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[PRAKTIKUM JARINGAN KOMPUTER]

MODUL 2 TUGAS PRAKTIKUM –
KONSEP SWITCH, VLANS, DAN INTER-VLAN ROUTING

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[JARINGAN KOMPUTER]

PERSIAPAN MATERI

- Konsep Switch
- Vlans
- Inte-Vlans Routing

TUJUAN

- Mahasiswa mampu memahami dan mengimplementasi konsep Switching
- Mahasiswa mampu memahami dan mengimplementasi VLan
- Mahasiswa mampu memahami dan mengimplementasi Inter-VLan Routing

TARGET MODUL

- Menjelaskan bagaimana Frame diteruskan pada Switch Network
- Membandingkan Collision Domain dengan Broadcast Domain
- Menjelaskan tujuan VLan pada Switch Network
- Menjelaskan bagaimana Switch meneruskan Frame berdasarkan konfigurasi VLans pada Multi Switch
- Melakukan Konfigurasi Port Switch pada VLan berdasarkan kebutuhan
- Melakukan Konfigurasi Port Trunk pada Switch Lan
- Melakukan Konfigurasi Protokol Trunking Dinamis (Configure Dynamic Trunking Protocol)
- Menjelaskan opsi untuk Konfigurasi inter-VLan routing.
- Melakukan Konfigurasi Router-On-A-Stick inter-VLan routing.
- Melakukan Konfigurasi inter-VLan routing menggunakan Layer 3 Switch
- Troubleshooting masalah umum Konfigurasi inter-VLan

PERSIAPAN SOFTWARE / APLIKASI

- Komputer/Latop
- Sistem operasi Windows/ Linux/ Mac OS
- Simulator Packet Tracer

TUGAS PRAKTIKUM

Untuk pengerjaan tugas praktikum kali ini silahkan download File Packet Tracer dibawah ini :

https://bit.ly/Jarkom2024UMM

Petunjuk pengerjaan tugas praktikum juga dapat dilihat pada perintah dibawah. Praktikum akan dilaksanakan secara **live configuration**, yang akan dilakukan secara **real time** pada saat jam praktikum dilaksanakan. Jadi tolong dipersiapkan dan dipelajari dengan sungguh-sungguh agar tidak menghambat kelancaran jalannya pelaksanaan praktikum. Terimakasih.

IMPLEMENTS VLANS AND TRUNKING

ADDRESSING TABLE

Device	Interface	IP Address	Subnet Mask	Switchport	VLAN
PC1	NIC	192.168.10.10	255.255.255.0	SWB F0/1	VLAN 10
PC2	NIC	192.168.20.20	255.255.255.0	SWB F0/2	VLAN 20
PC3	NIC	192.168.30.30	255.255.255.0	SWB F0/3	VLAN 30
PC4	NIC	192.168.10.11	255.255.255.0	SWC F0/1	VLAN 10
PC5	NIC	192.168.20.21	255.255.255.0	SWC F0/2	VLAN 20
PC6	NIC	192.168.30.31	255.255.255.0	SWC F0/3	VLAN 30
PC7	NIC	192.168.10.12	255.255.255.0	SWC F0/4	VLAN 10 VLAN 40 (Voice)
SWA	SVI	192.168.99.252	255.255.255.0	N/A	VLAN 99
SWB	SVI	192.168.99.253	255.255.255.0	N/A	VLAN 99
SWC	SVI	192.168.99.254	255.255.255.0	N/A	VLAN 99

OBJECTIVES

Part 1: Configure VLANs

Part 2: Assign Ports to VLANs Part 3: Configure Static Trunking

Part 4: Configure Dynamic Trunking

BACKGROUND

You are working in a company that is getting ready to deploy a set of new 2960 switches in a branch office. You are working in the lab to test out the VLAN and trunking configurations that are planned. Configure and test the VLANs and trunks.

INSTRUCTIONS

Part 1: Configure Vlans

Configure VLANs on all three switches. Refer to the VLAN Table. Note that the VLAN names mustmatch the values in the table exactly.

VLAN Table

VLAN Number	VLAN Name
10	Admin
20	Accounts
30	HR
40	Voice
99	Management
100	Native

Part 2 : Assign Ports to VLANs

Step 1: Assign access ports to VLANs

On SWB and SWC, assign ports to the VLANs. Refer to the Addressing Table.

Step 2: Configure the Voice VLAN port

Configure the appropriate port on switch SWC for voice VLAN functionality.

Step 3: Configure the virtual management interfaces

 a. Create the virtual management interfaces, on all three switches.
 b. Address the virtual management interfaces according to the Addressing Table.
 c. The switches should not be able to ping each other.

Part 3: Configure Static Trunking

 a. Configure the link between SWA and SWB as a static trunk. Disable dynamic trunking on this port.
 b. Disable DTP on the switch port on both ends of the trunk link.
 c. Configure the trunk with the native VLAN and eliminate native VLAN conflicts if any.

Part 4: Configure Dynamic Trunking

 a. Assume that the trunk port on SWC is set to the default DTP mode for 2960 switches. Configure G0/2 on SWA so that it successfully negotiates trunking with SWC.
 b. Configure the trunk with the native VLAN and eliminate native VLAN conflicts if any.

RUBRIK PENILAIAN

Aktivitas Lab #1	10%
Aktivitas Lab #2	10%
Pemahaman Materi	20%
Tugas Praktikum	60%