Introduction to VTP (VLAN Trunking Protocol)

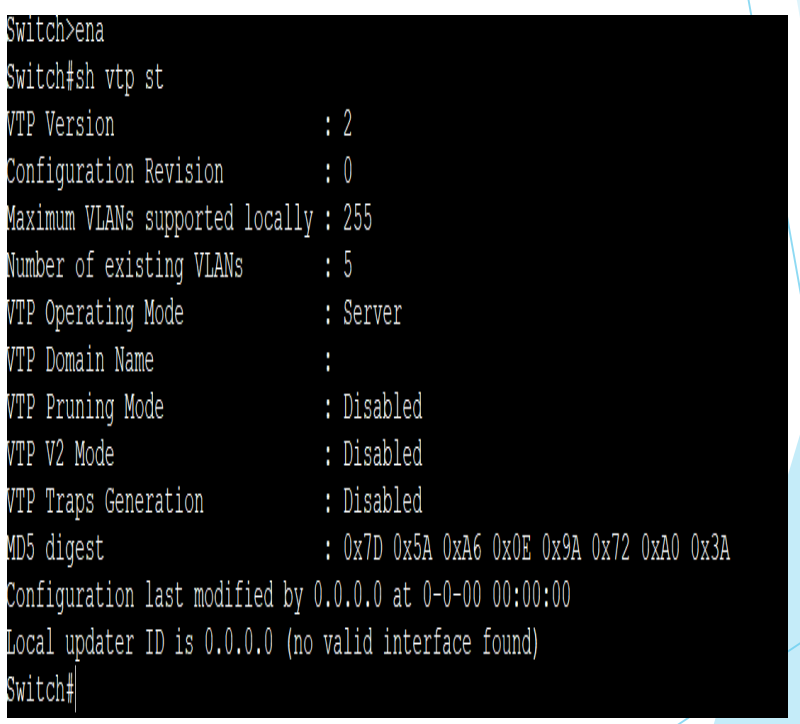
VTP

- VTP is CISCO proprietary protocol used to maintain consistency throughout the network or user can say that synchronizing the VLAN information in same VTP domain.
- In order to make VTP work you need to setup a VTP domain name which is something you can just make up, as long as you configure it to be the same on all your switches
- VTP allows you to add, delete and rename VLANs which is then propagated to other switches in the VTP domain.

Requirements

- Switch#sh vtp status

1. a switch has to be configured as either a VTP server or VTP client
2. the VTP domain name has to be the same on both switches
3. if present, the VTP domain password has to be the same
4. VTP versions have to match
5. the link between the switches has to be a trunk link



VTP modes

1. **Server –**
   - The switches are set to this mode by default.
   - This mode allows you to create, add and delete VLANs.
   - The changes you want to made should be done in this mode. Any changes that is done on this mode(on a particular switch) will be advertised to all the switches that are in same VTP domain.

- **Configuration**

1. make the switch VTP server
   - Switch# config terminal
   - Switch(config)#vtp mode server
2. make a VTP domain assign a password for authentication.
   - Switch(config)#vtp domain test
   - Switch(config)#vtp password 12345
   -

```
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vt
Switch(config)#vtp do
Switch(config)#vtp domain test
Changing VTP domain name from NULL to test
Switch(config)#
```

