast Jepang_Router(config-if)#frame-relay map ip 10.0.0.3 62 broadcast Jepang_Router(config-if)#frame-relay map ip 10.0.0.6 64 broadcast Jepang_Router(config-if)#frame-relay map ip 10.0.0.2 66 broadcast Jepang_Router(config-if)#exit Jepang_Router(config)#router eigrp 25 Jepang_Router(config-router)#network 192.2.10.0 0.0.0.255 Jepang_Router(config-router)#network 192.2.11.0 0.0.0.127 Jepang_Router(config-router)#network 192.2.11.128 0.0.0.63 Jepang_Router(config-router)#network 192.2.11.192 0.0.0.63 Jepang_Router(config-router)#network 192.2.12.0 0.0.0.7 Jepang_Router(config-router)#network 10.0.0.0 0.0.0.7 Jepang_Router(config-router)#no auto-summary Jepang_Router(config-router)#exit Jepang_Router(config)# </pre>
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#### e. WAN (Frame Relay)

Device	Screenshot
PBB_Asia_FR	

#### f. ACL

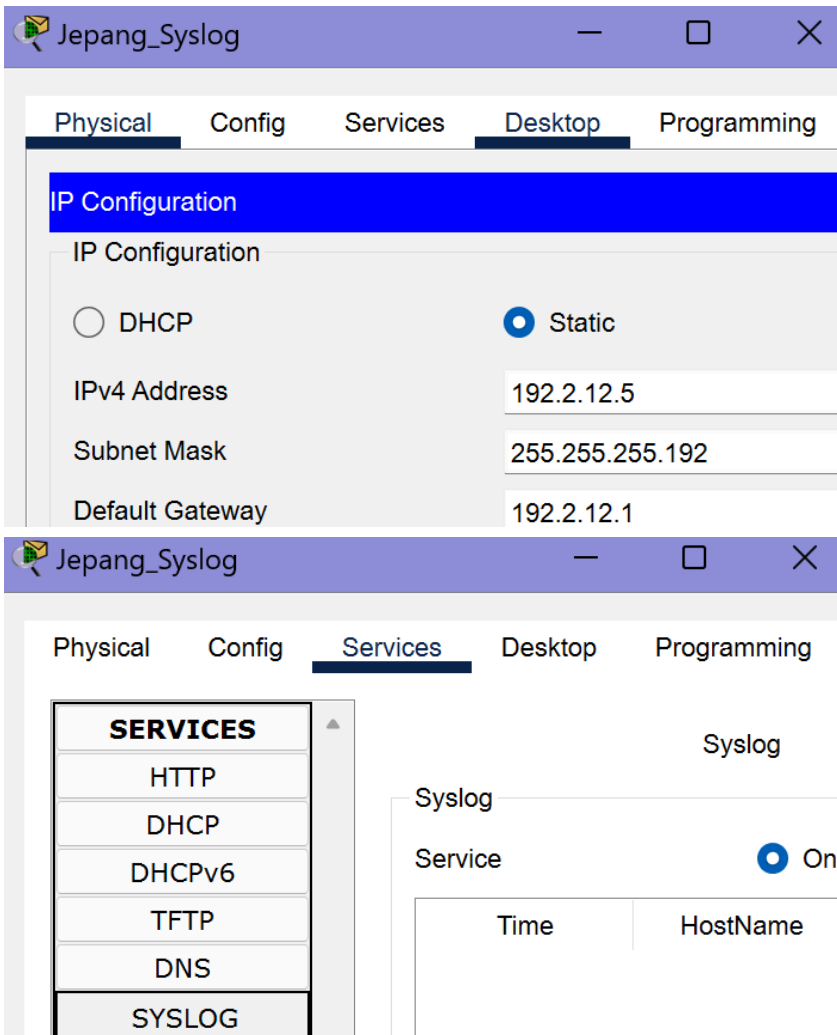
Device	Screenshot
Jepang_Router	<pre> Jepang_Router&gt;en Jepang_Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Jepang_Router(config)#access-list 100 permit ip any any Jepang_Router(config)#access-list 100 permit ip any 50.0.0.0 0.0.0.31 Jepang_Router(config)# Jepang_Router(config)#interface serial0/1/0 Jepang_Router(config-if)# ip access-group 100 out </pre>

