

① Scenario 1 — trunk mismatch

catalyst 2960 — supports only 802.1Q
3750E — supports both

Both must have same encapsulation type

- if both supported the switch will auto-nego

can be fixed with

on both { switchport mode trunk encapsulation dot1Q

- * sh int g0/0 switchport
- * sh int trunk

• Scenario - ② — Incompatible trunking modes

- situation where we have manually set the switch port mode.

Incompatible if ex.

switch1 set on switchport mode access
& switch2 set on switchport mode trunk

This will lead to mis-configuration or
Incompatibility.

③ Lot of Late collision or collision

— This happens due to one side set to
full duplex and other side set to
half duplex.

— interface g0/0

duplex full

duplex half

④ VTP Domain mismatch

Vtp mode
① server
② client
③ Transparent

To config

- on other make sure you have appropriate
mode set
+ check status if same domain name is used.
* we can also set password to vtp.

vtp domain name CCNA

Vlan 10

Vlan 20

Vlan 30

sh vtp status

→ ⑤ Native VLAN mismatch.

If there is mismatch between the native VLAN configuration between two switches in that case packet leaking may occur and this may cause issues with STP.

- With native VLAN mismatch trunk is formed and syslog messages are generated.

To enable syslog on SSH or terminal

terminal monitor
+ show logging

To change the native VLAN on trunk

dot1Q command

* native VLAN only works on trunk 802.1Q not on anything else.

int eth0/0

→ # switchport trunk native VLAN 100

usually CDP will tell you if there is mismatch but if its not enabled

TO set the switch to trunk

- * switchport mode trunk
- * switchport trunk encapsulation dot1Q.
- * switchport trunk desirable, Auto, Active, passive

⑥ Allowed VLANs for trunk

by default all the traffic for the VLANs will be forwarded through a trunk

Allowed VLANs can be seen using

- * show int trunk

TO change the default on which VLANs are allowed on trunk we can use

- * int eth0/0

switchport trunk allowed vlan 100,200

⑦ Port is in error-disable state

① We can manually get them out of the error disable state

② Automatic

check that vid again

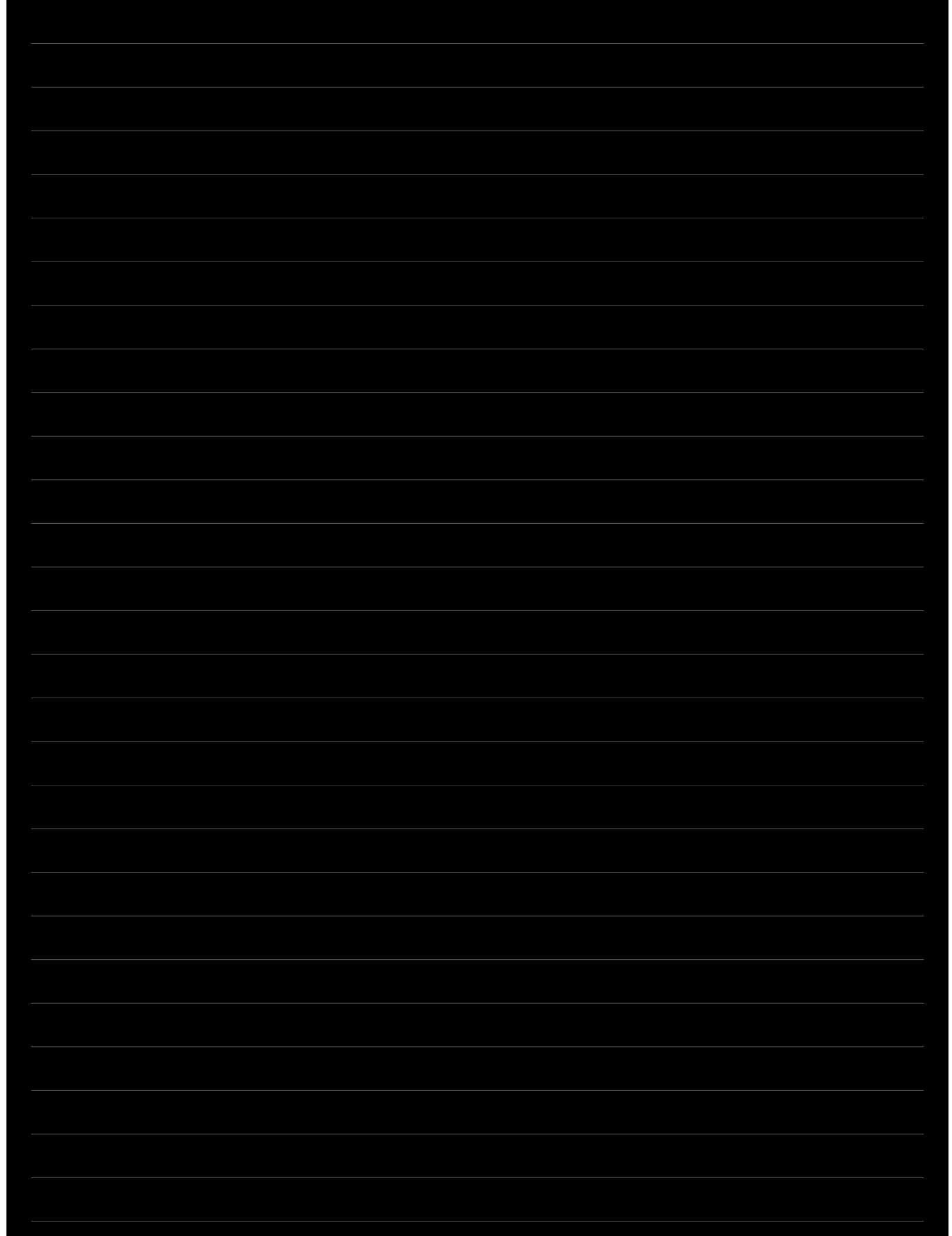
show int status err-disabled
show errdisable recovery

- switch goes to err-disabled usually when

- ① Port security violation
- ② BPDU Guard violation
- ③ channel Misconfig
- ④ Security violations

To recover from that we can use Auto

err disable recovery interval 300
errdisabled recovery cause all



Troubleshooting VLANs

① Incorrect IP addressing

② Missing VLAN

show vlan brief

when show int g0/0 switchport
command shows that the

```
SW1#show interfaces gigabitethernet 0/1 switchport
Name: Gi0/1
Switchport: Enabled
Administrative Mode: static access
Operational Mode: static access
Administrative Trunking Encapsulation: negotiate
Operational Trunking Encapsulation: native
Negotiation of Trunking: Off
Access Mode VLAN: 100 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
```

This inactive means the VLAN doesn't exist

This can happen —

- ① if someone accidentally deleted the VLAN
- ② if misconfiguration or overwriting of VTP server

ex. if we configured a new switch which is running newer version of VTP in that case old VTP configuration

will be overwritten.

③ Incorrect port assignment

ex. if we have vlan 100 & vlan 200 in that case all pc's on vlan 200 has to be on the same subnet.

If this doesn't happen then there is a misconfiguration.

We can check where it is configured using

```
# show vlan brief  
ports, , status, vlan, name
```

* vlangs which are not currently active will not show in show vlan command. Those can only be seen at

```
show interface g0/0 switchport
```

* Also trunk won't be seen there

```
# show vlan trunk
```

⑤ Mac-address Table

show mac address-table dynamic
shows → vlan, mac, port, Type - dynamic

To clear dynamic entry from Mac address

clear mac address-table exec

M - Practical

T - BGP, OSPF, EIGRP

W -

T

F

S

S

