

MODUL C – Packet Tracer Challenge

CONTENTS

This Test Project proposal consists of the following document/file:

Modul C - JATENG2018.pdf

INTRODUCTION

The competition has a fixed start and finish time. You must decide how to best divide your time.

Please read the following instructions **carefully!**

Before start the competition, please rename file **C-JATENG2018.pka**

to

C-“**SEAT NUMBER**”-“**FULL NAME**”.pka

Example : C-**007-JAMES BOND**.pka

DON'T FORGET TO SAVE YOUR PACKET TRACER FILE REGULARLY!

(The Cisco Packet Tracer program maybe crash and you could lose marks!, for avoid this please save your work periodically)

PART 1 - CONFIGURE WITH INSTRUCTION BELOW

IP ADDRESS LIST TABLE

DEVICE	INTERFACE	IPv4	IPv6	NOTE
ISP	Gig 0/0	27.10.20.17/29	-	Pre Config
	Gig 0/1	8.8.8.1/24	-	
	Se 0/0/0	26.10.20.1/26	-	
	Se 0/0/1	25.10.20.1/27	-	
	Se 0/1/0	24.10.20.17/30	-	
INTERNET	Fa 0	8.8.8.8/24		Pre Config
SRV-FARM-HQ	Gig 0/0	172.20.0.201/29	FD00::201/8	
	Se 0/0/0	24.10.20.18/30	-	
	Tun 12	10.1.0.1/30	-	
	Tun 64	-	10::1/120	
TEMBALANG-HQ	Gig 0/0	-	2018:A:1A:1234::11/64	
	Se 0/0/0	25.10.20.18/27	-	
	Tun 64	-	10::2/120	
CORE-SMG	Gig 0/0.X	192.168.101.1/30	-	Subif vlan 101
	Gig 0/0.X	192.168.102.1/30	-	Subif vlan 102
	Se 0/0/0	26.10.20.18	-	
	Tun 12	10.1.0.2/30	-	
R-SMG1	Fa 0/0	192.168.103.1/24	-	
	Fa 0/1	192.168.101.2/30	-	
R-SMG2	Fa 0/0	192.168.103.2/24	-	
	Fa 0/1	192.168.102.2/30	-	
MLS-DIST	Fa 0/1	192.168.103.3/24	-	
	VLAN104	192.168.104.1/28	-	

	VLAN105	192.168.105.1/28	-	
FW-LKS	Et0/0	27.10.20.18/29	-	
	Et0/1	192.168.10.1/24	-	
	Et0/2	172.30.0.1/30	-	
SRV-FARM1	Fa 0	172.20.0.202/29	FD00::202/8	WEB Server
SRV-FARM2	Fa 0	172.20.0.203/29	FD00::203/8	DNS Server
PC Tembalang	Fa 0	-	2018:A:1A:1234::10/64	
Guest	Fa 0	DHCP	-	
Guest2	Fa 0	DHCP	-	
PC-GUEST	Fa 0	DHCP	-	
PC-CLIENT1	Fa 0	DHCP	-	
PC-CLIENT2	Fa 0	DHCP	-	
PC-LKS1	Fa 0	DHCP	-	
PC-LKS2	Fa 0	DHCP	-	
LKS-JATENG-2018	Fa 0	172.30.0.2/30	-	

NB :

You don't have to configure INTERNET and ISP

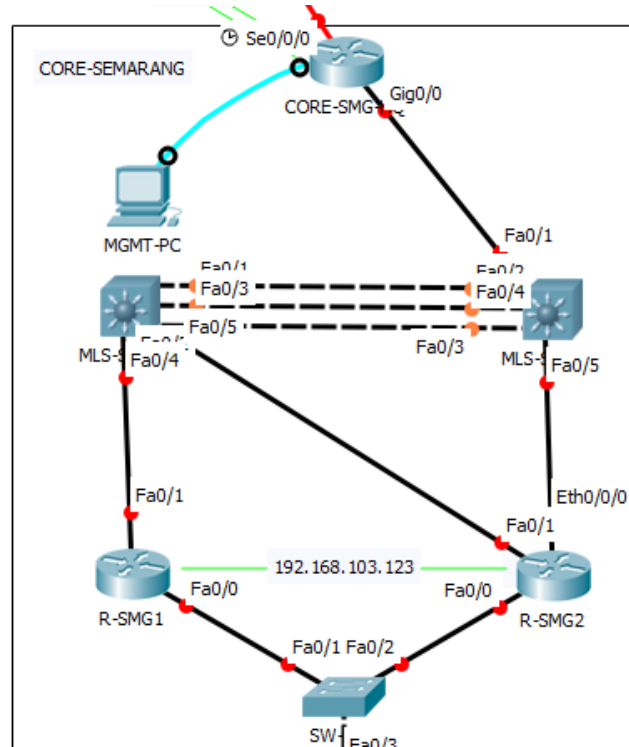
1. Configure hostname for each device according to the topology.
2. Make sure that point to point link established

