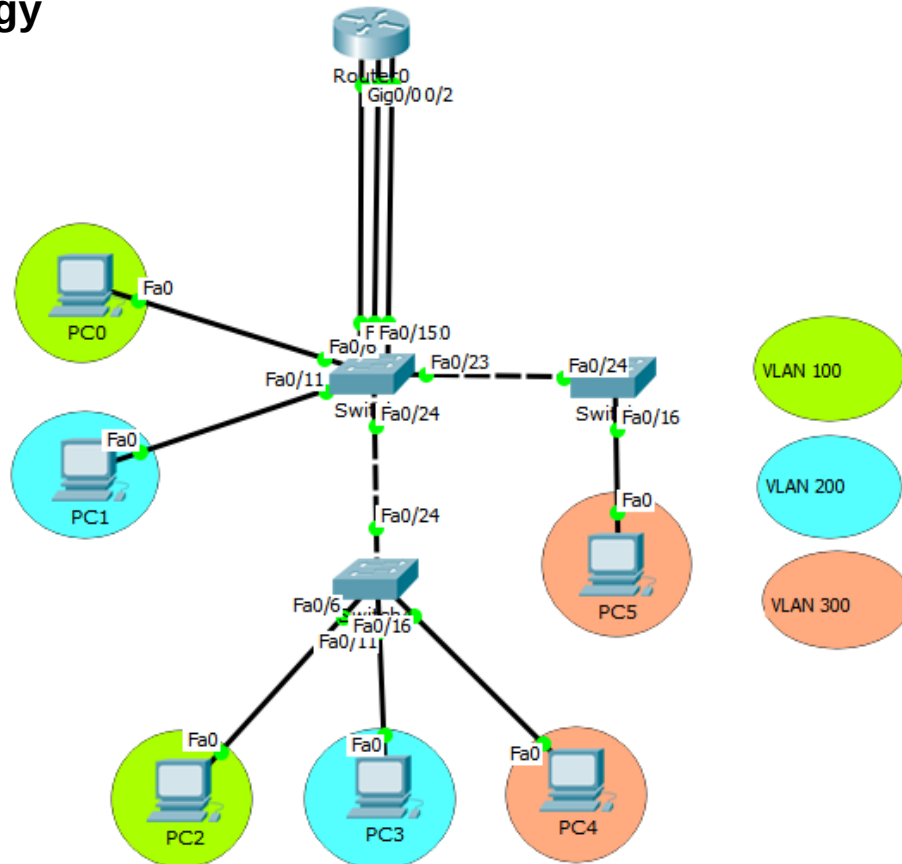# Lab Activity 5.0.0.2 – Configuring Legacy Inter-VLAN Routing Skills Integration

Topology

Addressing Table

Device	Interface	IPv4 Address	Subnet Mask	Default Gateway

VLAN ID	VLAN NAme	PC Assign	Port Assign

Objectives

Part 1: Test

Connectivity without Inter-VLAN Routing

Part 2: Add VLANs to a Switch

Part 3: Configure Subinterfaces

Part 4: Test Connectivity with Inter-VLAN Routing

VLAN and Port Assignments Table

Scenario

In this activity, you will check for connectivity prior to implementing inter-VLAN routing. You will then configure VLANs and inter-VLAN routing. Finally, you will enable trunking and verify connectivity between VLANs.

Part 1: Test Connectivity Without Inter-VLAN Routing

Step 1:   Ping between PC1 and PC3.

Wait for switch convergence or click **Fast Forward Time** a few times. When the link lights are green for **PC1** and **PC3**, ping between **PC1** and **PC3**. Because the two PCs are on separate networks and **Company Router** is not configured, the ping fails.

Step 2:   Switch to Simulation mode to monitor pings.

a. Switch to Simulation mode by clicking the **Simulation** tab or pressing **Shift+S**.

b. Click **Capture/Forward** to see the steps the ping takes between **PC1** and **PC3**. Notice how the ping never leaves **PC1**.

c. What process failed and why?

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Part 2: Add VLANs to a Switch

Step 1:   Create VLANs on Main Switch, 1st Floor Switch and 2nd Floor Switch.

Step 2:   Return to Realtime mode and create VLANS on Main Switch, 1st Floor Switch and 2nd Floor Switch.

Step 3:   Assign VLANs to ports.

a. Configure interface F0/5, F0/11 and F0/16 as access ports and assigned VLANs.

b. Issue the **show vlan brief** command to verify VLAN configuration.

Step 4: Test connectivity between PC1 and PC3.

From **PC1**, ping **PC3**. The pings should still fail. Why were the pings unsuccessful?

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Part 3: Configure Router Interfaces

Step 1: Configure interfaces on Company Router using Inter Vlan Legacy Configuration

a. Identify the port to which a VLAN belongs and connect it to the router's interface, apply the default gateway and turn the interface UP.

b. Do the same process to the rest of the interfaces which the VLAN is connected

• Refer to the **Address Table** and assign the correct IP address to the subinterface.

Step 2: Verify Configuration.

a. Use the **show ip interface brief** command to verify interface configuration. Both interfaces are down. interfaces are virtual interfaces that are associated with a physical interface. Therefore, in order to enable interfaces, you must enable the physical interface that they are associated with.

b. Enable the G0/0 interface. Verify that the interfaces are now active.

Part 4: Test Connectivity with Inter-VLAN Routing

Step 1: Ping between PC1 and PC3.

From **PC1**, ping **PC3**. The pings should still fail.

Step 2: Switch to Simulation mode to monitor pings.

a. Switch to **Simulation** mode by clicking the **Simulation** tab or pressing **Shift+S**.

b. Click **Capture/Forward** to see the steps the ping takes between **PC1** and **PC3**.

Suggested Scoring Rubric – 60 pts. Good for 45 minutes

1. Topology – 10 pts.
2. VLAN assignment and Configuration – 20 pts.
3. InterVLAN Configuration – 20 pts.
4. Addressing and Connectivity – 10 pts.