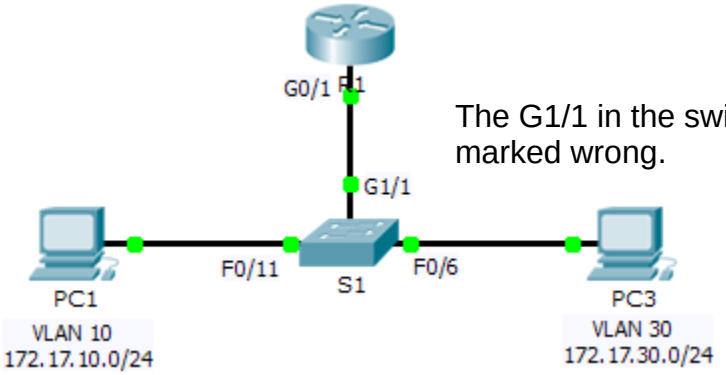
Packet Tracer – Troubleshooting Inter-VLAN Routing

Topology



The G1/1 in the switch is G0/1, the topology is marked wrong.

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway	VLAN
R1	G0/1.10	172.17.10.1	255.255.255.0	N/A	VLAN 10
	G0/1.30	172.17.30.1	255.255.255.0	N/A	VLAN 30
PC1	NIC	172.17.10.10	255.255.255.0	172.17.10.1	VLAN 10
PC3	NIC	172.17.30.10	255.255.255.0	172.17.30.1	VLAN 30

Objectives

Part 1: Locate Network Problems

Part 2: Implement the Solution

Part 3: Verify Network Connectivity

Scenario

In this activity, you will troubleshoot connectivity problems caused by improper configurations related to VLANs and inter-VLAN routing.

Part 1: Locate the Network Problems

Examine the network and locate the source of any connectivity issues.

- Test connectivity and use the necessary **show** commands on to verify configurations.
- List all of the problems and possible solutions in the **Documentation Table**.

Documentation Table

Problems	Solutions
The G0/1 physical interface is up but G0/1.10 subinterface is administratively down.	conf t interface g0/1.10 no shutdown implement no shutdown for that interface
PC3 is configured with wrong default gateway	Go to PC3, then move to desktop and choose IP configuration, change default gateway from 172.17.10.1 to 172.17.30.1
Interface G0/1 in the switch is configured as access mode instead of trunk mode, because it contains 2 vlans so it must be configured as trunk mode	conf t no switchport mode switchport mode trunk change the mode from access to trunk
The subinterfaces from R1 is misconfigured, interface g0/1.10 should be assigned with vlan 10 not 30, interface g0/1.30 should be 30 not 10.	Go to each subinterfaces and then use command "no encapsulation dot1q", after that reassign each subinterface to it correct vlan with "encapsulation dot1q vlan_id"

Part 2: Implement the Solutions

Make changes according to your recommended solutions.

Part 3: Verify Network Connectivity

Verify the PCs can ping other PCs and R1. If not, continue to troubleshoot until the pings are successful.

Suggested Scoring Rubric

Packet Tracer scores 60 points. Completing the **Documentation Table** is worth 40 points.