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Tabel IP Address Routing & Subnet Masking

Jakarta

Divisi	Network	FUA	LUA	Broadcast	Subnet Mask
Engineer	192.168.10.0	192.168.10.1	192.168.11.254	192.168.11.255	255.255.254.0
Finance	192.168.12.0	192.168.12.1	192.168.12.254	192.168.12.255	255.255.255.0
Telco	192.168.13.0	192.168.13.1	192.168.13.126	192.168.13.127	255.255.255.128
R&D	192.168.13.128	192.168.13.129	192.168.13.190	192.168.40.191	255.255.255.192

Singapura

Divisi	Network	FUA	LUA	Broadcast	Subnet Mask
Engineer	192.168.13.192	192.168.13.193	192.168.14.62	192.168.14.63	255.255.255.128
Finance	192.168.14.64	192.168.14.65	192.168.14.126	192.168.14.127	255.255.255.192
Telco	192.168.14.128	192.168.14.129	192.168.14.190	192.168.14.191	255.255.255.192
R&D	192.168.14.192	192.168.14.193	192.168.14.254	192.168.14.255	255.255.255.192

Nusantara

Divisi	Network	FUA	LUA	Broadcast	Subnet Mask
Engineer	192.168.15.0	192.168.15.1	192.168.15.62	192.168.15.63	255.255.255.192
Finance	192.168.15.64	192.168.15.65	192.168.15.126	192.168.15.127	255.255.255.192
Telco	192.168.15.128	192.168.15.129	192.168.15.190	192.168.15.191	255.255.255.192
R&D	192.168.15.192	192.168.15.193	192.168.15.222	192.168.15.223	255.255.255.224

Tabel Pengalamatan

Nama Device	Interface	IP	Subnet
RJ	Gig0/0.10 Gig0/0.20 Gig0/0.30 Gig0/0.40 S0/0/0 S0/1/0	192.168.10.1 192.168.12.1 192.168.13.1 192.168.13.129 192.168.15.225 192.168.15.234	255.255.254.0 255.255.255.0 255.255.255.128 255.255.255.192 255.255.255.252 255.255.255.252
RS	Gig0/0.10 Gig0/0.20 Gig0/0.30 Gig0/0.40 S0/0/0 S0/1/1	192.168.13.193 192.168.14.65 192.168.14.129 192.168.14.193 192.168.15.226 192.168.15.229	255.255.255.128 255.255.255.192 255.255.255.192 255.255.255.192 255.255.255.252 255.255.255.252
RN	Gig0/0.10 Gig0/0.20 Gig0/0.30 Gig0/0.40 S0/1/0 S0/1/1	192.168.15.1 192.168.15.65 192.168.15.129 192.168.15.193 192.168.15.233 192.168.15.230	255.255.255.192 255.255.255.192 255.255.255.192 255.255.255.224 255.255.255.252 255.255.255.252
DNS Server	NIC	192.168.14.62	255.255.255.128

Initial Config Router

Device	Kode	Deskripsi
RJ	`Router(config)#hos RJ` `RJ(config)#`	Mengganti nama router
RS	`Router(config)#hos RS` `RS(config)#`	
RN	`Router(config)#hos RN` `RN(config)#`	
RJ	`RJ(config)#no ip domain lookup` `RJ(config)#ip domain name jakarta17.com`	Mematikan domain lookup dan mengubah domain name
RS	`RS(config)#no ip domain lookup` `RS(config)#ip domain name singapore17.com`	
RN	`RN(config)#no ip domain lookup` `RN(config)#ip domain name nusantara17.com`	

RJ	RJ(config)#enable secret KeyCisco456	Membuat password untuk masuk ke global exec mode
RS	RS(config)#enable secret KeyCisco456	
RN	RN(config)#enable secret KeyCisco456	
RJ	Enter configuration commands, one pe RJ(config)#line console 0 RJ(config-line)#password KeyCisco123 RJ(config-line)#login RJ(config-line)#exit	Membuat password untuk mengakses terminal router menggunakan kabel console
RS	Enter configuration commands, one per RS(config)#line console 0 RS(config-line)#password KeyCisco123 RS(config-line)#login RS(config-line)#exit	
RN	RN(config)#line console 0 RN(config-line)#password KeyCisco123 RN(config-line)#login RN(config-line)#exit	
RJ	RJ(config)#line vty 0 15 RJ(config-line)#password KeyCisco789 RJ(config-line)#login RJ(config-line)#exit RJ(config)#	Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh)
RS	RS(config)#line vty 0 15 RS(config-line)#password KeyCisco789 RS(config-line)#login RS(config-line)#exit	
RN	RN(config)#line vty 0 15 RN(config-line)#password KeyCisco789 RN(config-line)#login RN(config-line)#exit	
RJ	RJ(config)#service password-encryption	Melakukan enkripsi password
RS	RS(config)#service password-encryption	
RN	RN(config)#service password-encryption	
RJ	RJ(config)#banner motd #Unauthorized Acess is Prohibited#	Membuat banner yg tampil saat belum memasukkan password
RS	RS(config)#banner motd #Unauthorized Acess is Prohibited#	
RN	RN(config)#banner motd #Unauthorized Acess is Prohibited#	

RJ	RJ(config)#line con 0 RJ(config-line)#exec-timeout 10 0 RJ(config-line)#exit RJ(config)#line vty 0 15 RJ(config-line)#exec-timeout 10 0	Membuat agar setelah 10 menit, use ter-*logged out* dari global exec mode
RS	RS(config)#line con 0 RS(config-line)#exec-timeout 10 0 RS(config-line)#exit RS(config)#line vty 0 15 RS(config-line)#exec-timeout 10 0	
RN	RN(config)#line con 0 RN(config-line)#exec-timeout 10 0 RN(config-line)#exit RN(config)#line vty 0 15 RN(config-line)#exec-timeout 10 0	
RJ	RJ(config)#crypto key generate rsa The name for the keys will be: RJ.jakarta17.com Choose the size of the key modulus in the range of 360 to 4096 for your General Purpose Keys. Choosing a key modulus greater than 512 may take a few minutes. How many bits in the modulus [512]: 1024 % Generating 1024 bit RSA keys, keys will be non-exportable...[OK] RJ(config)#ip ssh version 2 *Mar 1 0:32:17.176: %SSH-5-ENABLED: SSH 1.99 has been enabled RJ(config)#ip ssh authentication-retries 3 RJ(config)#ip ssh time-out 60	Perintah SSH pada router Cisco mengaktifkan protokol Secure Shell untuk memungkinkan akses jarak jauh yang aman dan terenkripsi ke perangkat
RS	RS(config)#crypto key generate rsa The name for the keys will be: RS.singapore17.com Choose the size of the key modulus in the range of 360 to 4096 for your General Purpose Keys. Choosing a key modulus greater than 512 may take a few minutes. How many bits in the modulus [512]: 1024 % Generating 1024 bit RSA keys, keys will be non-exportable...[OK] RS(config)#ip ssh version 2 *Mar 1 0:35:47.37: %SSH-5-ENABLED: SSH 1.99 has been enabled RS(config)#ip ssh authentication-retries 3 RS(config)#ip ssh time-out 60	
RN	RN(config)#crypto key generate rsa The name for the keys will be: RN.nusantara17.com Choose the size of the key modulus in the range of 360 to 4096 for your General Purpose Keys. Choosing a key modulus greater than 512 may take a few minutes. How many bits in the modulus [512]: 1024 % Generating 1024 bit RSA keys, keys will be non-exportable...[OK] RN(config)#ip ssh version 2 *Mar 1 0:36:31.567: %SSH-5-ENABLED: SSH 1.99 has been enabled RN(config)#ip ssh authentication-retries 3 RN(config)#ip ssh time-out 60	

