

Using an aggregation switch to create a trunk



Overview

Ethernet trunks carry the traffic of multiple VLANs over a single link, and you can extend the VLANs across an entire network.

Key Takeaways

Creating a trunk on an aggregation switch combines multiple physical ports into a single logical link to increase bandwidth, provide redundancy, and manage traffic efficiently.

Concept of Trunking and Link Aggregation

A trunk is a logical link formed by aggregating two or more physical switch ports. This allows multiple interfaces to function as a single high-bandwidth connection, improving throughput and providing failover if one link fails. Trunks are commonly used to connect switches to servers, other switches, or network devices that support multiple interfaces. Link aggregation can be static (manually configured) or dynamic using LACP (Link Aggregation Control Protocol), which negotiates the aggregation automatically.

Key Considerations

- Port Selection: All ports in a trunk must be of the same media type and not assigned to another trunk or VLAN.
- VLAN Configuration: For VLAN traffic, the trunk can carry multiple VLANs using tagged interfaces. Each VLAN must be assigned to the trunk to allow traffic flow.

- Redundancy: If one port fails, traffic is automatically redistributed across the remaining ports .

- MCLAG (Multi-Chassis Link Aggregation): For advanced setups, trunk members can span multiple switches in a peer group, requiring MCLAG configuration .

Configuration Steps (General)

- Access the Switch: Use the console, SSH, or GUI to log in with administrative privileges .

- Enable Trunking: Turn on trunk mode for the ports to be aggregated .

- Select Ports: Choose two or more physical ports to include in the trunk group .

- Choose Aggregation Mode:

- Static: Manually configure the trunk; no control messages are exchanged.

- Passive LACP: The switch waits for the other side to initiate aggregation.

- Active LACP: The switch actively negotiates aggregation with the peer .

- Assign VLANs: If using VLANs, assign the trunk to carry the desired VLANs as tagged interfaces .

- Save Configuration: Apply and save the configuration to ensure persistence across reboots .

Example: Cisco CLI

```
enable
configure terminal
interface range GigabitEthernet1/0/21 - 22
channel-group 1
mode active
# Active LACP
exit
interface Port-channel 1
switchport mode
trunk
switchport trunk allowed vlan 1,100,200
exit
write memory
```

This example creates a trunk (Port-channel 1) using LACP with two physical ports and allows VLANs 1, 100, and 200 .

Benefits of Using a Trunk

- Increased Bandwidth: Aggregates multiple links for higher throughput.

- Redundancy: Maintains connectivity if a link fails.

- Simplified Management: Treats multiple physical links as a single logical interface.

- Load Balancing: Distributes traffic across aggregated ports based on hashing algorithms .

By following these steps and considerations, you can effectively use an aggregation switch to create a trunk that enhances network performance and reliability.

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Note: A Redundant Trunk Group can also have Link Aggregation Groups (LAGs)/Aggregate Ethernet (AE) interfaces as links. For

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