Packet Tracer - Troubleshoot Inter-VLAN Routing

# 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 |
| R1 | 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 |

Blank Line, No additional information

# 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.

# Instructions

## Locate the Network Problems

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

Open configuration window

Commands you may find useful include:

R1# **show ip interface brief**

R1# **show interface g0/1.10**

R1# **show interface g0/1.30**

S1# **show interface trunk**

* Test connectivity and use the necessary **show** commands to verify configurations.
* Verify that all configured settings match the requirements shown in the Addressing Table.
* 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. | Implement the no shutdown command to enable the G0/1.10 subinterface. |
| PC3 is configured with the wrong default gateway address. | Change the default gateway on PC3 from 172.17.10.1 to 172.17.30.1 |
| Interface G0/1 on S1 is configured as an access port instead of trunk port. | Use the command switchport mode trunk to change the interface from access mode to trunk mode. |
| Subinterface VLAN assignments are switched on R1. The configured assignments do not match the ones shown in the Addressing Table. | Issue the no encapsulation dot1q command to remove the incorrect configuration. Then configure the subinterfaces with the correct encapsulation dot1q vlan\_number command. Reenter the correct IP address information. |

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## Implement the Solutions

Implement your recommended solutions.

Close configuration window

## Verify Network Connectivity

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

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