Initial Config Switch

Device	Kode	Deskripsi
SN1	switch>en switch#conf t Enter configuration commands, one per line. End with CNTL/Z. switch(config)#hos SN1 SN1(config)#no ip domain lookup SN1(config)#ip domain name nusantara17.com SN1(config)# SN1(config)#service password SN1(config)# SN1(config)#banner motd #Unauthorized access prohibited# SN1(config)# SN1(config)#line cons 0 SN1(config-line)#exec-timeout 10 0 SN1(config-line)#exit SN1(config)#line vty 0 15 SN1(config-line)#exec-timeout 10 0 SN1(config-line)#exit SN1(config)# SN1(config)#do copy run start Destination filename [startup-config]? Building configuration... [OK]	Melakukan config awal pada switch di network nusantara dengan melakukan: Mengganti nama router 1. Mematikan domain lookup dan mengubah domain name 2. Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh) 3. Melakukan enkripsi password 4. Membuat banner yg tampil saat belum memasukkan password 5. Membuat agar setelah 10 menit, use ter-logged out dari global exec mode
SN2	switch>en switch#conf t Enter configuration commands, one per line. End with CNTL/Z. switch(config)#hos SN2 SN2(config)#no ip domain lookup SN2(config)#ip domain name nusantara17.com SN2(config)# SN2(config)#service password SN2(config)# SN2(config)#banner motd #Unauthorized access prohibited# SN2(config)# SN2(config)#line cons 0 SN2(config-line)#exec-timeout 10 0 SN2(config-line)#exit SN2(config)#line vty 0 15 SN2(config-line)#exec-timeout 10 0 SN2(config-line)#exit SN2(config)# SN2(config)#do copy run start Destination filename [startup-config]? Building configuration... [OK]	
SN3	switch>en switch#conf t Enter configuration commands, one per line. End with CNTL/Z. switch(config)#hos SN3 SN3(config)#no ip domain lookup SN3(config)#ip domain name nusantara17.com SN3(config)# SN3(config)#service password SN3(config)# SN3(config)#banner motd #Unauthorized access prohibited# SN3(config)# SN3(config)#line cons 0 SN3(config-line)#exec-timeout 10 0 SN3(config-line)#exit SN3(config)#line vty 0 15 SN3(config-line)#exec-timeout 10 0 SN3(config-line)#exit SN3(config)# SN3(config)#do copy run start Destination filename [startup-config]? Building configuration...	
SN1	SN1(config)#line console 0 SN1(config-line)#password KeyCisco123 SN1(config-line)#login SN1(config-line)#exit SN1(config)#enable secret KeyCisco456 SN1(config)#line vty 0 15 SN1(config-line)#password KeyCisco789 SN1(config-line)#login SN1(config-line)#exit	Melakukan config awal pada switch di network nusantara dengan melakukan: 1. Membuat password untuk masuk ke global exec mode 2. Membuat password untuk mengakses terminal router menggunakan kabel console

<table>
<tr><td>SN2</td><td><pre>SN2(config)#line console 0
SN2(config-line)#password KeyCisco123
SN2(config-line)#login
SN2(config-line)#exit
SN2(config)#enable secret KeyCisco456
SN2(config)#line vty 0 15
SN2(config-line)#password KeyCisco789
SN2(config-line)#login
SN2(config-line)#exit</pre></td><td rowspan="2">3. Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh)</td></tr>
<tr><td>SN3</td><td><pre>SN3(config)#line console 0
SN3(config-line)#password KeyCisco123
SN3(config-line)#login
SN3(config-line)#exit
SN3(config)#enable secret KeyCisco456
SN3(config)#line vty 0 15
SN3(config-line)#password KeyCisco789
SN3(config-line)#login
SN3(config-line)#exit</pre></td></tr>
<tr><td>SN1</td><td><pre>SN1(config)#crypto key generate rsa
The name for the keys will be: SN1.nusantara17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SN1(config)#ip ssh version 2
*Mar 1 0:52:7.689: %SSH-5-ENABLED: SSH 1.99 has been enabled
SN1(config)#ip ssh authentication-retries 3
SN1(config)#ip ssh time-out 60</pre></td><td rowspan="3">Perintah SSH pada router Cisco mengaktifkan protokol Secure Shell untuk memungkinkan akses jarak jauh yang aman dan terenkripsi ke perangkat</td></tr>
<tr><td>SN2</td><td><pre>SN2(config)#crypto key generate rsa
The name for the keys will be: SN2.nusantara17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SN2(config)#ip ssh version 2
*Mar 1 0:52:27.260: %SSH-5-ENABLED: SSH 1.99 has been enabled
SN2(config)#ip ssh authentication-retries 3
SN2(config)#ip ssh time-out 60</pre></td></tr>
<tr><td>SN3</td><td><pre>SN3(config)#crypto key generate rsa
The name for the keys will be: SN3.nusantara17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SN3(config)#ip ssh version 2
*Mar 1 0:52:57.155: %SSH-5-ENABLED: SSH 1.99 has been enabled
SN3(config)#ip ssh authentication-retries 3
SN3(config)#ip ssh time-out 60</pre></td></tr>
</table>

