**Spanning tree protocol**

**To set a switch as Root Switch**

STP is a loop prevention network protocol in layer 2 switches.

* Spanning-tree mode rapid-pvst

**To set a switch as primary:**

* Spanning-tree vlan (vlan\_id) root primary

**To set a switch as secondary:**

* Spanning-tree mode rapid pvst
* Spanning-tree vlan (vlan\_id) root secondary

**To disable STP**

* No spanning-tree vlan (vlan\_id)

**To disable it globally**

* No spanning-tree vlan 1-4094

**To check current STP mode**

* Show spanning-tree summary

**Portfast and BPDU guard**

**PortFast** is a feature that **makes a switch port transition immediately to the forwarding state**, skipping the usual STP delay (listening → learning → forwarding). It's used on ports that connect to **end devices**, **not other switches**

**BPDU Guard** is a **security feature** that **disables a PortFast-enabled port** if it receives a **BPDU** (Bridge Protocol Data Unit) — which is what switches use to talk STP.

**To enable portfast**

Select the port

* Int fa0/1
* Spanning-tree portfast

Enable BPDU guard also on this port

* Spanning-tree bpduguard enable
* Exit

**To check for status:**

* Show spanning-tree int fa0/1 detail

**To enable portfast globally I.e all access ports:**

* Spanning-tree portfast default

**To enable bpdu guard globally:**

* Spanning-tree portfast bpduguard default

**If bpdu shuts down an interface:**

* Show int status

Then look for err-disabled

**To bring up a port shut down by bpdu manually:**

* Int fa0/1
* Shutdown no shutdown

**To automatically recover from errdisable**

* Errdisable recovery cause bpduguard
* Errdisable recovery interval 30