#### g. NAT

Device	Screenshot
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Jepang_Router	<pre> Jepang_Router(config)#interface g0/0/0 Jepang_Router(config-if)# ip nat inside Jepang_Router(config-if)#interface g0/0/1 Jepang_Router(config-if)# ip nat inside Jepang_Router(config-if)#interface serial0/1/0 Jepang_Router(config-if)# ip nat outside </pre>
---------------	---

## h. Syslog & NTP

Device	Screenshot
Jepang_Syslog	

Jepang\_NTP

Jepang\_NTP

Physical Config Services **Desktop** Programming

IP Configuration

IP Configuration

☐ DHCP
 ☒ Static

IPv4 Address 192.2.12.4

Subnet Mask 255.255.255.192

Default Gateway 192.2.12.1

Jepang\_NTP

Physical Config **Services** Desktop Programming

**SERVICES**

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

NTP

Service ☒ On

Authentication

☐ Enable
 ☒ Disable

Key:  Passwor

←

May\_ 2025

## 5.4 Korea Selatan

### a. Konfigurasi Hostnames

Device	Screenshot
Korsel_Router	<pre>Router&gt;enable Router#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Router(config)#hostname Korsel_Router Korsel_Router(config)#</pre>
Korsel_SW	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korsel_SW Korsel_SW(config)#</pre>
Korsel_Presiden	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korsel_Presiden Korsel_Presiden(config)#</pre>
Korsel_Pemerintah	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korsel_Pemerintah Korsel_Pemerintah(config)#</pre>
Korsel_Masyarakat	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korsel_Masyarakat Korsel_Masyarakat(config)#</pre>
SW1_Korsel	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname SW1_Korsel SW1_Korsel(config)#</pre>
SW2_Korsel	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname SW2_Korsel SW2_Korsel(config)#</pre>
Korsel_Management	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Korsel_Management Korsel_Management(config)#</pre>

### b. DHCP

Device	Screenshot
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## Korsel\_DHCP

Korsel\_DHCP

Physical Config **Services** Desktop Programming Attributes

**SERVICES**

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

**DHCP**

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: PRESIDEN

Default Gateway: 192.3.12.1

DNS Server: 40.0.0.3

Start IP Address: 192.3.12.3 Subnet Mask: 255.255.255.248

Maximum Number of Users: 4

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
PRESIDEN	192.3.12.1	40.0.0.3	192.3.12.3	255.255.255.248	4	0.0.0.0	0.0.0.0
PENGUSAHA	192.3.11.129	40.0.0.3	192.3.11.130	255.255.255.248	34	0.0.0.0	0.0.0.0
PEMERINTAH	192.3.11.193	40.0.0.3	192.3.11.194	255.255.255.248	6	0.0.0.0	0.0.0.0
MAHASISWA	192.3.11.1	40.0.0.3	192.3.11.2	255.255.255.248	126	0.0.0.0	0.0.0.0
PEKERJA	192.3.10.1	40.0.0.3	192.3.10.2	255.255.255.248	254	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	192.3.12.0	255.255.255.248	512	0.0.0.0	0.0.0.0

## SW1\_Korsel

```
SW1_Korsel>en
SW1_Korsel#conf t
Enter configuration commands, one per line. End with CNTL/Z.
SW1_Korsel(config)#interface vlan 10
SW1_Korsel(config-if)#ip address 192.3.12.1 255.255.255.248
SW1_Korsel(config-if)#ip helper-address 192.3.12.3
SW1_Korsel(config-if)#no shutdown
SW1_Korsel(config-if)#exit
SW1_Korsel(config)#interface vlan 20
SW1_Korsel(config-if)#ip address 192.3.11.193 255.255.255.192
SW1_Korsel(config-if)#ip helper-address 192.3.12.3
SW1_Korsel(config-if)#no shutdown
SW1_Korsel(config-if)#exit
SW1_Korsel(config)#interface vlan 30
SW1_Korsel(config-if)#ip address 192.3.11.129 255.255.255.192
SW1_Korsel(config-if)#ip helper-address 192.3.12.3
SW1_Korsel(config-if)#no shutdown
SW1_Korsel(config-if)#exit
SW1_Korsel(config)#interface vlan 40
SW1_Korsel(config-if)#ip address 192.3.10.1 255.255.255.0
SW1_Korsel(config-if)#ip helper-address 192.3.12.3
SW1_Korsel(config-if)#no shutdown
SW1_Korsel(config-if)#exit
SW1_Korsel(config)#interface vlan 50
SW1_Korsel(config-if)#ip address 192.3.11.1 255.255.255.128
SW1_Korsel(config-if)#ip helper-address 192.3.12.3
SW1_Korsel(config-if)#no shutdown
SW1_Korsel(config-if)#exit
SW1_Korsel(config)#
```

