VTP Lab Guide – Server, Client & Transparent Mode

Objective

This lab teaches how to configure VTP (VLAN Trunking Protocol) across multiple switches and observe how VLANs are automatically propagated. You will configure switches in SERVER, CLIENT, and TRANSPARENT modes and verify behavior using trunk links.

Topology

Use three switches:

- Switch0 – VTP SERVER
- Switch1 – VTP CLIENT
- Switch2 – VTP TRANSPARENT

Connections:
Switch0 Fa0/1 → Switch1 Fa0/1
Switch1 Fa0/2 → Switch2 Fa0/2
All links must be configured as trunk ports.

Step 1: Configure Trunk Ports on All Switches

Switch0:

```
interface range fa0/1 - 2
 switchport mode trunk
```

Switch1:

```
interface range fa0/1 - 2
 switchport mode trunk
```

Switch2:

```
interface range fa0/2 - 3
 switchport mode trunk
```

Step 2: Configure VTP Domain and Password

All switches must share the same VTP domain and password.

Switch0 (Server):

```
vtp domain TELCO
vtp password 123
vtp mode server
```

Switch1 (Client):

```
vtp domain TELCO
vtp password 123
```

vtp mode client

Switch2 (Transparent):
vtp domain TELCO
vtp password 123
vtp mode transparent

Step 3: Create VLANs on VTP Server

On Switch0 (server):
vlan 10
 name HR
vlan 20
 name FINANCE
vlan 30
 name SALES
exit

These VLANs should automatically appear on Switch1 (client).

Step 4: Verify VLAN Propagation

Switch1 (Client):
show vlan brief
• VLANs 10, 20, 30 should appear automatically.

Switch2 (Transparent):
show vlan brief
• VLANs DO NOT appear automatically (transparent mode does not sync VLANs).

Step 5: Transparent Switch Local VLAN

On Switch2 (Transparent):
vlan 99
 name LOCAL_ONLY

This VLAN will NOT propagate to any other switch.

Step 6: Assign Optional PC Ports to VLANs

You may optionally connect PCs to Switch1.

Example:
PC1 on Switch1 Fa0/3:
 interface fa0/3
  switchport mode access
  switchport access vlan 10

PC2 on Switch1 Fa0/4:

```
interface fa0/4
 switchport mode access
 switchport access vlan 20
```

Test connectivity:

- PCs in the same VLAN should communicate.
- VLANs come from VTP server (Switch0).

Step 7: Verify VTP Status

Use the command:

```
show vtp status
```

Check:

- VTP domain
- VTP mode (server/client/transparent)
- Configuration revision number
- Number of VLANs learned

Expected Behavior Summary

- SERVER creates VLANs and distributes them.
- CLIENT cannot create VLANs but receives them automatically.
- TRANSPARENT forwards VTP advertisements but keeps its own VLANs separate.
- Trunk links are required for VTP propagation.
- Incorrect VTP password/domain prevents synchronization.