<table>
<tr>
<td>SJ1</td>
<td>

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hos SJ1
SJ1(config)#no ip domain lookup
SJ1(config)#ip domain name jakarta17.com
SJ1(config)#
SJ1(config)#service password
SJ1(config)#
SJ1(config)#banner motd #Unauthorized access prohibited#
SJ1(config)#
SJ1(config)#line cons 0
SJ1(config-line)#exec-timeout 10 0
SJ1(config-line)#exit
SJ1(config)#line vty 0 15
SJ1(config-line)#exec-timeout 10 0
SJ1(config-line)#exit
SJ1(config)#
SJ1(config)#do copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

</td>
<td rowspan="3">Melakukan config awal pada switch di network Jakarta dengan melakukan:

1. Mengganti nama switch
2. Mematikan domain lookup dan mengubah domain name
3. Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh)
4. Melakukan enkripsi password
5. Membuat banner yg tampil saat belum memasukkan password
6. Membuat agar setelah 10 menit, use ter-logged out dari global exec mode</td>
</tr>
<tr>
<td>SJ2</td>
<td>

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hos SJ2
SJ2(config)#no ip domain lookup
SJ2(config)#ip domain name jakarta17.com
SJ2(config)#
SJ2(config)#service password
SJ2(config)#
SJ2(config)#banner motd #Unauthorized access prohibited#
SJ2(config)#
SJ2(config)#line cons 0
SJ2(config-line)#exec-timeout 10 0
SJ2(config-line)#exit
SJ2(config)#line vty 0 15
SJ2(config-line)#exec-timeout 10 0
SJ2(config-line)#exit
SJ2(config)#
SJ2(config)#do copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

</td>
</tr>
<tr>
<td>SJ3</td>
<td>

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hos SJ3
SJ3(config)#no ip domain lookup
SJ3(config)#ip domain name jakarta17.com
SJ3(config)#
SJ3(config)#service password
SJ3(config)#
SJ3(config)#banner motd #Unauthorized access prohibited#
SJ3(config)#
SJ3(config)#line cons 0
SJ3(config-line)#exec-timeout 10 0
SJ3(config-line)#exit
SJ3(config)#line vty 0 15
SJ3(config-line)#exec-timeout 10 0
SJ3(config-line)#exit
SJ3(config)#
SJ3(config)#do copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

</td>
</tr>
<tr>
<td>SJ1</td>
<td>

```
SJ1(config)#line console 0
SJ1(config-line)#password KeyCisco123
SJ1(config-line)#login
SJ1(config-line)#exit
SJ1(config)#enable secret KeyCisco456
SJ1(config)#line vty 0 15
SJ1(config-line)#password KeyCisco789
SJ1(config-line)#login
SJ1(config-line)#exit
SJ1(config)#
```

</td>
<td>Melakukan config awal pada switch di network Jakarta dengan melakukan:

1. Membuat password untuk masuk ke global exec mode
2. Membuat password untuk mengakses terminal router menggunakan kabel console
3. Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh)</td>
</tr>
</table>

<table>
<tr><td>SJ2</td><td>

```
SJ2(config)#line console 0
SJ2(config-line)#password KeyCisco123
SJ2(config-line)#login
SJ2(config-line)#exit
SJ2(config)#enable secret KeyCisco456
SJ2(config)#line vty 0 15
SJ2(config-line)#password KeyCisco789
SJ2(config-line)#login
SJ2(config-line)#exit
SJ2(config)#
```

</td><td rowspan="2"></td></tr>
<tr><td>SJ3</td><td>

```
SJ3(config)#line console 0
SJ3(config-line)#password KeyCisco123
SJ3(config-line)#login
SJ3(config-line)#exit
SJ3(config)#enable secret KeyCisco456
SJ3(config)#line vty 0 15
SJ3(config-line)#password KeyCisco789
SJ3(config-line)#login
SJ3(config-line)#exit
```

</td></tr>
<tr><td>SJ1</td><td>

```
SJ1(config)#crypto key generate rsa
The name for the keys will be: SJ1.jakarta17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SJ1(config)#ip ssh version 2
*Mar 1 0:50:50.403: %SSH-5-ENABLED: SSH 1.99 has been enabled
SJ1(config)#ip ssh authentication-retries 3
SJ1(config)#ip ssh time-out 60
```

</td><td rowspan="3">Perintah SSH pada router Cisco mengaktifkan protokol Secure Shell untuk memungkinkan akses jarak jauh yang aman dan terenkripsi ke perangkat</td></tr>
<tr><td>SJ2</td><td>

```
SJ2(config)#crypto key generate rsa
The name for the keys will be: SJ2.jakarta17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SJ2(config)#ip ssh version 2
*Mar 1 0:51:17.601: %SSH-5-ENABLED: SSH 1.99 has been enabled
SJ2(config)#ip ssh authentication-retries 3
```

</td></tr>
<tr><td>SJ3</td><td>

```
Enter configuration commands, one per line.  End with CNTL/Z.
SJ3(config)#crypto key generate rsa
The name for the keys will be: SJ3.jakarta17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SJ3(config)#ip ssh version 2
*Mar 1 0:51:42.696: %SSH-5-ENABLED: SSH 1.99 has been enabled
SJ3(config)#ip ssh authentication-retries 3
SJ3(config)#ip ssh time-out 60
```

</td></tr>
<tr><td>SS1</td><td></td><td rowspan="2">Melakukan config awal pada switch di network Jakarta dengan melakukan:

1. Mengganti nama switch
2. Mematikan domain lookup dan mengubah domain name
3. Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh)
4. Melakukan enkripsi password</td></tr>
<tr><td>SS2</td><td></td></tr>
</table>

<table>
<tr><td>SS3</td><td><pre>
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hos SS3
SS3(config)#no ip domain lookup
SS3(config)#ip domain name singapore17.com
SS3(config)#
SS3(config)#service password
SS3(config)#
SS3(config)#banner motd #Unauthorized access prohibited#
SS3(config)#
SS3(config)#line cons 0
SS3(config-line)#exec-timeout 10 0
SS3(config-line)#exit
SS3(config)#line vty 0 15
SS3(config-line)#exec-timeout 10 0
SS3(config-line)#exit
SS3(config)#
SS3(config)#do copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
</pre></td><td>5. Membuat banner yg tampil saat belum memasukkan password
6. Membuat agar setelah 10 menit, use ter-logged out dari global exec mode</td></tr>
<tr><td>SS1</td><td><pre>
SS1(config)#line console 0
SS1(config-line)#password KeyCisco123
SS1(config-line)#login
SS1(config-line)#exit
SS1(config)#enable secret KeyCisco456
SS1(config)#line vty 0 15
SS1(config-line)#password KeyCisco789
SS1(config-line)#login
SS1(config-line)#exit
</pre></td><td rowspan="3">Melakukan config awal pada switch di network Singapura dengan melakukan:

1. Membuat password untuk masuk ke global exec mode
2. Membuat password untuk mengakses terminal router menggunakan kabel console
3. Membuat password untuk mengakses terminal router menggunakan virtual terminal (ssh)</td></tr>
<tr><td>SS2</td><td><pre>
SS2(config)#line console 0
SS2(config-line)#password KeyCisco123
SS2(config-line)#login
SS2(config-line)#exit
SS2(config)#enable secret KeyCisco456
SS2(config)#line vty 0 15
SS2(config-line)#password KeyCisco789
SS2(config-line)#login
SS2(config-line)#exit
</pre></td></tr>
<tr><td>SS3</td><td><pre>
SS3(config)#line console 0
SS3(config-line)#password KeyCisco123
SS3(config-line)#login
SS3(config-line)#exit
SS3(config)#enable secret KeyCisco456
SS3(config)#line vty 0 15
SS3(config-line)#password KeyCisco789
SS3(config-line)#login
SS3(config-line)#exit
</pre></td></tr>
<tr><td>SS1</td><td><pre>
SS1(config)#crypto key generate rsa
The name for the keys will be: SS1.singapore17.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

SS1(config)#ip ssh version 2
*Mar 1 0:38:50.304: %SSH-5-ENABLED: SSH 1.99 has been enabled
SS1(config)#ip ssh authentication-retries 3
SS1(config)#ip ssh time-out 60
</pre></td><td>Perintah SSH pada router Cisco mengaktifkan protokol Secure Shell untuk memungkinkan akses jarak jauh yang aman dan terenkripsi ke perangkat</td></tr>
</table>

SS2	Enter configuration commands, one per line. End with CNTL/Z.
	SS2(config)#crypto key generate rsa
	The name for the keys will be: SS2.singapore17.com
	Choose the size of the key modulus in the range of 360 to 4096 for your
	  General Purpose Keys. Choosing a key modulus greater than 512 may take
	  a few minutes.
	
	How many bits in the modulus [512]: 1024
	% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]
	
	SS2(config)#ip ssh version 2
	*Mar 1 0:39:37.28: %SSH-5-ENABLED: SSH 1.99 has been enabled
	SS2(config)#ip ssh authentication-retries 3
	SS2(config)#ip ssh time-out 60	

SS3	SS3(config)#crypto key generate rsa
	The name for the keys will be: SS3.singapore17.com
	Choose the size of the key modulus in the range of 360 to 4096 for your
	  General Purpose Keys. Choosing a key modulus greater than 512 may take
	  a few minutes.
	
	How many bits in the modulus [512]: 1024
	% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]
	
	SS3(config)#ip ssh version 2
	*Mar 1 0:40:18.54: %SSH-5-ENABLED: SSH 1.99 has been enabled
	SS3(config)#ip ssh authentication-retries 3
	SS3(config)#ip ssh time-out 60	

Etherchannel

SJ1	SN1>en SN1#conf t Enter configuration commands, one per line. End with CNTL/Z. SN1(config)#int r F0/1-2 SN1(config-if-range)#channel-group 1 mode active SN1(config-if-range)# SN1(config-if-range)#int r F0/5-6 SN1(config-if-range)#channel-group 3 mode active	Membuat etherchannel
SJ2	SN2> SN2>en SN2#conf t Enter configuration commands, one per line. End with CNTL/Z. SN2(config)#int r F0/1-2 SN2(config-if-range)#channel-group 1 mode active SN2(config-if-range)# SN2(config-if-range)#int r F0/3-4 SN2(config-if-range)#channel-group 2 mode active SN2(config-if-range)# SN2(config-if-range)#	
SJ3	SN3>en SN3#conf t Enter configuration commands, one per line. End with CNTL/Z. SN3(config)#int r F0/3-4 SN3(config-if-range)#channel-group 2 mode active SN3(config-if-range)# SN3(config-if-range)#int r F0/5-6 SN3(config-if-range)#channel-group 3 mode active SN3(config-if-range)# Creating a port-channel interface Port-channel 2	
SJ1	SJ1>en SJ1#conf t Enter configuration commands, one per line. End with CNTL/Z. SJ1(config)#int r F0/1-2 SJ1(config-if-range)#channel-group 1 mode active SJ1(config-if-range)# SJ1(config-if-range)#int r F0/5-6 SJ1(config-if-range)#channel-group 3 mode active	
SJ2	SJ2>en SJ2#conf t Enter configuration commands, one per line. End with CNTL/Z. SJ2(config)#int r F0/1-2 SJ2(config-if-range)#channel-group 1 mode active SJ2(config-if-range)# SJ2(config-if-range)#int r F0/3-4 SJ2(config-if-range)#channel-group 2 mode active	

SJ3	SJ3>en SJ3#conf t Enter configuration commands, one per line. End with CNTL/Z. SJ3(config)#int r F0/3-4 SJ3(config-if-range)#channel-group 2 mode active SJ3(config-if-range)# SJ3(config-if-range)#int r F0/5-6 SJ3(config-if-range)#channel-group 3 mode active	
SS1	SS1>en SS1#conf t Enter configuration commands, one per line. End with CNTL/Z. SS1(config)#int r F0/1-2 SS1(config-if-range)#channel-group 1 mode active SS1(config-if-range)# SS1(config-if-range)#int r F0/5-6 SS1(config-if-range)#channel-group 3 mode active SS1(config-if-range)#	
SS2	SS2>en SS2#conf t Enter configuration commands, one per line. End with CNTL/Z. SS2(config)#int r F0/1-2 SS2(config-if-range)#channel-group 1 mode active SS2(config-if-range)# SS2(config-if-range)#int r F0/3-4 SS2(config-if-range)#channel-group 2 mode active SS2(config-if-range)#	
SS3	SS3>en SS3#conf t Enter configuration commands, one per line. End with CNTL/Z. SS3(config)#int r F0/3-4 SS3(config-if-range)#channel-group 2 mode active SS3(config-if-range)# SS3(config-if-range)#int r F0/5-6 SS3(config-if-range)#channel-group 3 mode active SS3(config-if-range)#	
SS1		
SS2		
SS3		