## Pembuktian DHCP sukses

Korsel\_Presiden1

Physical Config **Desktop** Programming Attributes

**IP Configuration**

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 192.3.12.1

Subnet Mask: 255.255.255.192

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

### c. Etherchannel

Device	Screenshot
SW1_Korsel	<pre> SW1_Korsel&gt;en SW1_Korsel#conf t Enter configuration commands, one per line. End with CNTL/Z. SW1_Korsel(config)#int r fa0/23-24 SW1_Korsel(config-if-range)#switchport trunk encapsulation dot1q SW1_Korsel(config-if-range)#switchport mode trunk  SW1_Korsel(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Korsel(config-if-range)#channel-group 1 mode desirable SW1_Korsel(config-if-range)#no shut  SW1_Korsel(config-if-range)#int port-channel 1 SW1_Korsel(config-if)#switchport trunk encapsulation dot1q SW1_Korsel(config-if)#switchport mode trunk SW1_Korsel(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW1_Korsel(config-if)#no shut </pre>
SW2_Korsel	<pre> SW2_Korsel&gt;en SW2_Korsel#conf t Enter configuration commands, one per line. End with CNTL/Z. SW2_Korsel(config)#int r fa0/23-24 SW2_Korsel(config-if-range)#switchport trunk encapsulation dot1q SW2_Korsel(config-if-range)#switchport mode trunk SW2_Korsel(config-if-range)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Korsel(config-if-range)#channel-group 1 mode auto SW2_Korsel(config-if-range)#no shut  SW2_Korsel(config-if-range)#int port-channel 1 SW2_Korsel(config-if)#switchport trunk encapsulation dot1q SW2_Korsel(config-if)#switchport mode trunk SW2_Korsel(config-if)#switchport trunk allowed vlan 10,20,30,40,50 SW2_Korsel(config-if)#no shut </pre>

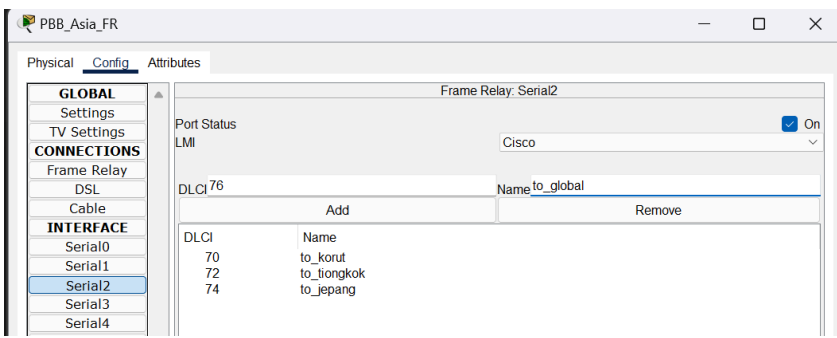
### d. EIGRP

Device	Screenshot
Korsel_Router	<pre> Korsel_Router&gt;enable Korsel_Router#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Korsel_Router(config)#interface s0/1/0 Korsel_Router(config-if)#ip address 10.0.0.6 255.255.255.248 Korsel_Router(config-if)#encapsulation frame-relay Korsel_Router(config-if)#no shutdown Korsel_Router(config-if)#frame-relay map ip 10.0.0.5 70 broadcast Korsel_Router(config-if)#frame-relay map ip 10.0.0.3 72 broadcast Korsel_Router(config-if)#frame-relay map ip 10.0.0.4 74 broadcast Korsel_Router(config-if)#frame-relay map ip 10.0.0.2 76 broadcast Korsel_Router(config-if)#exit Korsel_Router(config)#router eigrp 25 Korsel_Router(config-router)#network 192.3.10.0 0.0.0.255 Korsel_Router(config-router)#network 192.3.11.0 0.0.0.127 Korsel_Router(config-router)#network 192.3.11.128 0.0.0.63 Korsel_Router(config-router)#network 192.3.11.192 0.0.0.63 Korsel_Router(config-router)#network 192.3.12.0 0.0.0.7 Korsel_Router(config-router)#network 10.0.0.0 0.0.0.7 Korsel_Router(config-router)#no auto-summary Korsel_Router(config-router)#exit Korsel_Router(config)# %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up </pre>

