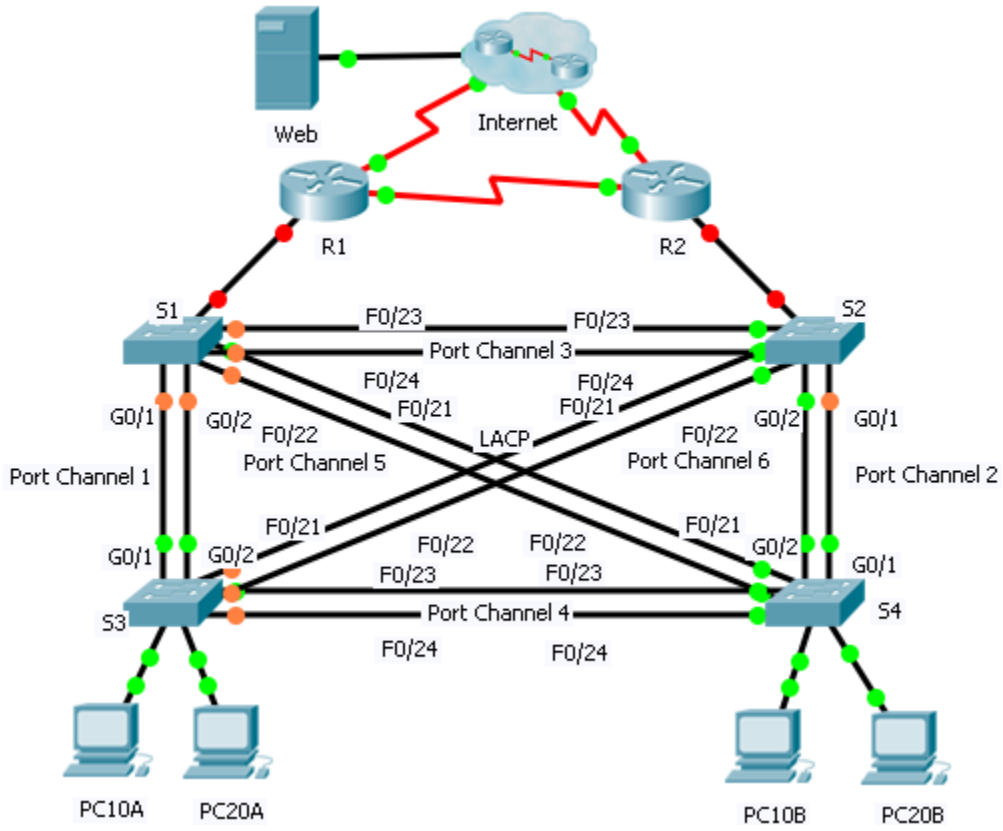
Packet Tracer – Skills Integration Challenge

Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway	VLAN Association
R1	G0/0.1	192.168.99.1	255.255.255.0	N/A	VLAN 99
	G0/0.10	192.168.10.1	255.255.255.0	N/A	VLAN 10
	G0/0.20	192.168.20.1	255.255.255.0	N/A	VLAN 20
	S0/0/0	209.165.200.238	255.255.255.224	N/A	N/A
	S0/0/1	192.168.1.1	255.255.255.0	N/A	N/A
R2	G0/0.1	192.168.99.2	255.255.255.0	N/A	VLAN 99
	G0/0.10	192.168.10.2	255.255.255.0	N/A	VLAN 10
	G0/0.20	192.168.20.2	255.255.255.0	N/A	VLAN 20
	S0/0/0	192.168.1.2	255.255.255.0	N/A	N/A
	S0/0/1	209.165.202.158	255.255.255.224	N/A	N/A
ISP	S0/0/0	209.165.200.225	255.255.255.224	N/A	N/A
	S0/0/1	209.165.202.129	255.255.255.224	N/A	N/A
Web	NIC	64.104.13.130	255.255.255.252	64.104.13.129	N/A
PC10A	NIC	192.168.10.101	255.255.255.0	192.168.10.1	VLAN 10
PC10B	NIC	192.168.10.102	255.255.255.0	192.168.10.1	VLAN 10
PC20A	NIC	192.168.20.101	255.255.255.0	192.168.20.1	VLAN 20
PC20B	NIC	192.168.20.102	255.255.255.0	192.168.20.1	VLAN 20

Scenario

In this activity, two routers are configured to communicate with each other. You are responsible for configuring subinterfaces to communicate with the switches. You will configure inter-VLAN routing with RIPv2, VLANs with VTP, trunking, and EtherChannel with PVST. The PCs and Internet devices are all preconfigured.

Requirements

You are responsible for configuring routers **R1** and **R2** and switches **S1**, **S2**, **S3**, and **S4**.

Note: Packet Tracer does not allow assigning point values less than 1. Because this activity is checking over 150 items, not all configurations are assigned a point value. Click **Check Results** > **Assessment Items** to verify you have correctly configured all items.

Inter-VLAN Routing

On **R1** and **R2**, enable and configure the subinterfaces with the following requirement:

- Configure the appropriate dot1Q encapsulation.
- Configure VLAN 99 as the native VLAN.
- Configure the IP address for the subinterface according to the Addressing Table.

Routing

Configure RIPv2 using the following requirements:

- Do not advertise the network connected to the Internet.
- Disable autosummarization.
- Disable RIP updates for each subinterface.

VTP and VLANs

- Configure S1 as the VTP server. Configure all other switches as VTP clients. They are not allowed to create VLANs.
  - VTP domain is **CCNA**.
  - VTP password is **cisco123**.
- Create VLAN 10, 20, and 99 on **S1**.
- Configure the following static ports for **S1** and **S2**:
  - F0/1 – 9 as access ports in VLAN 10.
  - F0/10 – 19 as access ports in VLAN 20.
  - F0/20 – F24 and G0/1 – 0/2 as the native trunk for VLAN 99.
- Configure the following static ports for **S3** and **S4**:
  - F0/1 – 9 as access ports in VLAN 10.
  - F0/10 – 20 as access ports in VLAN 20.
  - F0/21 – F24 and G0/1 – 0/2 as the native trunk for VLAN 99.

EtherChannels

- All EtherChannels are configured as LACP.
- All EtherChannels are statically configured to trunk all VLANs including VLAN 99 as the native VLAN.
- Use the following table to configure the appropriate switch ports to form EtherChannels:

Port Channel	Device: Ports	Device: Ports
1	S1: G0/1 – 2	S3: G0/1 – 2
2	S2: G0/1 – 2	S4: G0/1 – 2
3	S1: F0/23 – 24	S2: F0/23 – 24
4	S3: F0/23 – 24	S4: F0/23 – 24
5	S1: F0/21 – 22	S4: F0/21 – 22
6	S2: F0/21 – 22	S3: F0/21 - 22

Spanning Tree

- Configure per-VLAN rapid spanning tree mode for all switches.

- Configure spanning tree priorities according to the table below:

Device	VLAN 10 Priority	VLAN 20 Priority
S1	4096	8192
S2	8192	4096
S3	32768	32768
S4	32768	32768

Connectivity

- All PCs should be able to ping the **Web** and other PCs.