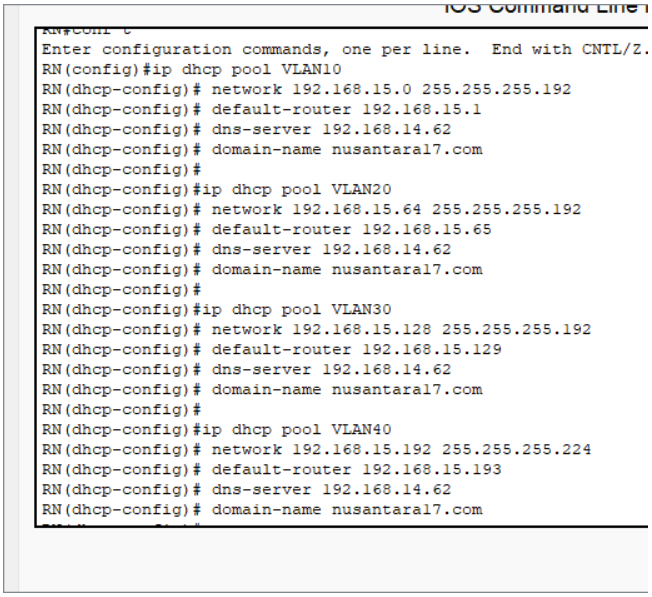
IP and Subinterface Inputing

RJ	RJ(config)#interface GigabitEthernet0/0.10 RJ(config-subif)#encapsulation dot1Q 10 RJ(config-subif)#ip address 192.168.10.1 255.255.254.0 RJ(config-subif)# RJ(config-subif)#interface GigabitEthernet0/0.20 RJ(config-subif)#encapsulation dot1Q 20 RJ(config-subif)#ip address 192.168.12.1 255.255.255.0 RJ(config-subif)# RJ(config-subif)#interface GigabitEthernet0/0.30 RJ(config-subif)#encapsulation dot1Q 30 RJ(config-subif)#ip address 192.168.13.1 255.255.255.128 RJ(config-subif)# RJ(config-subif)#interface GigabitEthernet0/0.40 RJ(config-subif)#encapsulation dot1Q 40 RJ(config-subif)#ip address 192.168.13.129 255.255.255.192	IP address subinterface
	RJ(config)#interface s0/0/0 RJ(config-if)#ip address 192.168.15.225 255.255.255.252 RJ(config-if)#no shut RJ(config-if)# RJ(config-if)#interface s0/1/0 RJ(config-if)#ip address 192.168.15.234 255.255.255.252 RJ(config-if)#no shut	IP address antar router

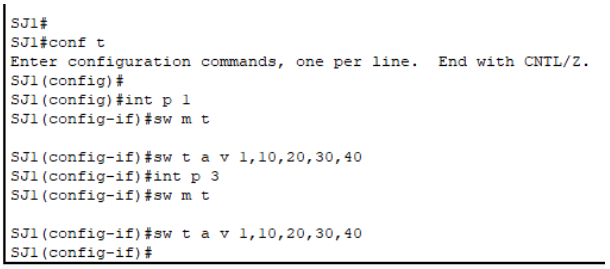
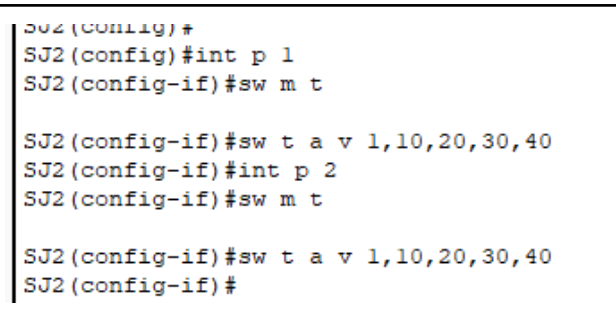
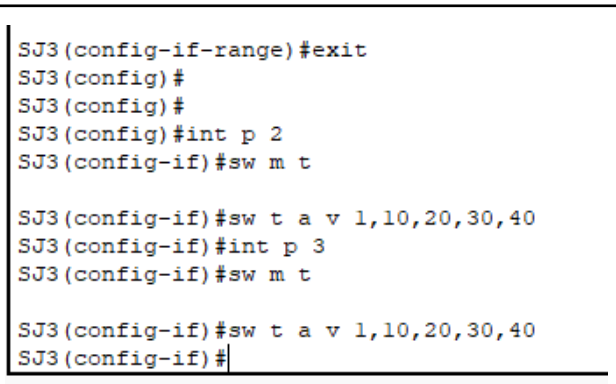
RS	RS(config)#interface GigabitEthernet0/0.10 RS(config-subif)#encapsulation dot1Q 10 RS(config-subif)#ip address 192.168.13.193 255.255.255.128 RS(config-subif)# RS(config-subif)#interface GigabitEthernet0/0.20 RS(config-subif)#encapsulation dot1Q 20 RS(config-subif)#ip address 192.168.14.65 255.255.255.192 RS(config-subif)# RS(config-subif)#interface GigabitEthernet0/0.30 RS(config-subif)#encapsulation dot1Q 30 RS(config-subif)#ip address 192.168.14.129 255.255.255.192 RS(config-subif)# RS(config-subif)#interface GigabitEthernet0/0.40 RS(config-subif)#encapsulation dot1Q 40 RS(config-subif)#ip address 192.168.14.193 255.255.255.192	IP address subinterface
	RS(config)#interface s0/0/0 RS(config-if)#ip address 192.168.15.226 255.255.255.252 RS(config-if)#no shut RS(config-if)# RS(config-if)#interface s0/1/1 RS(config-if)#ip address 192.168.15.229 255.255.255.252 RS(config-if)#no shut	IP address antar router
RN	RN(config)#interface GigabitEthernet0/0.10 RN(config-subif)#encapsulation dot1Q 10 RN(config-subif)#ip address 192.168.15.1 255.255.255.192 RN(config-subif)# RN(config-subif)#interface GigabitEthernet0/0.20 RN(config-subif)#encapsulation dot1Q 20 RN(config-subif)#ip address 192.168.15.65 255.255.255.192 RN(config-subif)# RN(config-subif)#interface GigabitEthernet0/0.30 RN(config-subif)#encapsulation dot1Q 30 RN(config-subif)#ip address 192.168.15.129 255.255.255.192 RN(config-subif)# RN(config-subif)#interface GigabitEthernet0/0.40 RN(config-subif)#encapsulation dot1Q 40 RN(config-subif)#ip address 192.168.15.193 255.255.255.224	IP address subinterface
	RN(config)#interface s0/1/1 RN(config-if)#ip address 192.168.15.230 255.255.255.252 RN(config-if)#no shut RN(config-if)# RN(config-if)#interface s0/1/0 RN(config-if)#ip address 192.168.15.233 255.255.255.252 RN(config-if)#no shut	IP address antar router

