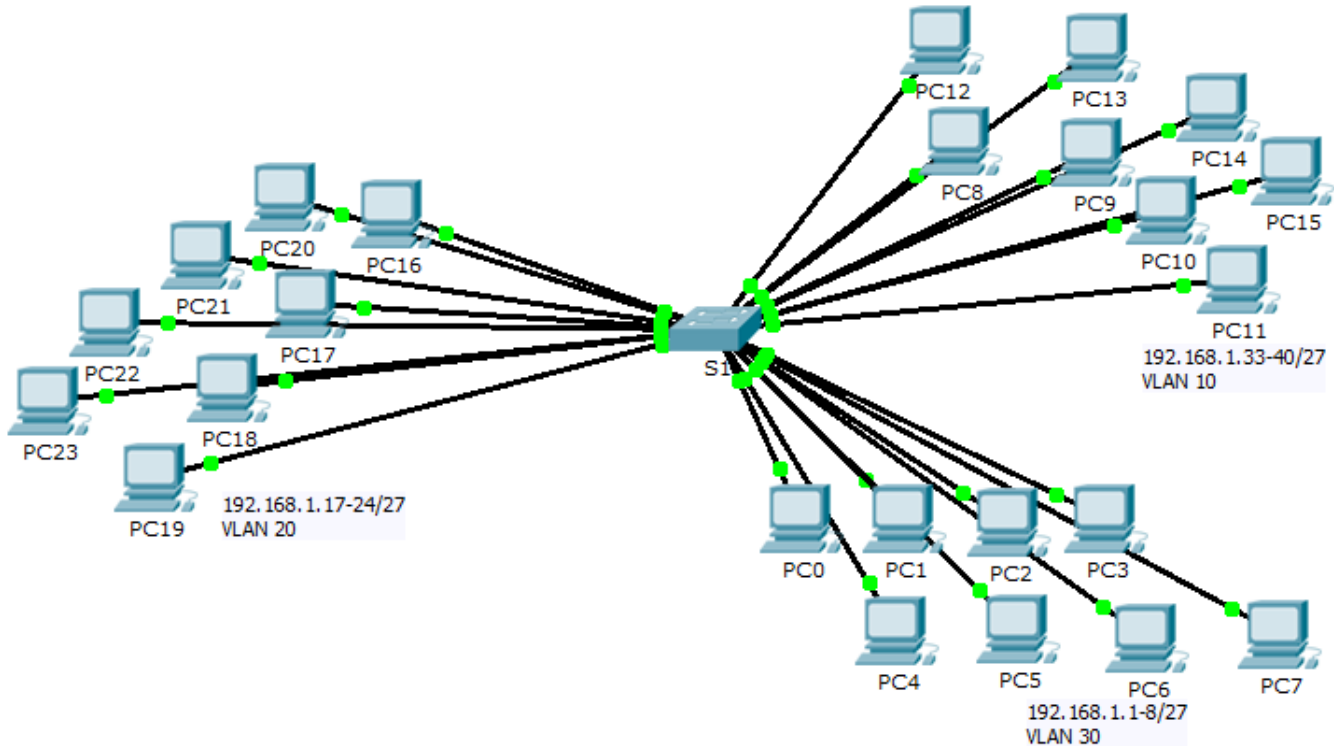


# Packet Tracer – Who Hears the Broadcast?

## Topology



## Objectives

**Part 1: Observe Broadcast Traffic in a VLAN Implementation**

**Part 2: Complete Review Questions**

## Scenario

In this activity, a 24-port Catalyst 2960 switch is fully populated. All ports are in use. You will observe broadcast traffic in a VLAN implementation and answer some reflection questions.

## Part 1: Observe Broadcast Traffic in a VLAN Implementation

### Step 1: Use ping to generate traffic.

- Click **PC0** and click the **Desktop** tab > **Command Prompt**.
- Enter the **ping 192.168.1.8** command. The ping should succeed.

Unlike a LAN, a VLAN is a broadcast domain created by switches. Using Packet Tracer **Simulation** mode, ping the end devices within their own VLAN. Based on your observation, answer the questions in Step 2.

### Step 2: Generate and examine broadcast traffic.

- Switch to **Simulation** mode.

## Packet Tracer - Who Hears the Broadcast?

---

- b. Click **Edit Filters** in the Simulation Panel. Uncheck the **Show All/None** checkbox. Check the **ICMP** checkbox.
- c. Click the **Add Complex PDU** tool, this is the open envelope icon on the right toolbar.
- d. Float the mouse cursor over the topology and the pointer changes to an envelope with a plus (+) sign.
- e. Click **PC0** to serve as the source for this test message and the **Create Complex PDU** dialog window opens. Enter the following values:
  - Destination IP Address: 255.255.255.255 (broadcast address)
  - Sequence Number: 1
  - One Shot Time: 0

Within the PDU settings, the default for **Select Application**: is PING. What are at least 3 other applications available for use?

- f. Click **Create PDU**. This test broadcast packet now appears in the **Simulation Panel Event List**. It also appears in the PDU List window. It is the first PDU for Scenario 0.
- g. Click **Capture/Forward** twice. What happened to the packet?
  
- h. Repeat this process for **PC8** and **PC16**.

## Part 2: Complete Review Questions

1. If a PC in VLAN 10 sends a broadcast message, which devices receive it?
2. If a PC in VLAN 20 sends a broadcast message devices receive it?
3. If a PC in VLAN 30 sends a broadcast message devices receive it?
4. What happens to a frame sent from a PC in VLAN 10 to a PC in VLAN 30?
  
5. Which ports on the switch light up if a PC connected to port 11 sends a unicast message to a PC connected to port 13?
6. Which ports on the switch light if a PC connected to port 2 sends a unicast message to a PC connected to port 23?
7. In terms of ports, what are the collision domains on the switch?
  
8. In terms of ports, what are the broadcast domains on the switch?

## Suggested Scoring Rubric

There are 10 questions worth 10 points each.