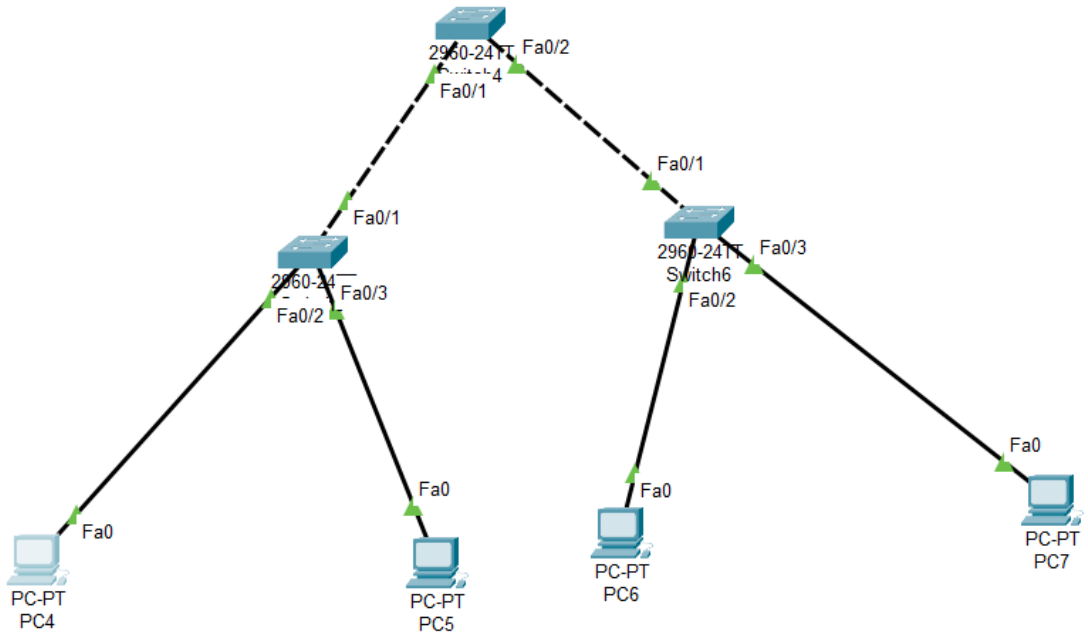
VTP modes

2. **Client** - In this mode, the switches receives the updates and can also forward the updates to other switches(which are in same VTP domain).
   - The updates received here is not saved in NVRAM so all the configuration will be deleted if the switch is reset or reloaded i.e the switches will only learn and pass the VTP summary advertisements to the other switches.
   - **Configuration** - As the switches are set to server mode by default, therefore user can change it to client mode by:
   - `Switch(config)#vtp mode client`

VTP modes

	VTP Server	VTP Client	VTP Transparent
Create/Modify/Delete VLANs	Yes	No	Only local
Synchronizes itself	Yes	Yes	No
Forwards advertisements	Yes	Yes	Yes

VTP Example


Fa0/2
Fa0/1
Fa0/1
Fa0/1
Fa0/3
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Fa0/3
Fa0/2
Fa0
Fa0
Fa0
Fa0
PC-PT
PC4
PC-PT
PC5
PC-PT
PC6
PC-PT
PC7

Configuration

- **Main switch (top one)**
- Switch#show vtp stat
- Switch(config)#vtp mode server
- Switch(config)#vtp domain test
- Switch(config)#vtp password 12345
- Switch(config)#int range f0/1-2
- Switch(config-if-range)#switchport mode trunk

```
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vtp dom
Switch(config)#vtp domain test
Changing VTP domain name from NULL to test
Switch(config)#vtp pas
Switch(config)#vtp password 12345
Setting device VLAN database password to 12345
Switch(config)#int ra
Switch(config)#int range f0/1-2
Switch(config-if-range)#sw
Switch(config-if-range)#switchport mode tr
Switch(config-if-range)#switchport mode trunk
```

Configuration

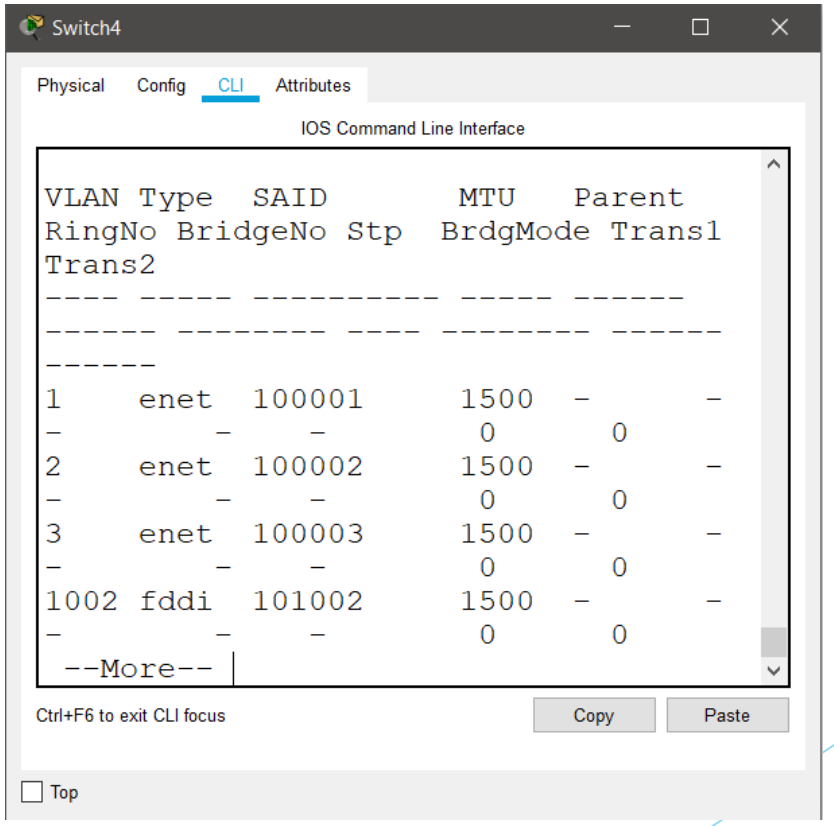
- **Switch 2**
- Switch>en
- Switch#conf t
- Enter configuration commands, one per line. End with CNTL/Z.
- Switch(config)#vtp dom
- Switch(config)#vtp domain test
- Changing VTP domain name from NULL to test
- Switch(config)#vtp password 12345
- Setting device VLAN database password to 12345
- Switch(config)#

Configuration

- Switch 3
- Switch>en
- Switch#conf t
- Enter configuration commands, one per line. End with CNTL/Z.
- Switch(config)#vtp do
- Switch(config)#vtp domain test
- Changing VTP domain name from NULL to test
- Switch(config)#vtp password 12345
- Setting device VLAN database password to 12345
- Switch(config)#