### e. WAN (Frame Relay)

Device	Screenshot
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PBB_Asia_FR	
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#### f. ACL

Device	Screenshot
Korsel_Router	<pre> Korsel_Router&gt;en Korsel_Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Korsel_Router(config)#access-list 100 permit ip any any Korsel_Router(config)#access-list 100 permit ip any 50.0.0.0 0.0.0.31 Korsel_Router(config)# Korsel_Router(config)#interface serial0/1/0 Korsel Router(config-if)# ip access-group 100 out </pre>

#### g. NAT

Device	Screenshot
Korsel_Router	<pre> Korsel_Router(config)# Korsel_Router(config)#interface g0/0/0 Korsel_Router(config-if)# ip nat inside Korsel_Router(config-if)#interface g0/0/1 Korsel_Router(config-if)# ip nat inside Korsel_Router(config-if)#interface serial0/1/0 Korsel_Router(config-if)# ip nat outside Korsel Router(config-if)# </pre>

#### h. Syslog & NTP

Device	Screenshot
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Korsel\_Syslog

Korsel\_Syslog

Physical Config Services Desktop Programming

IP Configuration

IP Configuration

☐ DHCP
 ☒ Static

IPv4 Address 192.3.12.5

Subnet Mask 255.255.255.192

Default Gateway 192.3.12.1

Korsel\_Syslog

Physical Config Services Desktop Programming

SERVICES

HTTP  
 DHCP  
 DHCPv6  
 TFTP  
 DNS  
**SYSLOG**

Syslog

Syslog

Service ☒ On

Time

HostName

Korsel\_NTP

Korsel\_Syslog

Physical Config Services Desktop Programming

SERVICES

HTTP  
 DHCP  
 DHCPv6  
 TFTP  
 DNS  
**SYSLOG**

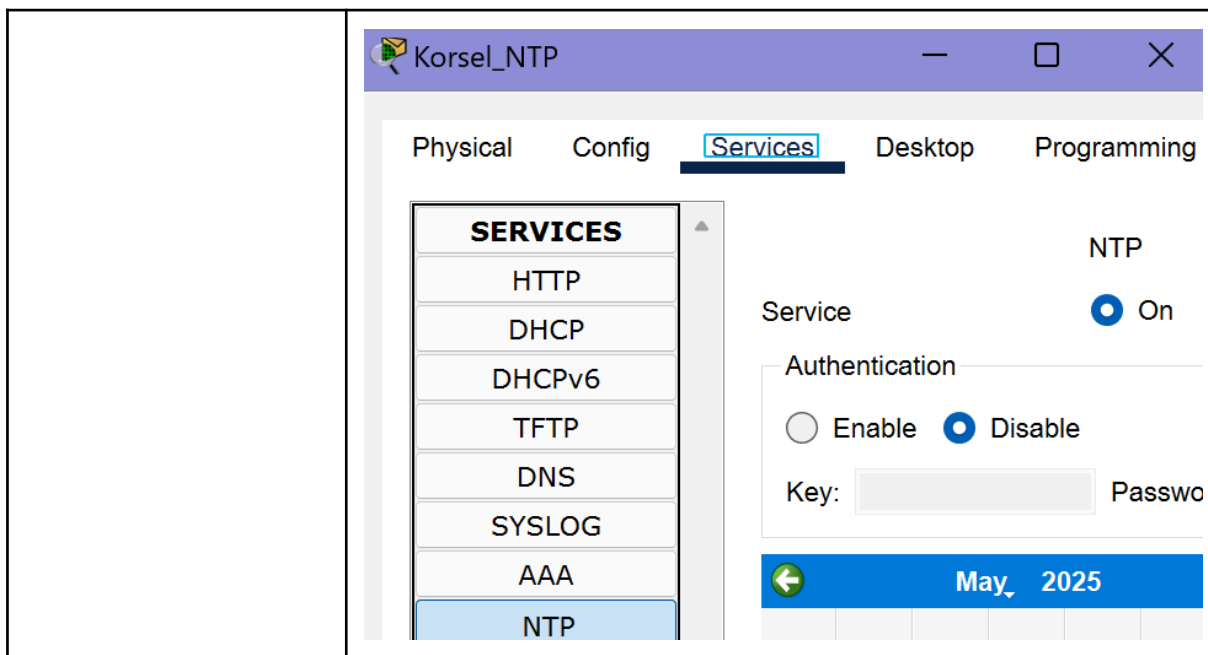
Syslog

Syslog

Service ☒ On

Time

HostName



## 5.4 PBB

### a. Hostnames

Device	Screenshot
PBB_SW	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)# Switch(config)#hostname PBB_SW</pre>

### b. WAN (Frame Relay)

Device	Screenshot
PBB_Asia_FR	<div><div><div><div><div>Physical</div><div>Config</div><div>Attributes</div></div><div><div><div>GLOBAL</div><div>Settings</div><div>TV Settings</div><div>CONNECTIONS</div><div>Frame Relay</div><div>DSL</div><div>Cable</div><div>INTERFACE</div><div>Serial0</div><div>Serial1</div><div>Serial2</div><div>Serial3</div><div>Serial4</div><div>Modem5</div><div>Ethernet6</div><div>Coaxial7</div><div>Serial9</div></div></div></div><div><div><div>Frame Relay</div><div>Serial0Serial</div></div></div></div></div>

### c. EIGRP

Device	Screenshot
