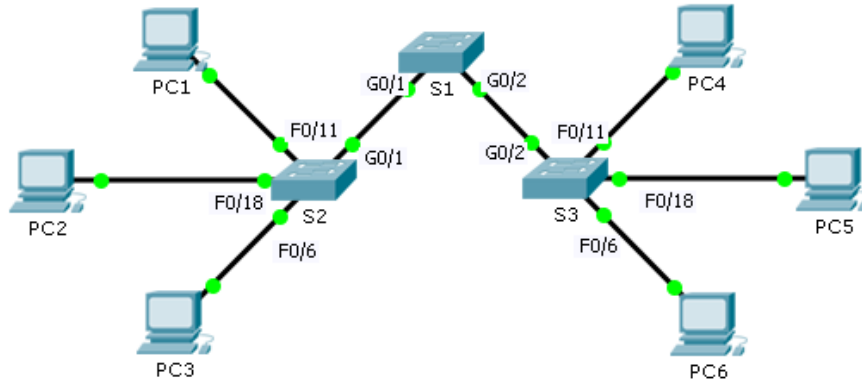


Packet Tracer – Troubleshooting a VLAN Implementation

Scenario 2 (Instructor Version)

Instructor Note: Red font color or Gray highlights indicate text that appears in the instructor copy only.

Topology



Addressing Table

Device	Interface	IPv4 Address	Subnet Mask	Default Gateway
S1	VLAN 56	192.168.56.11	255.255.255.0	N/A
S2	VLAN 56	192.168.56.12	255.255.255.0	N/A
S3	VLAN 56	192.168.56.13	255.255.255.0	N/A
PC1	NIC	192.168.10.21	255.255.255.0	192.168.10.1
PC2	NIC	192.168.20.22	255.255.255.0	192.168.20.1
PC3	NIC	192.168.30.23	255.255.255.0	192.168.30.1
PC4	NIC	192.168.10.24	255.255.255.0	192.168.10.1
PC5	NIC	192.168.20.25	255.255.255.0	192.168.20.1
PC6	NIC	192.168.30.26	255.255.255.0	192.168.30.1

VLAN and Port Assignments

Ports	VLAN Number - Name	Network
F0/1 – F0/5	VLAN 56 – Management&Native	192.168.56.0/24
F0/6 – F0/10	VLAN 30 – Guest(Default)	192.168.30.0/24
F0/11 – F0/17	VLAN 10 – Faculty/Staff	192.168.10.0/24
F0/18 – F0/24	VLAN 20 – Students	192.168.20.0/24

Objectives

Part 1: Find and Correct the Network Errors

Part 2: Document the Corrections to the Network

Part 3: Implement Solutions and Test Connectivity

Background

In this activity, you will troubleshoot a misconfigured VLAN environment. The initial network has errors. Your objective is to locate and correct the errors in the configurations and establish end-to-end connectivity. Your final configuration should match the Topology diagram and Addressing Table. The native VLAN for this topology is VLAN 56.

Part 1: Discover and Document Issues in the Network

Use the Topology, Addressing Table, VLAN and Port Assignments table and your knowledge of VLANs and trunking to discover issues in the network. Complete the **Documentation** table listing the problems you discovered and potential solutions.

Documentation

Problems	Solutions
S2 G0/1 is configured as an access port instead of a trunk port	Implement switchport mode trunk command
S1 is not configured with any VLANs, just trunks.	Use the necessary commands on S1 to configure the VLANs and set the native VLAN on the trunks.
S3 ports are not assigned to a VLAN	Implement switchport access vlan # command based the Port Assignments table
There is a native VLAN mismatch	Configure the trunk ports on S1 in native VLAN 56.

Part 2: Implement the Solution and Test Connectivity

Verify PCs on the same VLAN can now ping each other. If not, continue to troubleshoot.

Suggested Scoring Rubric

Packet Tracer scores 70 points. Documentation in Part 2, Step 3 is worth 30 points.

```
!S1!!!!!!!!!!!!!!
en
conf t
```

Packet Tracer - Troubleshooting a VLAN Implementation Scenario 2

```
vlan 56
name Management&Native
vlan 30
name Guest(Default)
vlan 10
name Faculty/Staff
vlan 20
name Students
int range g0/1 - 2
switchport trunk native vlan 56
```

```
!S2!!!!!!!!!!!!!!!!!!!!
```

```
en
conf t
int g0/1
switchport mode trunk
```

```
!S3!!!!!!!!!!!!!!!!!!!!
```

```
en
conf t
int range fa0/1 - 5
switchport access vlan 56
int range fa0/6 - 10
switchport access vlan 30
int range fa0/11 - 17
switchport access vlan 10
int range fa0/18 - 24
switchport access vlan 20
```