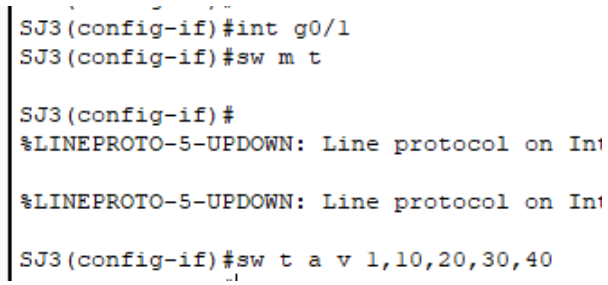
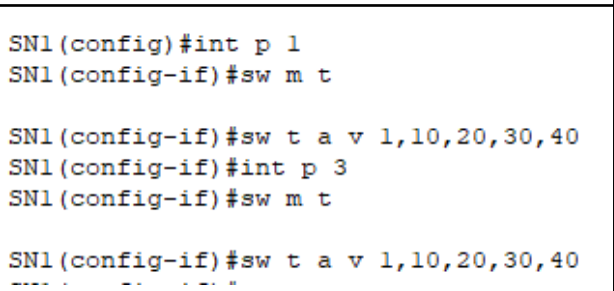
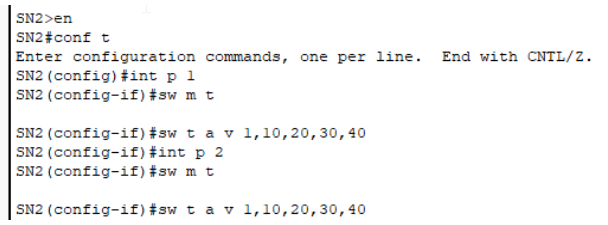
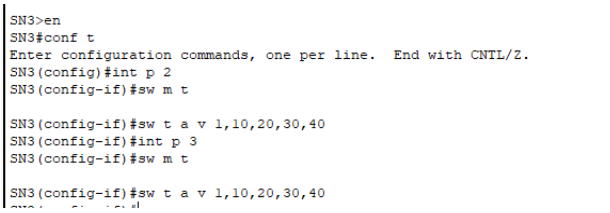
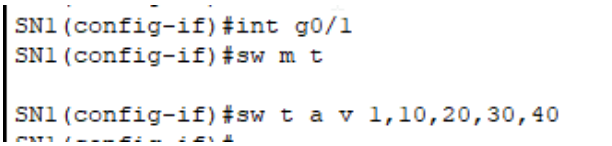
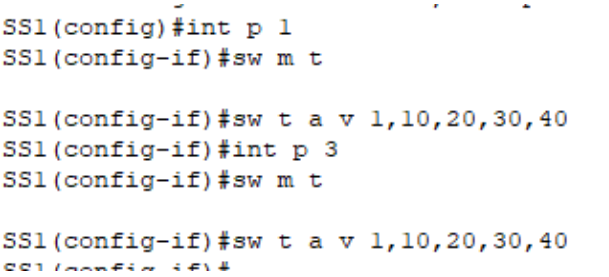
DHCP

RJ	Enter configuration commands, one per line. End with CNT RJ(config)#ip dhcp pool VLAN10 RJ(dhcp-config)# network 192.168.10.0 255.255.254.0 RJ(dhcp-config)# default-router 192.168.10.1 RJ(dhcp-config)# dns-server 192.168.14.62 RJ(dhcp-config)# domain-name jakarta17.com RJ(dhcp-config)# RJ(dhcp-config)#ip dhcp pool VLAN20 RJ(dhcp-config)# network 192.168.12.0 255.255.255.0 RJ(dhcp-config)# default-router 192.168.12.1 RJ(dhcp-config)# dns-server 192.168.14.62 RJ(dhcp-config)# domain-name jakarta17.com RJ(dhcp-config)# RJ(dhcp-config)#ip dhcp pool VLAN30 RJ(dhcp-config)# network 192.168.13.0 255.255.255.128 RJ(dhcp-config)# default-router 192.168.13.1 RJ(dhcp-config)# dns-server 192.168.14.62 RJ(dhcp-config)# domain-name jakarta17.com RJ(dhcp-config)# RJ(dhcp-config)#ip dhcp pool VLAN40 RJ(dhcp-config)# network 192.168.13.128 255.255.255.192 RJ(dhcp-config)# default-router 192.168.13.129 RJ(dhcp-config)# dns-server 192.168.14.62 RJ(dhcp-config)# domain-name jakarta17.com RJ(dhcp-config)#	Membuat DHCP server untuk setiap vlan dengan domain name jakarta17.com dan dns server pada ip dns server
RS	IOS Command Line RS(config)#ip dhcp pool VLAN10 RS(dhcp-config)# network 192.168.13.192 255.255.255.128 RS(dhcp-config)# default-router 192.168.13.193 RS(dhcp-config)# dns-server 192.168.14.62 RS(dhcp-config)# domain-name singapore17.com RS(dhcp-config)# RS(dhcp-config)#ip dhcp pool VLAN20 RS(dhcp-config)# network 192.168.14.64 255.255.255.192 RS(dhcp-config)# default-router 192.168.14.65 RS(dhcp-config)# dns-server 192.168.14.62 RS(dhcp-config)# domain-name singapore17.com RS(dhcp-config)# RS(dhcp-config)#ip dhcp pool VLAN30 RS(dhcp-config)# network 192.168.14.128 255.255.255.192 RS(dhcp-config)# default-router 192.168.14.129 RS(dhcp-config)# dns-server 192.168.14.62 RS(dhcp-config)# domain-name singapore17.com RS(dhcp-config)# RS(dhcp-config)#ip dhcp pool VLAN40 RS(dhcp-config)# network 192.168.14.192 255.255.255.192 RS(dhcp-config)# default-router 192.168.14.193 RS(dhcp-config)# dns-server 192.168.14.62 RS(dhcp-config)# domain-name singapore17.com RS(dhcp-config)# RS(dhcp-config)# RS(config)#ip dhcp excluded-address 192.168.14.62	Membuat DHCP server untuk setiap vlan dengan domain name singapore17.com dan dns server pada ip dns server. Serta exclude ip dns server tersebut pada dhcp

RN		Membuat DHCP server untuk setiap vlan dengan domain name nusantara17.com dan dns server pada ip dns server.

