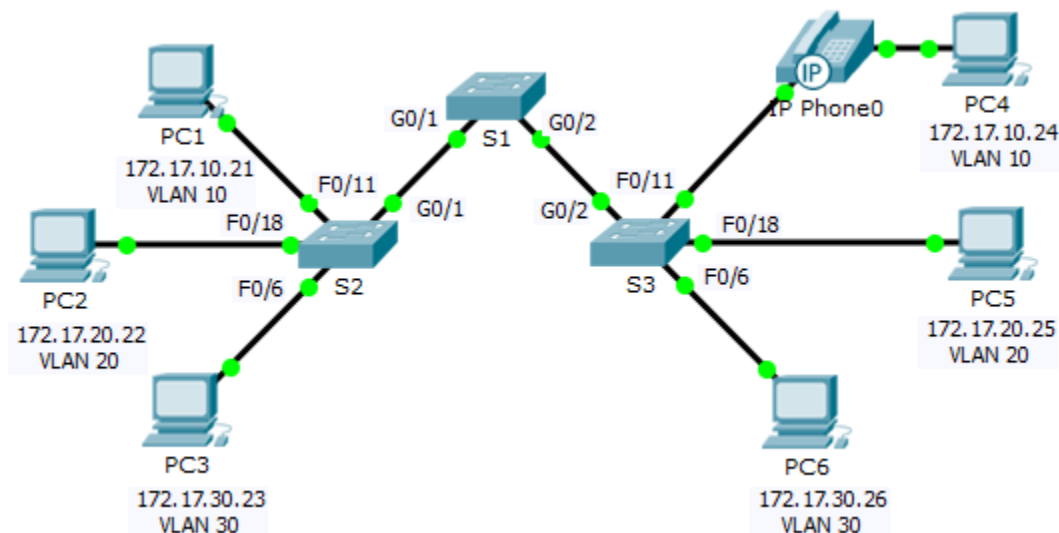


Packet Tracer – Configuring VLANs

Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask	VLAN
PC1	NIC	172.17.10.21	255.255.255.0	10
PC2	NIC	172.17.20.22	255.255.255.0	20
PC3	NIC	172.17.30.23	255.255.255.0	30
PC4	NIC	172.17.10.24	255.255.255.0	10
PC5	NIC	172.17.20.25	255.255.255.0	20
PC6	NIC	172.17.30.26	255.255.255.0	30

Objectives

Part 1: Verify the Default VLAN Configuration

Part 2: Configure VLANs

Part 3: Assign VLANs to Ports

Background

VLANs are helpful in the administration of logical groups, allowing members of a group to be easily moved, changed, or added. This activity focuses on creating and naming VLANs, and assigning access ports to specific VLANs.

Part 1: View the Default VLAN Configuration

Step 1: Display the current VLANs.

On S1, issue the command that displays all VLANs configured. By default, all interfaces are assigned to VLAN 1.

Step 2: Verify connectivity between PCs on the same network.

Notice that each PC can ping the other PC that shares the same network.

- PC1 can ping PC4
- PC2 can ping PC5
- PC3 can ping PC6

Pings to PCs in other networks fail.

What benefit will configuring VLANs provide to the current configuration?

Part 2: Configure VLANs

Step 1: Create and name VLANs on S1.

Create the following VLANs. Names are case-sensitive:

- VLAN 10: Faculty/Staff
- VLAN 20: Students
- VLAN 30: Guest(Default)
- VLAN 99: Management&Native
- VLAN 150: VOICE

Step 2: Verify the VLAN configuration.

Which command will only display the VLAN name, status, and associated ports on a switch?

Step 3: Create the VLANs on S2 and S3.

Using the same commands from Step 1, create and name the same VLANs on S2 and S3.

Step 4: Verify the VLAN configuration.

Part 3: Assign VLANs to Ports

Step 1: Assign VLANs to the active ports on S2.

Configure the interfaces as access ports and assign the VLANs as follows:

- VLAN 10: FastEthernet 0/11

- VLAN 20: FastEthernet 0/18
- VLAN 30: FastEthernet 0/6

Step 2: Assign VLANs to the active ports on S3.

S3 uses the same VLAN access port assignments as S2. Configure the interfaces as access ports and assign the VLANs as follows:

- VLAN 10: FastEthernet 0/11
- VLAN 20: FastEthernet 0/18
- VLAN 30: FastEthernet 0/6

Step 3: Assign the VOICE VLAN to FastEthernet 0/11 on S3.

As shown in the topology, the S3 FastEthernet 0/11 interface connects to a Cisco IP Phone and PC4. The IP phone contains an integrated three-port 10/100 switch. One port on the phone is labeled Switch and connects to F0/4. Another port on the phone is labeled PC and connects to PC4. The IP phone also has an internal port that connects to the IP phone functions.

The S3 F0/11 interface must be configured to support user traffic to PC4 using VLAN 10 and voice traffic to the IP phone using VLAN 150. The interface must also enable QoS and trust the Class of Service (CoS) values assigned by the IP phone.

Step 4: Verify loss of connectivity.

Previously, PCs that shared the same network could ping each other successfully.

Try pinging between PC1 and PC4. Although the access ports are assigned to the appropriate VLANs, were the pings successful? Why?

What could be done to resolve this issue?

Suggested Scoring Rubric

Activity Section	Question Location	Possible Points	Earned Points
Part 1: Verify the Default VLAN Configuration	Step 2	2	
Part 2: Configure VLANs	Step 2	2	
Part 3: Assign VLANs to Ports	Step 3	2	
Packet Tracer Score		94	
Total Score		100	