

Multilayer Switch Configuration

This playbook describes the essential steps for configuring multilayer switches. It includes the setting up of layer 3 switching functionalities, configuring inter-VLAN routing, and establishing various IP services.

Step 1: **Preparation**

Gather all necessary information such as IP addresses, subnet masks, VLAN IDs, and any relevant routing protocols that will be used.

Step 2: **Access Switch**

Connect to the switch using SSH, Telnet, or a console connection to access the switch's command-line interface (CLI).

Step 3: **Enter Privileged Mode**

Enter privileged EXEC mode by typing `enable` in the CLI and providing the required password.

Step 4: **Configuration Mode**

Access the global configuration mode by typing `configure terminal` or `conf t` from the privileged EXEC mode.

Step 5: **Configure VLANs**

Create VLANs as needed by using the `vlan <VLAN_ID>` command and provide a name using the `name <VLAN_NAME>` command within the VLAN configuration mode.

Step 6: **Assign Switchports**

Assign switch ports to VLANs using the `interface <INTERFACE_ID>` command followed by the `switchport access vlan <VLAN_ID>` command in their respective interface configuration modes.

Step 7: **Configure SVIs**

Set up Switched Virtual Interfaces (SVIs) for inter-VLAN routing using the `interface vlan <VLAN_ID>` command, assigning IP addresses with `ip address <IP_ADDRESS> <SUBNET_MASK>` and enabling them with `no shutdown`.

Step 8: **Enable Routing**

Enable layer 3 routing capabilities by typing the `ip routing` command in the global configuration mode.

Step 9: **IP Routing Protocol**

Configure an IP routing protocol such as OSPF or EIGRP if required, using the router protocol commands and specifying networks with network statements.

Step 10: **Verify Configuration**

Verify the configuration is correct and operational using verification commands such as `show ip route`, `show ip interface brief`, and `show vlan`.

Step 11: **Save Configuration**

Save the running configuration to the startup configuration file to ensure changes are persistent after a reboot by using the `write memory` or `copy running-config startup-config` commands.

General Notes

Backups

Always backup the current switch configuration before making changes to avoid loss of service in case of misconfiguration.

ACLs

Consider implementing Access Control Lists (ACLs) for security purposes to control traffic flow between VLANs.

Testing

After configuration, thoroughly test connectivity and routing between VLANs to ensure the network operates as intended.