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PBB_SW	<pre> Router_Global&gt;enable Router_Global#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Router_Global(config)#interface s0/1/0 Router_Global(config-if)#ip address 10.0.0.2 255.255.255.248 Router_Global(config-if)#encapsulation frame-relay Router_Global(config-if)#no shutdown Router_Global(config-if)#frame-relay map ip 10.0.0.5 80 broadcast Router_Global(config-if)#frame-relay map ip 10.0.0.3 82 broadcast Router_Global(config-if)#frame-relay map ip 10.0.0.4 84 broadcast Router_Global(config-if)#frame-relay map ip 10.0.0.6 86 broadcast Router_Global(config-if)#exit Router_Global(config)#interface g0/0/0 Router_Global(config-if)#ip address 192.168.100.1 255.255.255.0 Router_Global(config-if)#no shutdown Router_Global(config-if)#exit Router_Global(config)#router eigrp 25 Router_Global(config-router)#network 192.168.100.0 0.0.0.255 Router_Global(config-router)#network 10.0.0.0 0.0.0.7 Router_Global(config-router)#no auto-summary Router_Global(config-router)#exit Router_Global(config)# </pre>
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#### d. ACL

Device	Screenshot
PBB_Router	<pre> Router&gt;en Router#conf t Enter configuration commands, one per line. End with CNTL/Z. Router(config)#access-list 100 permit ip 192.0.12.0 0.0.0.7 192.2.12.0 0.0.0.7 Router(config)#access-list 100 permit ip 192.0.12.0 0.0.0.7 192.3.12.0 0.0.0.7 Router(config)#access-list 100 permit ip 192.0.11.192 0.0.0.63 192.2.11.192 0.0.0.63 Router(config)#access-list 100 permit ip 192.0.11.192 0.0.0.63 192.3.11.192 0.0.0.63 Router(config)#access-list 100 permit ip 192.1.12.0 0.0.0.7 192.2.12.0 0.0.0.7 Router(config)#access-list 100 permit ip 192.1.12.0 0.0.0.7 192.3.12.0 0.0.0.7 Router(config)#access-list 100 permit ip 192.2.0.0 0.0.255.255 192.3.0.0 0.0.255.255 Router(config)#access-list 100 permit ip 192.3.0.0 0.0.255.255 192.2.0.0 0.0.255.255 Router(config)#access-list 100 permit ip any 40.0.0.0 0.0.0.31 Router(config)#access-list 100 permit ip 40.0.0.0 0.0.0.31 any Router(config)#access-list 100 deny ip 192.0.0.0 0.0.255.255 192.2.0.0 0.0.255.255 Router(config)#access-list 100 deny ip 192.0.0.0 0.0.255.255 192.3.0.0 0.0.255.255 Router(config)#access-list 100 deny ip 192.1.0.0 0.0.255.255 192.2.0.0 0.0.255.255 Router(config)#access-list 100 deny ip 192.1.0.0 0.0.255.255 192.3.0.0 0.0.255.255 Router(config)#access-list 100 permit ip any any Router(config)# Router(config)#interface g0/0/0 Router(config-if)# ip access-group 100 in </pre>