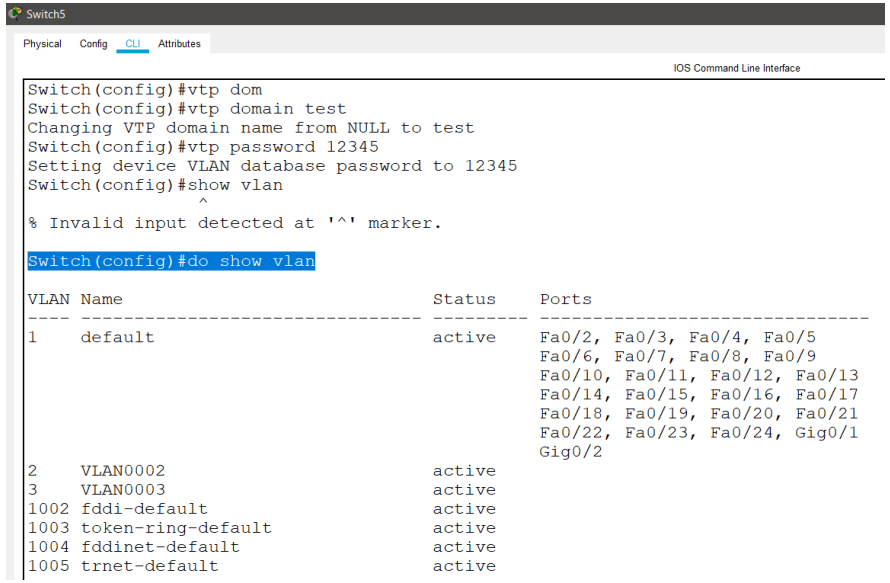
Test VTP

- Create vlan 2, vlan 3 on switch 1 and check that it created on switch 2 and switch 3
- Switch(config)#vlan 2
- Switch(config-vlan)#vlan 3
- Switch(config-vlan)#do show vlan



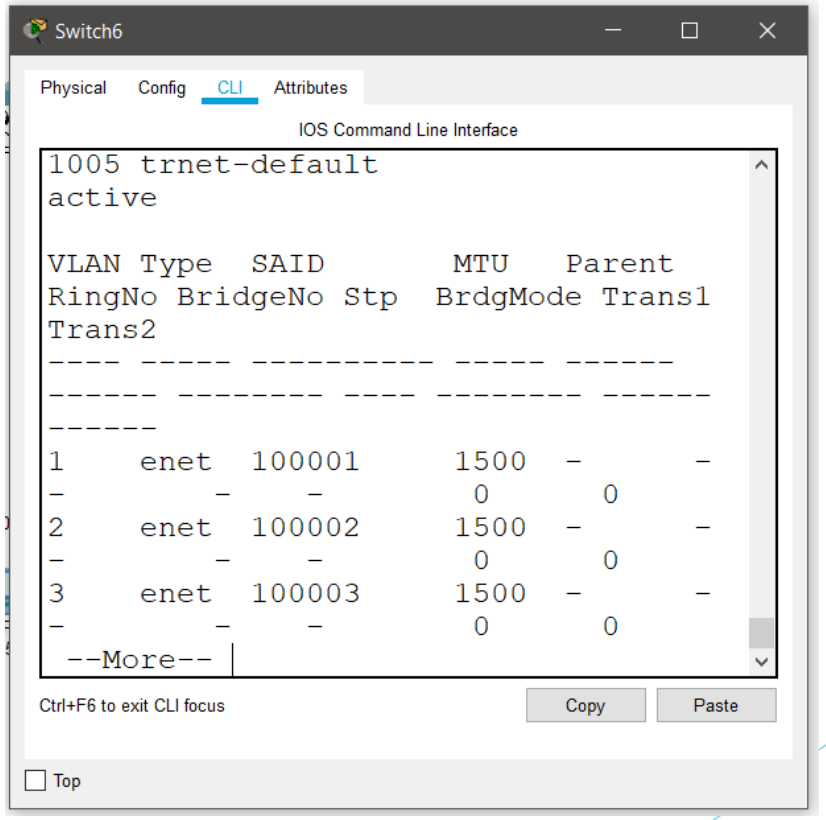
Test VTP

- From switch 2 show vlans
- Switch(config)#do show vlan



Test VTP

- From switch 3 show vlans
- Switch(config)#do show vlan



Example 2 VTP mode client

- If we change the mode of VTP to client on one switch then can't create or update vlan in this switch
- Switch(config)#vtp mode client
- Switch(config)#vlan 30

```
Switch(config)#vtp mode client
Setting device to VTP CLIENT mode.
Switch(config)#vlan 30
VTP VLAN configuration not allowed when device is in CLIENT mode.
Switch(config)#do sh vlan
```

Example 3 VTP mode transparent

- When create vlan on switch which has vtp mode transparent the vlan will not created on others switch
- Switch(config)#vtp mode transparent
- Switch(config)#vlan 5
- Switch(config-vlan)#do show vlan

Thank You