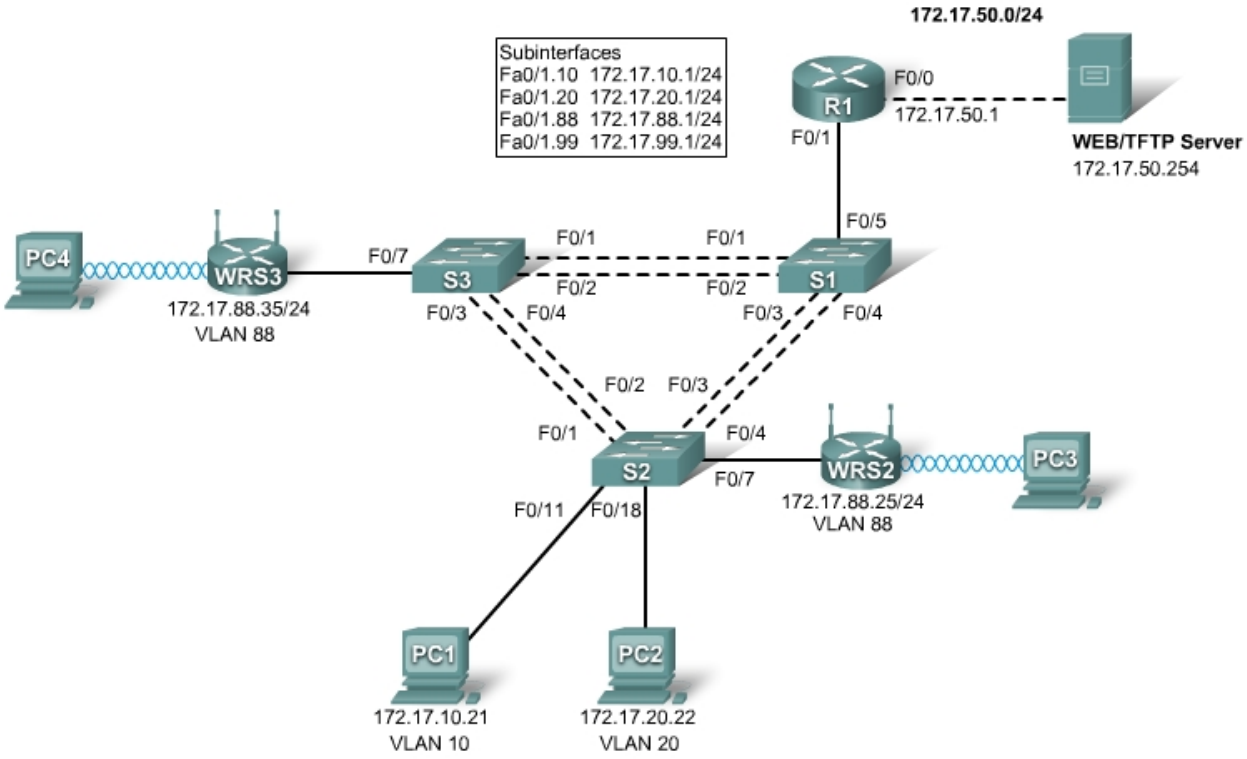
PT Activity 7.6.1: Packet Tracer Skills Integration Challenge

Topology Diagram



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	**Fa0/0**	172.17.50.1	255.255.255.0	N/A
	Fa0/1.10	172.17.10.1	255.255.255.0	N/A
	Fa0/1.20	172.17.20.1	255.255.255.0	N/A
	Fa0/1.88	172.17.88.1	255.255.255.0	N/A
	Fa0/1.99	172.17.99.1	255.255.255.0	N/A
WRS2	**Internet**	172.17.88.25	255.255.255.0	172.17.88.1
	LAN	172.17.40.1	255.255.255.0	N/A
WRS3	**Internet**	172.17.88.35	255.255.255.0	172.17.88.1
	LAN	172.17.30.1	255.255.255.0	N/A

Addressing Table continued on the next page

Addressing Table continued

S1	**VLAN 99**	172.17.99.31	255.255.255.0	172.17.99.1
S2	**VLAN 99**	172.17.99.32	255.255.255.0	172.17.99.1
S3	**VLAN 99**	172.17.99.33	255.255.255.0	172.17.99.1
PC1	**NIC**	172.17.10.21	255.255.255.0	172.17.10.1
PC2	**NIC**	172.17.20.22	255.255.255.0	172.17.20.1

Learning Objectives

- Configure and verify basic device configurations.
- Configure VTP.
- Configure trunking.
- Configure VLANs.
- Assign VLAN to ports.
- Configure STP.
- Configure router-on-a-stick inter-VLAN routing.
- Configure wireless connectivity.
- Verify end-to-end connectivity.

