Saint Louis University

School of Accountancy, Management. Computing and Information Studies

1st Semester SY 2020 – 2021

Objectives

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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 14
- *Make sure to strictly follow the naming convention*
- *For students with the same Lastname, kindly use the format: <LastnameInitial_Class code>_Laboratory 14*

Task 4: Upload your exercise file.

- Use a cloud storage service, upload your file. We will be collecting activity files per Term.

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

Host	Gateway	MAC Address	IP Address	Subnet Mask
PC1				
PC2				
Router				