A bunch of colorful wires on a server

AI-generated content may be incorrect. Setting Up Spanning Tree Protocol Root Bridges with the Cisco IOS Macro

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For my project, I focused on configuring Spanning Tree Protocol (STP) Root Bridges using the Cisco IOS Macro. The goal of this lab exercise was to get hands-on experience with setting up a switch to automatically adjust its Spanning Tree priority for a specific VLAN or a group of VLANs. By doing this, I ensured that the switch I configured would have the best shot at being elected as the root bridge in the network.

The purpose behind this setup is pretty straightforward but super important. Configuring the root bridge for a VLAN is a core skill because it helps make the Layer 2 network predictable and stable. Rather than letting the network figure things out on its own, I learned it’s always better to manually set the root bridge. This way, I can control how the network behaves and avoid any unexpected issues down the line.

To bring this concept to life, I also created a diagram for the project. It shows a network setup with a central switch that I configured as the root bridge for multiple VLANs. The diagram highlights how Spanning Tree Protocol works in action, keeping everything organized and loop-free. This hands-on approach really helped me understand why manually configuring the root bridge matters so much in a real-world network.

Here’s how I’d explain this as if I’m presenting it for my project:

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For this project, I worked through a series of tasks to set up and configure a network using Spanning Tree Protocol and VLANs. Let me walk you through what I did.

Task 1:

To get started with the VLAN configuration, I set up hostnames on both switches—Sw1 and Sw2. This made it easier to keep track of them. Then, I configured the VLANs based on the topology I was working with. It was a simple first step, but it laid the groundwork for everything else.

Task 2:

Next, I configured both switches to support the VLANs listed in the topology. I created the VLANs and double-checked that they showed up on both Sw1 and Sw2. After that, I set up the FastEthernet0/1 interface on both switches as a trunk link. This was key to making sure the VLAN traffic could flow between the switches properly.

Task 3:

Here’s where things got interesting. I configured Sw1 to act as the root bridge for VLANs 2010 and 2030, and Sw2 as the root bridge for VLANs 2020 and 2040. But I didn’t stop there—I also set up the switches to automatically adjust their priorities to keep everything consistent. Specifically, I made it so Sw1 is always the root bridge for VLANs 2010 and 2030, with Sw2 as the backup root bridge for those. Then, I flipped it for VLANs 2020 and 2040, where Sw2 is always the root bridge and Sw1 is the backup. This setup ensures the network stays predictable no matter what.

Task 4:

Finally, I verified everything I’d done using the right commands. I checked that the VLANs were active, the trunk was working, and the root bridge priorities were set correctly. Seeing it all come together was satisfying—it showed me the configuration was solid

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