#### e. NAT

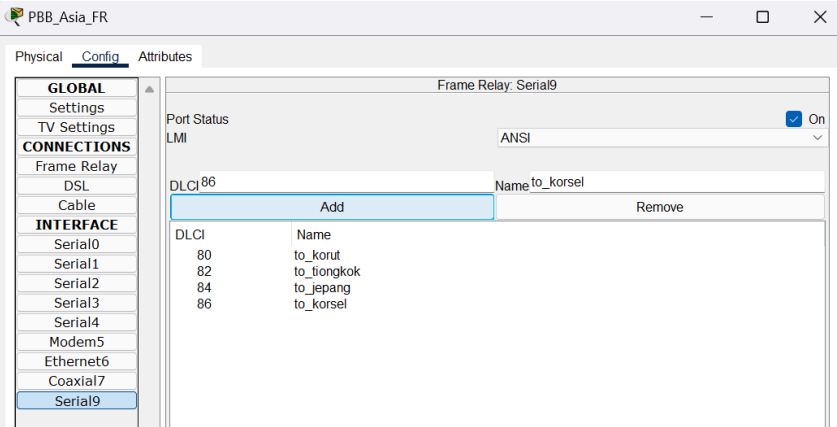
Device	Screenshot
PBB_Router	<pre> Router(config)#ip nat inside source list 10 interface serial0/1/0 overload Router(config)# Router(config)#ip nat inside source static 40.0.0.4 40.0.0.4 Router(config)#ip nat inside source static 40.0.0.5 40.0.0.5 Router(config)# Router(config)#interface g0/0/0 Router(config-if)# ip nat inside Router(config-if)#interface serial0/1/0 Router(config-if)# ip nat outside </pre>

## 5.4 Global

### a. Hostnames

Device	Screenshot
Global_SW	<pre>Switch&gt;enable Switch#configure terminal Enter configuration commands, one per line. End with CNTL/Z. Switch(config)#hostname Global_SW Global_SW(config)#</pre>

### b. WAN (Frame Relay)

Device	Screenshot
PBB_Asia_FR	

### c. ACL

Device	Screenshot
Router_Global	<pre>Router_Global&gt;en Router_Global#conf t Enter configuration commands, one per line. End with CNTL/Z. Router_Global(config)#access-list 100 deny ip 192.0.0.0 0.0.255.255 any Router_Global(config)#access-list 100 deny ip 192.1.0.0 0.0.255.255 any Router_Global(config)#access-list 100 permit ip 192.2.0.0 0.0.255.255 any Router_Global(config)#access-list 100 permit ip 192.3.0.0 0.0.255.255 any Router_Global(config)#access-list 100 permit ip 40.0.0.0 0.0.0.31 any Router_Global(config)#access-list 100 permit ip any any Router_Global(config)# Router_Global(config)#interface s0/1/0 Router_Global(config-if)# ip access-group 100 in</pre>

### d. NAT

Device	Screenshot
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Router\_Global

```
Router_Global(config)#access-list 10 permit 50.0.0.0 0.0.0.31
Router_Global(config)#
Router_Global(config)#ip nat inside source static 50.0.0.3 50.0.0.3
Router_Global(config)#
Router_Global(config)#ip nat inside source list 10 interface serial0/1/0 overload
Router_Global(config)#
Router_Global(config)#interface g0/0/0
Router_Global(config-if)# ip nat inside
Router_Global(config-if)#interface serial0/1/0
Router_Global(config-if)# ip nat outside
```