VLAN SWITCHPORT

SJ1		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SJ2		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SJ3		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel

SJ3		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SN1		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SN2		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SN3		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SN1		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel. Port ini untuk ke router.
SS1		Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel

SS2	SS2>en SS2#conf t Enter configuration commands, one per li SS2(config)#int p 1 SS2(config-if)#sw m t SS2(config-if)#sw t a v 1,10,20,30,40 SS2(config-if)#int p 2 SS2(config-if)#sw m t SS2(config-if)#sw t a v 1,10,20,30,40 SS2(config-if)#	Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SS3	SS3>en SS3#conf t Enter configuration commands, one per li SS3(config)#int p 2 SS3(config-if)#sw m t SS3(config-if)#sw t a v 1,10,20,30,40 SS3(config-if)#int p 3 SS3(config-if)#sw m t SS3(config-if)#sw t a v 1,10,20,30,40	Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel
SS1	SS1(config-if)#int g0/1 SS1(config-if)#sw m t SS1(config-if)#sw t a v 1,10,20,30,40	Membuat swirtchport menjadi trunk vlan dengan allowed vlan 1, 10, 20, 30, 40. Membuat dengan port channel. Port ini untuk ke router.

VLAN Server-Client

Kode Server	SS1>en SS1#conf t Enter configuration commands, one per lin SS1(config)#vtp mode server Device mode already VTP SERVER. SS1(config)#vtp domain JK17 Changing VTP domain name from NULL to JK1 SS1(config)#vlan 10 SS1(config-vlan)#name Engineer SS1(config-vlan)#vlan 20 SS1(config-vlan)#name Finance SS1(config-vlan)#vlan 30 SS1(config-vlan)#name Telco SS1(config-vlan)#vlan 40 SS1(config-vlan)#name R&D	Dilakukan pada Switch 1 setiap network
Kode Server	SN2>en SN2#conf t Enter configuration commands, one per line. End with CNTL/Z. SN2(config)#vtp mode client Setting device to VTP CLIENT mode. SN2(config)#vtp domain JK17 Domain name already set to JK17.	Dilakukan pada Switch 2 dan 3 setiap network

VLAN Access

SJ1	SJ1(config-if)#int f0/8 SJ1(config-if)#sw m a SJ1(config-if)#sw a v 10 SJ1(config-if)#int f0/7 SJ1(config-if)#sw m a SJ1(config-if)#sw a v 20	Membuat port ke end device sebagai access dan mengset vlannya
SJ2	SJ2(config)#int f0/9 SJ2(config-if)#sw m a SJ2(config-if)#sw a v 40 SJ2(config-if)#int f0/10 SJ2(config-if)#sw m a SJ2(config-if)#sw a v 30	Membuat port ke end device sebagai access dan mengset vlannya
SJ3	SJ3(config)#int f0/11 SJ3(config-if)#sw m a SJ3(config-if)#sw a v 19 SJ3(config-if)#no sw a v 19 SJ3(config-if)#sw a v 10	Membuat port ke end device sebagai access dan mengset vlannya
SS1	SS1(config)#int f0/8 SS1(config-if)#sw m a SS1(config-if)#sw a v 10 SS1(config-if)#int f0/7 SS1(config-if)#sw m a SS1(config-if)#sw a v 40	Membuat port ke end device sebagai access dan mengset vlannya

SS2	SS2(config)#int r f 0/9-10 SS2(config-if-range)#sw m a SS2(config-if-range)#sw a v 10 SS2(config-if-range)#	Membuat port ke end device sebagai access dan mengset vlannya
SS3	SS3(config)#int f0/12 SS3(config-if)#sw m a SS3(config-if)#sw a v 20 SS3(config-if)#int f0/11 SS3(config-if)#sw m a SS3(config-if)#sw a v 30	Membuat port ke end device sebagai access dan mengset vlannya
SN2	SN2(config)#int f0/7 SN2(config-if)#sw m a SN2(config-if)#sw a v 10 SN2(config-if)#int f0/8 SN2(config-if)#sw m a SN2(config-if)#sw a v 40	Membuat port ke end device sebagai access dan mengset vlannya
SN3	SN3(config)#int f0/10 SN3(config-if)#sw m a SN3(config-if)#sw a v 20 SN3(config-if)#int f0/9 SN3(config-if)#sw ma ^ % Invalid input detected at '^' marker. SN3(config-if)#sw m a SN3(config-if)#sw a v 30	Membuat port ke end device sebagai access dan mengset vlannya

Routing RIP

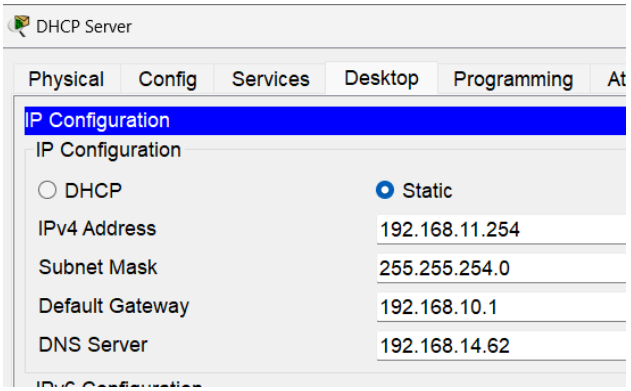
RJ	RJ(config)#router rip RJ(config-router)# version 2 RJ(config-router)# no auto-summary RJ(config-router)# network 192.168.10.0 RJ(config-router)# network 192.168.12.0 RJ(config-router)# network 192.168.13.0 RJ(config-router)# network 192.168.13.128 RJ(config-router)# network 192.168.15.224 RJ(config-router)# network 192.168.15.232 RJ(config-router)#exit	Melakukan dynamic routing menggunakan RIP, menghilangkan auto-summary agar network tidak digrup secara otomatis, dan mengasih tau network yang terhubung pada router
RS	RS(config)#router rip RS(config-router)# version 2 RS(config-router)# no auto-summary RS(config-router)# network 192.168.13.192 RS(config-router)# network 192.168.14.64 RS(config-router)# network 192.168.14.128 RS(config-router)# network 192.168.14.192 RS(config-router)# network 192.168.15.232 RS(config-router)# network 192.168.15.228 RS(config-router)#exit RS(config)#do sh ip ro	Melakukan dynamic routing menggunakan RIP, menghilangkan auto-summary agar network tidak digrup secara otomatis, dan mengasih tau network yang terhubung pada router

