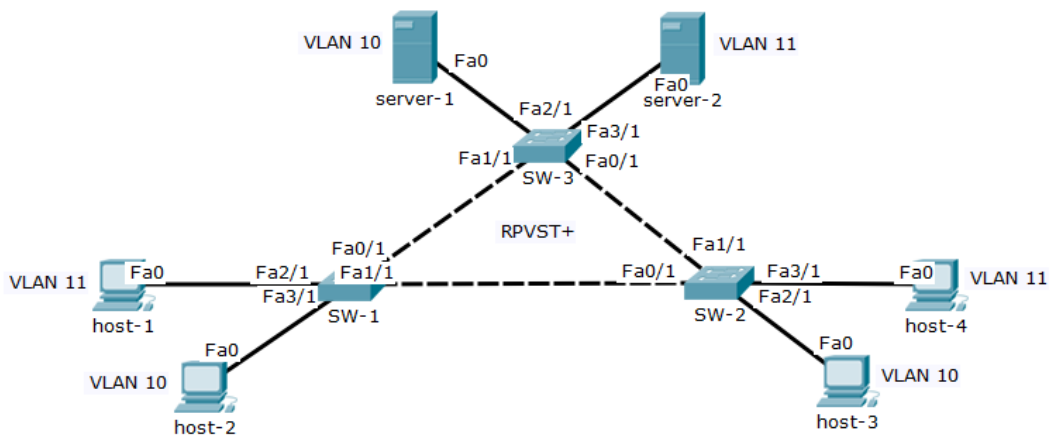


Rapid PVST+

Lab Summary

Configure Rapid Per VLAN Spanning Tree Protocol (RPVST+) for VLAN 10 and VLAN 11 to enable communication between hosts and servers.

Figure 1 Lab Topology



Lab Configuration

Start Packet Tracer File: **RPVST+**

Switch 1:

Click on the *switch-1* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 1: Enter global configuration mode.

```
switch-1> enable
Password: cisco
switch-1# configure terminal
```

Step 2: Assign Fa0/1 as a trunk interface and allow VLAN 10 and VLAN 11.

```
switch-1(config)# interface fastethernet0/1
switch-1(config-if)# switchport mode trunk
switch-1(config-if)# switchport trunk allowed vlan 10-11
switch-1(config-if)# exit
```

Step 3: Assign Fa1/1 as a trunk interface and allow VLAN 10 and VLAN 11.

```
switch-1(config)# interface fastethernet1/1  
switch-1(config-if)# switchport mode trunk  
switch-1(config-if)# switchport trunk allowed vlan 10-11  
switch-1(config-if)# exit
```

Step 4: Enable Rapid Per VLAN Spanning Tree Protocol (RPVST+).

```
switch-1(config)# spanning-tree mode rapid-pvst  
switch-1(config)# end  
switch-1# copy running-config startup-config
```

Switch-2:

Click on the *switch-2* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 5: Enter global configuration mode.

```
switch-2> enable  
Password: cisconet  
switch-2# configure terminal
```

Step 6: Assign Fa0/1 as a trunk interface and allow VLAN 10 and VLAN 11.

```
switch-2(config)# interface fastethernet0/1  
switch-2(config-if)# switchport mode trunk  
switch-2(config-if)# switchport trunk allowed vlan 10-11  
switch-2(config-if)# exit
```

Step 7: Assign Fa1/1 as a trunk interface and allow VLAN 10 and VLAN 11.

```
switch-2(config)# interface fastethernet1/1  
switch-2(config-if)# switchport mode trunk  
switch-2(config-if)# switchport trunk allowed vlan 10-11  
switch-2(config-if)# exit
```

Step 8: Enable Rapid Per VLAN Spanning Tree Protocol (RPVST+).

```
switch-2(config)# spanning-tree mode rapid-pvst  
switch-2(config)# end  
switch-2# copy running-config startup-config
```

Switch-3:

Click on the *switch-3* icon and select the *CLI* folder. Hit the <enter> key for user mode prompt (>).

Step 9: Enter global configuration mode.

```
switch-3> enable  
Password: cisconet  
switch-3# configure terminal
```

Step 10: Assign Fa0/1 as a trunk interface and allow VLAN 10 and VLAN 11.

```
switch-3(config)# interface fastethernet0/1  
switch-3(config-if)# switchport mode trunk  
switch-3(config-if)# switchport trunk allowed vlan 10-11  
switch-3(config-if)# exit
```

Step 11: Assign Fa1/1 as a trunk interface and allow VLAN 10 and VLAN 11.

```
switch-3(config)# interface fastethernet1/1  
switch-3(config-if)# switchport mode trunk  
switch-3(config-if)# switchport trunk allowed vlan 10-11  
switch-3(config-if)# exit
```

Step 12: Configure Rapid Per VLAN Spanning Tree Protocol (RPVST+).

```
switch-3(config)# spanning-tree mode rapid-pvst  
switch-3(config)# end  
switch-3# copy running-config startup-config
```

Step 13: Verify Lab

Verify switch configurations including version, root bridge assigned and port states for VLAN 10 and 11. Repeat the following IOS commands on switch-1 and switch-2.

```
switch-1# show running-config
```

```
switch-3# show spanning-tree summary
```

Switch is in **rapid-pvst mode**

Root bridge for: VLAN0010 VLAN0011

Extended system ID	is enabled
--------------------	------------

Portfast Default	is disabled
-------------------------	--------------------

PortFast BPDU Guard Default	is disabled
-----------------------------	-------------

Portfast BPDU Filter Default	is disabled
------------------------------	-------------

Loopguard Default	is disabled
-------------------	-------------

EtherChannel misconfig guard is disabled
UplinkFast is disabled
BackboneFast is disabled
Configured Pathcost method used is short

Name	Blocking	Listening	Learning	Forwarding	STP Active
-----	-----	-----	-----	-----	-----
VLAN0010	1	0	0	3	4
VLAN0011	1	0	0	3	4
-----	-----	-----	-----	-----	-----
3 vlans	2	0	0	6	8

switch-3# **show spanning-tree vlan 10**

Lab Notes: The root bridge for VLAN 10 and VLAN 11 is switch-3