PART 2 - SWITCHING ADMINISTRATION

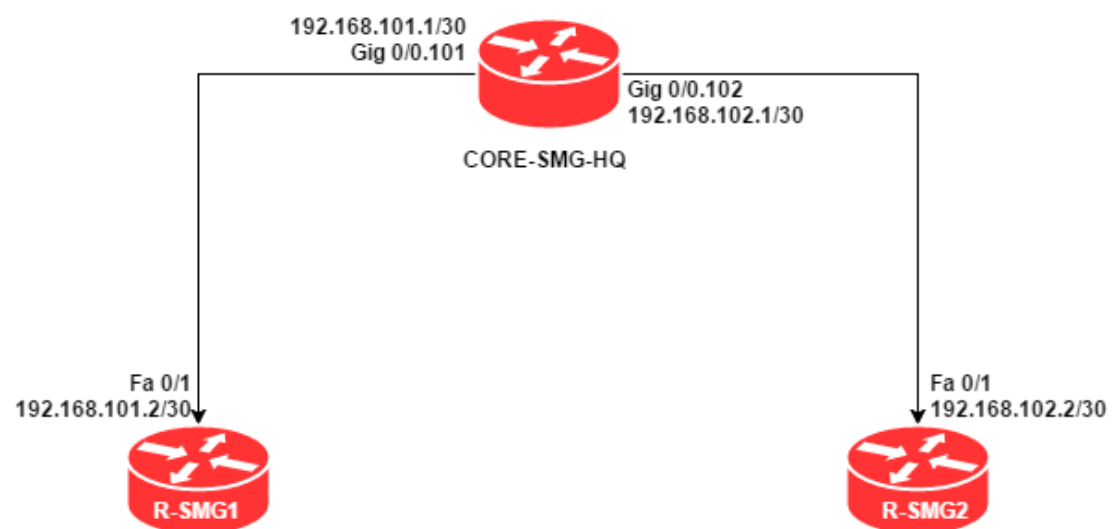
MLS-SMG1 and MLS-SMG2 (CORE-SEMARANG)

1. Configure this switch, so CORE-SMG-HQ can R-SMG1 and R-SMG2 can ping together.

Real Topology



Logical Topology



MLS-DIST, SW-SMG1 and SW-SMG2

1. Use protocol which can simplify VLAN configuration in a switched network.
2. SW-SMG1 and SW-SMG2 only can receive their VLAN configuration update from MLS-DIST in the same domain, use **LKS2018JATENGjuara!!!** for domain.
3. Protect this protocol with **SayaPastiJuara!!!**
4. Use default version of this protocol...!
5. Create VLAN 104 and 105 with default NAME on switch which can distributed their VLAN configuration.
6. For link MLS-DIST and SW-SMG2, use protocol which can negotiate only between Cisco switches, allows multiple physical ethernet links to combine into one logical channel and used **2** as channel grup number.
7. Places an interface into an active negotiation state.
8. Verify the VLAN database on ALL switches have same value.

SW-SRV-FARM1 and SW-SRV-FARM2

1. Used feature to restrict input to an interface by limiting and identifying MAC addresses of the client that are allowed to access the port.
2. Use metod to be dynamically MAC Address learned.
3. The interface is error-disabled when a security violation occurs.
4. Configure only to port that connect to SERVER.

