

How to configure uplink on the core switch



Overview

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Key Takeaways

Configure uplinks on a core switch using trunk ports, VLAN alignment, and optionally EtherChannel for redundancy and increased bandwidth. Step 1: Determine Uplink Requirements

Identify whether the uplink will be Layer 2 or Layer 3. For Layer 2, the uplink carries VLAN traffic between switches; for Layer 3, it may carry routed traffic with IP addressing. Decide which VLANs need to traverse the uplink and whether multiple physical links will be aggregated for redundancy and higher throughput .

Step 2: Configure VLANs

Ensure that the VLANs on the core switch match those on the access or distribution switches. If the core switch is running VTP, VLANs can be propagated automatically; otherwise, manually create the VLANs on the core switch . Avoid using VLAN 1 for trunking to prevent accidental propagation of user traffic errors .

Step 3: Configure Trunk Ports

Set the uplink interface as a trunk port to carry multiple VLANs:

```
interface GigabitEthernet1/1 switchport mode trunk switchport trunk native vlan 999  
switchport trunk allowed vlan 10,11,12,100 no shutdown
```

- Native VLAN: Assign a dedicated VLAN (e.g., 999) to prevent untagged traffic from interfering with user VLANs.

- Allowed VLANs: Specify only the VLANs that need to traverse the uplink .

Step 4: Configure EtherChannel (Optional)

For redundancy and higher bandwidth, aggregate multiple uplink ports using LACP:

```
interface Port-channel1 switchport mode trunk switchport trunk allowed vlan  
10,11,12,100
```

Then assign physical interfaces to the port-channel:

```
interface range GigabitEthernet1/1 - 2 channel-group 1 mode active
```

- Use active-active LACP to adhere to IEEE 802.3ad standards.

- Distribute uplink ports across different switches in a stack to avoid a single point of failure .

Step 5: Verify Connectivity

- Check the link status of uplink ports.

- Confirm VLAN propagation and trunking with show vlan and show interfaces trunk.

- Verify spanning tree to ensure the core switch is the root bridge for the VLANs .

Step 6: Layer 3 Considerations (if applicable)

If the uplink is Layer 3:

- Assign an IP address to the interface or port-channel.

- Configure routing protocols or static routes as needed.

- Ensure downstream access switches are configured to use the core switch as the default gateway .

Best Practices

- Use fiber uplinks for distances over 100 meters to maintain performance.

- Avoid mixing interface types in EtherChannel (e.g., Gigabit and 10-Gigabit).

- Keep uplink ports on different physical switches in a stack for resilience.

- Apply QoS policies if needed to prioritize traffic . By following these steps, your core switch uplinks will provide reliable, high-bandwidth, and redundant connectivity to access or distribution switches.

Article Content

Best practices when configuring an Access switch stack to Core

Currently, the access switches physically connect to each other via fiber and only a few switches are directly connected to the Core

Related Video Reference

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