RN	Enter configuration commands, one per line RN(config)#router rip RN(config-router)# version 2 RN(config-router)# no auto-summary RN(config-router)# network 192.168.15.0 RN(config-router)# network 192.168.15.64 RN(config-router)# network 192.168.15.128 RN(config-router)# network 192.168.15.192 RN(config-router)# network 192.168.15.224 RN(config-router)# network 192.168.15.228 RN(config-router)#exit	Melakukan dynamic routing menggunakan RIP, menghilangkan auto-summary agar network tidak digrup secara otomatis, dan mengasih tau network yang terhubung pada router
RJ	Enter configuration commands, one per line. RJ(config)#ip route 0.0.0.0 0.0.0.0 s0/0/0	Set default route ke RS
RS	RS(config)#ip route 0.0.0.0 0.0.0.0 s0/1/1	Set default route ke RN
RN	RN(config)#ip route 0.0.0.0 0.0.0.0 s0/1/0	Set default route ke RJ

STP Untuk tiap VLAN

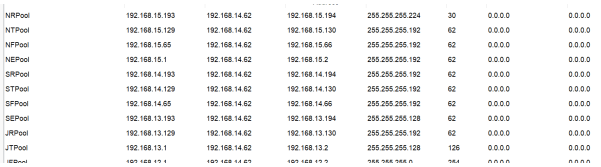
SJ 1	SJ1(config)#spanning-tree mode rapid-pvst SJ1(config)#spanning-tree vlan 1,10,20,30,40 root secondary	
SJ 2	SJ2(config)#spanning-tree mode rapid-pvst SJ2(config)#spanning-tree vlan 1,10,20,30,40 root secondary	
SJ 3	SJ3(config)#spanning-tree mode rapid-pvst SJ3(config)#spanning-tree vlan 1,10,20,30,40 root primary	
SS 1	SS1(config)#spanning-tree mode rapid-pvst SS1(config)#spanning-tree vlan 1,10,20,30,40 root primary	
SS 2	SS2(config)#spanning-tree mode rapid-pvst SS2(config)#spanning-tree vlan 1,10,20,30,40 root secondary	
SS 3	Enter configuration commands, one per line. End with CNTL/Z. SS3(config)#spanning-tree mode rapid-pvst SS3(config)#spanning-tree vlan 1,10,20,30,40 root secondary	
SN 1	SN1(config)#spanning-tree mode rapid-pvst SN1(config)#spanning-tree vlan 1,10,20,30,40 root primary	
SN 2	SN2(config)#spanning-tree mode rapid-pvst SN2(config)#spanning-tree vlan 1,10,20,30,40 root secondary	
SN 3	SN3(config)#spanning-tree mode rapid-pvst SN3(config)#spanning-tree vlan 1,10,20,30,40 root secondary	

DHCP Server

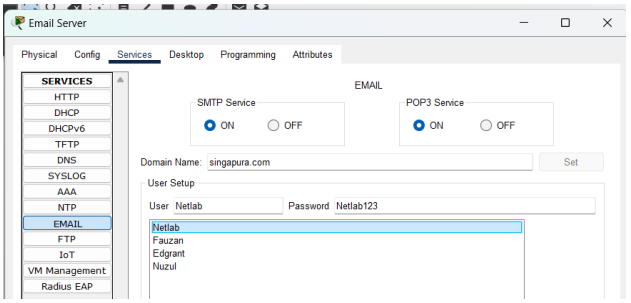
SJ 3	```SJ3(config)#int f0/10 SJ3(config-if)#sw m a SJ3(config-if)#sw a v 10```	Membuat port yang terhubung ke dhcp server memiliki vlan 10
DHCP		Static ip dhcp server
RJ	```RJ(config)#no ip dhcp pool VLAN10 RJ(config)#no ip dhcp pool VLAN20 RJ(config)#no ip dhcp pool VLAN30 RJ(config)#no ip dhcp pool VLAN40 RJ(config)#exit```	menghilangkan dhcp pada router
RS	```Enter configuration commands, one pe RS(config)#no ip dhcp pool VLAN10 RS(config)#no ip dhcp pool VLAN20 RS(config)#no ip dhcp pool VLAN30 RS(config)#no ip dhcp pool VLAN40```	menghilangkan dhcp pada router
RN	```RN(config)#no ip dhcp pool VLAN10 RN(config)#no ip dhcp pool VLAN20 RN(config)#no ip dhcp pool VLAN30 RN(config)#no ip dhcp pool VLAN40 RN(config)#exit```	menghilangkan dhcp pada router
RS	```RS(config-subif)# ip helper-address 192.168.11.254 RS(config-subif)# RS(config-subif)#interface Gig0/0.20 RS(config-subif)# ip helper-address 192.168.11.254 RS(config-subif)# RS(config-subif)#interface Gig0/0.30 RS(config-subif)# ip helper-address 192.168.11.254 RS(config-subif)# RS(config-subif)#interface Gig0/0.40 RS(config-subif)# ip helper-address 192.168.11.254 RS(config-subif)#exit```	Menjadikan relay ke dhcp server

RJ	`RJ(config)#interface Gig0/0.10`
	`RJ(config-subif)# ip helper-address 192.168.11.254`
	`RJ(config-subif)#`
	`RJ(config-subif)#interface Gig0/0.20`
	`RJ(config-subif)# ip helper-address 192.168.11.254`
	`RJ(config-subif)#`
	`RJ(config-subif)#interface Gig0/0.30`
	`RJ(config-subif)# ip helper-address 192.168.11.254`
	`RJ(config-subif)#`
	`RJ(config-subif)#interface Gig0/0.40`
	`RJ(config-subif)# ip helper-address 192.168.11.254`
	`RJ(config-subif)#exit`
		Menjadikan relay ke dhcp server

RN	`RN(config)#interface Gig0/0.10`
	`RN(config-subif)# ip helper-address 192.168.11.254`
	`RN(config-subif)#`
	`RN(config-subif)#interface Gig0/0.20`
	`RN(config-subif)# ip helper-address 192.168.11.254`
	`RN(config-subif)#`
	`RN(config-subif)#interface Gig0/0.30`
	`RN(config-subif)# ip helper-address 192.168.11.254`
	`RN(config-subif)#`
	`RN(config-subif)#interface Gig0/0.40`
	`RN(config-subif)# ip helper-address 192.168.11.254`
	`RN(config-subif)#exit`
		Menjadikan relay ke dhcp server

DHCP Server		Setup pool di server

Email Server

Email Server		
DNS Server