PART 3 - ROUTER ADMINISTRATION

CORE-SEMARANG

1. Configure addressing with ip addresses as the table **IP ADDRESS LIST** in above.
2. Verify that CORE-SMG-HQ can ping R-SMG1 and R-SMG2

SRV-FARM-HQ

1. Configure addressing in SRV-FARM-HQ with ip addresses as the table **IP ADDRESS LIST** in above.

TEMBALANG-HQ

1. Configure IPv4 and IPv6 addressing in TEMBALANG-HQ with ip addresses as the table **IP ADDRESS LIST** in above.

PART 4 - ROUTING PROTOCOL

CORE-SEMARANG

1. Don't **CONFIGURE** routing protocols on **ISP**, Only devices store in local can use this routing protocol.
2. Use routing protocol which have default Administrative distance 110.
3. Configure the routing protocol's process to **12** in each router.
4. All local network must be advertised as internal prefixes.
5. Make sure that every network have **O** latter in routing table.
6. Verify all router and each host can communicated successfully.

PART 5 – NAT and ACL

NAT

1. All PC/host in CORE-SEMARANG can access server internet.
2. List address use ACL which control traffic depending of the source address only.
3. Create ACL using **12** ACL Number
4. Configure and verify that there is default route on the others router as an external route.

ACL

1. Network VLAN 105 can't access Web Server in INTERNET, but can PING it.
2. Use the highest ACL number.

PART 6 - HSRP

HSRP

1. Configure HSRP with grup 12 and use 192.168.103.123 for the Virtual IP.
2. Set priority 102 for router with the lowest one mac address as a active HSRP router
3. Check MAC Address between two routers. The lowest mac address router use priority 102 and the highest use default.

PART 7 - FIREWALL

FW-LKS

1. Configure DHCP Server for PC-LKS1 and PC-LKS2 with following requirements:
 - a) Use range from 192.168.10.100 – 192.168.10.110
 - b) Use 172.30.0.2 as DNS Server
 - c) Make sure that PC-LKS1 and PC-LKS2 get the appropriate address
2. Configure Cisco ASA Firewall with following requirements:
 - a) Create vlan3 for **dmZ** and assign to interface that connected to LKS-JATENG-2018. (Change name if to **dmZ**)
 - b) For **dmZ** use the highest security level
 - c) Make sure that client in **LKS AREA** can access internet
 - d) LKS-JATENG-2018 SERVER can access from internet via **27.10.20.20**
 - e) Create Object Network using requirement bellow
 - i. **LAN** subnet 192.168.10.0 255.255.255.0 (for client can access internet)
 - ii. **DMZ** host 27.10.20.20
 - iii. **WEBSERVER** host 172.30.0.2 (for LKS-JATENG-2018 can access from internet via 27.10.20.20)
 - f) Create ACL to permit client can access internet with name **LAN**
 - g) Create ACL to permit from internet can access **LKS-JATENG-2018** with name **DMZ**

3. Verify client in LKS AREA can access internet and LKS-JATENG-2018 can access from internet using 27.10.20.20.

PART 8 – VPN Connections

CORE-SMG-HQ to SRV-FARM-HQ

1. Configure tunnel link between CORE-SMG-HQ and SRV-FARM-HQ with following requirements:

- a) Use GRE tunnel with ID 12
- b) Configure ip addresses as the table **IP ADDRESS LIST** in above
- c) Make sure that every client in CORE-Semarang can access all server in SRV-FARM via GRE Tunnel
- d) Use static route to established communication.

TEMBALANG-HQ to SRV-FARM-HQ

2. Configure tunnel link between TEMBALANG-HQ and SRV-FARM-HQ with following requirements:

- a) Use ipv6ip tunnel with ID 46
- b) Configure ip addresses as the table **IP ADDRESS LIST** in above
- c) Make sure that PC TEMBALANG can access all server in SRV-FARM via IPv6IP Tunnel
- d) Use IPv6 static route to established communication.

PART 9 - SERVER Management

DNS

1. Configure DNS Server with following requirements:

DOMAIN	IP ADDRESS
lks2018.net	172.20.0.202
lks2018.net	FD00::202

2. Configure DNS on SRV-FARM2

PART 10 – WIRELESS

Wireless AP

1. Set SSID to AP-JUARA
2. Use the lowest channel
3. Create password **lksjateng2018** for authentication using WPA2-PSK
4. Make sure Guest and Guest 2 connected to AP and receive IP address from MLS-DIST

~~DO YOUR BEST~~