WORKSHOP WEEK 6 – VLAN & VTP CONFIGURATION

INTRODUCTION

This report documents the configuration and verification of Virtual Local Area Networks (VLANs) and VLAN Trunking Protocol (VTP) across a network of four Cisco Catalyst switches. The goal was to set up one switch as a VTP server and the remaining three as VTP clients, configure VLANs, and ensure proper VLAN propagation across all switches.

NETWORK SETUP

The network consists of four Cisco Catalyst switches and one Desktop PC. The Desktop PC is used to access and configure each switch through a terminal connection.

CONFIGURATION STEPS

Configuring the VTP server:

Initial Setup:

I accessed the VTP-SERVER switch using the Desktop PC. After establishing a terminal connection, I entered configuration mode to modify the switch settings.

VTP Mode Configuration:

The VTP-SERVER switch was set to operate in server mode. This mode allows the switch to create, delete, and modify VLANs, which will then be propagated to all VTP clients within the same VTP domain.

Verification:

To confirm that the VTP-SERVER switch was correctly configured as a server, I verified the VTP mode through a status check. This step was essential to ensure that the server configuration was properly applied.

Configuring the VTP Clients:

Accessing Each VTP Client:

I connected to VTP Client 1 using the Desktop PC and established a terminal connection. The same process was repeated for VTP Client 2 and VTP Client 3.

Setting VTP Mode to Client:

Each switch was configured to operate in client mode. This configuration allows the switches to receive VLAN information from the VTP server but prevents them from making changes to the VLAN configuration.

Configuring Trunk Ports:

I set up the connections between switches to operate in trunk mode. This mode is crucial for allowing VLAN traffic to pass between switches.

Verification:

Each VTP Client was verified to ensure it was correctly set up to receive VLAN information from the VTP Server.

Configuring the VTP Domain Name and Password:

Domain and Password Configuration on VTP Server:

I configured the VTP domain name as "TESTDOMAIN" and set the VTP password to "cisco" on the VTP-SERVER switch. This step ensured that all switches within the domain would recognize and accept the VLAN information from the server.

Consistency Across VTP Clients:

I repeated the domain and password configuration on all VTP Client switches to ensure they were aligned with the VTP-SERVER settings. This step is crucial for maintaining consistency and security across the network.

Creating VLANs:

VLAN Configuration on VTP Server: On the VTP-SERVER switch, I created two VLANs: VLAN 10 with the name "STUDENTS" and VLAN 50 with the name "SERVERS." Creating these VLANs on the VTP Server ensures that they are propagated to all VTP Client switches.

Verification of VLAN Creation: I checked the VLAN configuration on the VTP-SERVER switch to confirm that both VLANs were successfully created.
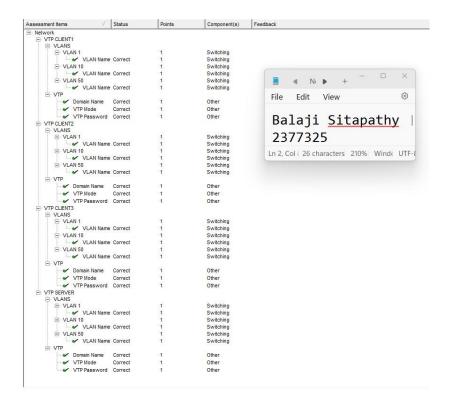
Verifying VLAN Propagation:

Checking VLANs on VTP Clients:

I accessed each VTP Client switch to verify that VLANs 10 (STUDENTS) and 50 (SERVERS) were properly propagated. This verification was done to ensure that the VLAN information had been correctly shared across the network.

Results Verification:

I confirmed that VLANs appeared on all client switches as expected, indicating successful propagation.

Conclusion

The configuration and verification tasks were successfully completed as detailed below.

The VTP-SERVER switch was correctly configured and verified to operate in server mode.

All VTP Client switches were configured to client mode and had their trunk ports set up.

The VTP domain name and password were correctly configured across all switches.

VLANs 10 (STUDENTS) and 50 (SERVERS) were successfully created on the VTP-SERVER and propagated to all VTP Client switches.

Final verification confirmed that VLAN information was correctly propagated and visible on all switches.

The network is now set up with VLANs and VTP correctly configured, ensuring efficient VLAN management and operation across the network.