Introduction

In this final Packet Tracer Skills Integration Challenge activity for the Exploration: LAN Switching and Wireless course, you will apply all the skills you have learned including configuring VLANs and VTP, optimizing STP, enabling inter-VLAN routing and integrating wireless connectivity.

Task 1: Configure and Verify Basic Device Configurations

Step 1. Configure basic commands.

Configure each switch with the following basic commands. Packet Tracer only grades the hostnames and default gateways.

- Hostnames
- Banner
- Enable secret password
- Line configurations
- Service encryption
- Switch default gateways

Step 2. Configure the management VLAN interface on S1, S2, and S3.

Create and enable interface VLAN 99 on each switch. Use the addressing table for address configuration.

Step 3. Check results.

Your completion percentage should be 13%. If not, click **Check Results** to see which required components are not yet completed.

Task 2: Configure VTP

Step 1. Configure the VTP mode on all three switches.

Configure S1 as the server. Configure S2 and S3 as clients.

Step 2. Configure the VTP domain name on all three switches.

Use **CCNA** as the VTP domain name.

Step 3. Configure the VTP domain password on all three switches.

Use **cisco** as the VTP domain password.

Step 4. Check results.

Your completion percentage should be 21%. If not, click **Check Results** to see which required components are not yet completed.

Task 3: Configure Trunking

Step 1. Configure trunking on S1, S2, and S3.

Configure the appropriate interfaces as trunks and assign VLAN 99 as the native VLAN.

Step 2. Check results.

Your completion percentage should be 44%. If not, click **Check Results** to see which required components are not yet completed.

Task 4: Configure VLANs

Step 1. Create the VLANs on S1.

Create and name the following VLANs on S1 only. VTP advertises the new VLANs to S2 and S3.

- VLAN 10 **Faculty/Staff**
- VLAN 20 **Students**
- VLAN 88 **Wireless(Guest)**
- VLAN 99 **Management&Default**

Step 2. Verify that VLANs have been sent to S2 and S3.

Use the appropriate commands to verify that S2 and S3 now have the VLANs you created on S1. It may take a few minutes for Packet Tracer to simulate the VTP advertisements.

Step 3. Check results.

Your completion percentage should be 54%. If not, click **Check Results** to see which required components are not yet completed.

Task 5: Assign VLANs to Ports

Step 1. Assign VLANs to access ports on S2 and S3.

Assign the PC access ports to VLANs:

- VLAN 10: PC1
- VLAN 20: PC2

Assign the wireless router access ports to VLAN 88.

Step 2. Verify VLAN implementation.

Use the appropriate commands to verify your VLAN implementation.

Step 3. Check results.

Your completion percentage should be 61%. If not, click **Check Results** to see which required components are not yet completed.

Task 6: Configure STP

Step 1. Ensure that S1 is the root bridge for all spanning tree instances.

Use 4096 priority.

Step 2. Verify that S1 is the root bridge.

Step 3. Check results.

Your completion percentage should be 66%. If not, click **Check Results** to see which required components are not yet completed.

Task 7: Configure Router-on-a-Stick Inter-VLAN Routing

Step 1. Configure subinterfaces.

Configure the Fa0/1 subinterfaces on R1 using the information from the addressing table.

Step 2. Check results.

Your completion percentage should be 79%. If not, click **Check Results** to see which required components are not yet completed.

Task 8: Configure Wireless Connectivity

Step 1. Configure IP Addressing for WRS2 and WRS3.

Configure LAN settings and then static addressing on the Internet interfaces for both WRS2 and WRS3 using the addresses from the topology.

Note: A bug in Packet Tracer may prevent you from assigning the static IP address first. A workaround for this issue is to configure the LAN settings first under Network Setup. Save the settings. Then configure the static IP information under Internet Connection Type and save settings again.

Step 2. Configure wireless network settings.

- The SSIDs for the routers are WRS2_LAN and WRS3_LAN, respectively.
- The WEP for both is 12345ABCDE.

Step 3. Configure the wireless routers for remote access.

Configure the administration password as cisco123.

Step 4. Configure PC3 and PC4 to access the network using DHCP.

PC3 connects to the WRS2_LAN, and PC4 connects to the WRS3_LAN.

Step 5. Verify remote access capability.

Step 6. Check results.

Your completion percentage should be 100%. If not, click **Check Results** to see which required components are not yet completed.

Task 9: Verify End-to-End Connectivity

Step 1. Verify that PC1 and Web/TFTP Server can ping each other.

Step 2. Verify that PC1 and PC2 can ping each other.

Step 3. Verify that PC3 and PC1 can ping each other.

Step 4. Verify that PC2 and PC3 can ping each other.