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Objectives

1. Create VLANs to a switch.
2. Configure IP addressing on a router.
3. Configure and verify basic device configurations
4. Verify end-to-end connectivity

Equipment

- 1 1841 router
- 1 2950-24 switch
- 2 PC-PTs

Task 1: Creating VLANs

Step 1. Create VLANs on switch.

- Create VLAN 10 and VLAN 20 on switch
- PC1 belongs to VLAN 10; PC2 belongs to VLAN 20. Kindly label you diagram as VLAN 10 = S421; VLAN 20 = S422
- Create the VLANs using the following CLI commands.
  - Switch# configure terminal
  - Switch(config)# vlan 10
  - Switch(config-vlan)# vlan 20
- Check if VLANs are created, issue the **show vlan brief** command
  - Switch# show vlan brief

Step 2. Assign the VLAN to ports

- Each port is assigned to a VLAN to allow for inter-VLAN communication. The Fa0/11 interface belongs to VLAN 10, and the Fa0/6 interface belongs to VLAN 20.
- For Fa0/11, the command is interface fa0/11. Issue the switchport mode access command to set the port to access mode. The switchport access vlan 10 command assigns VLAN 10 to that port.
  - Switch(config)#interface fa0/11
  - Switch(config)#switchport mode access
  - Switch(config)# switchport access vlan 10
- Repeat the steps for the Fa0/6 interface VLAN 20.
- The Fa0/5 port on switch is set to trunk, which allows it to carry information from both VLAN 10 and VLAN 20. From the Fa0/5 interface, issue the switchport mode trunk command to set the port to trunk.
  - Switch (config-if)#interface fa0/5
  - Switch (config-if)#switchport mode trunk

Step 3. Test connectivity between PC1 and PC2

Source	Destination	Result
PC1	PC2	

Task 2: Configure IP addressing

Step 1. Configure subinterfaces with 801.1Q encapsulation.

- Create two subinterfaces on Router : fa0/1.10 and fa0/1.20.
  - Router(config)#interface fa0/1.10
  - Router (config-subif)#encapsulation dot1Q 10
  - Router (config-subif)#ip address 172.17.10.1 255.255.255.0
  - Router (config-subif)#interface fa0/1.20
  - Router (config-subif)#encapsulation dot1Q 20
  - Router (config-subif)#ip address 172.17.20.1 255.255.255.0

Step 2. Test connectivity between PC1 and PC2.

Source	Destination	Result
PC1	PC2	

Task 3: Save the Topology

- Format : <Lastname_Class code>_Laboratory 15
- *Make sure to strictly follow the naming convention*
- *For students with the same lastname, kindly use the format : <LastnameInitial_Class code>_Laboratory 15*

Task 4: Upload your exercise file.

- Using our offline version – myvle.slu.edu.ph, upload your file.

Task 5: Kindly write down your configuration for each PC-PT, Router

Host	Gateway	MAC Address	IP Address	Subnet Mask
PC1				
PC2				
Router				

Task 6: Diagram Your Network

- Kindly sketch and label your diagram. Include labels containing subinterfaces in router and switch.

Criteria	Score	
1. Proper use of devices and equipment.	5	
2. Followed prescribed specifications.	5	
3. Correct configuration of devices.	5	
4. Devices are functioning per specification and configuration	10	
5. Laboratory activity generated the required output.	15	
6. Finished activity within time-frame.	5	
Total	45	