# Port Security

Port Security is a Layer 2 Security protocol that protects the Switch from CAM/MAC address flooding. Port Security will be enabled per-interface on L2 switches. Port-security by default will shutdown a port and place it into "err-disabled" mode. Port-security can only be enabled on "access" ports. By default port-security will only 1 MAC address per interface.
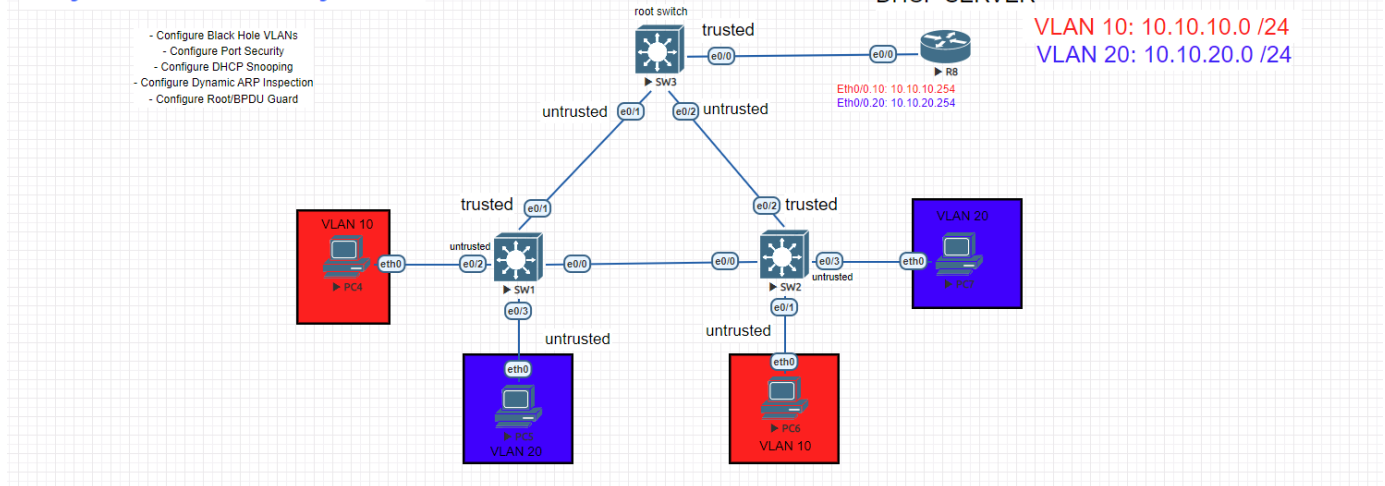
For this How To we will first configure the trunks, VLANs and access ports. If you do not know how to configure trunks, VLANs and access ports refer to our other How To's.

`SW1(config)#interface range eth0/1, eth0/3` # This command brings us into the range-sub-interface mode.

`SW1(config-if-range)#switchport port-security` # This command will enable **"port-security"** on the interface

`SW1(config-if-range)#switchport port-security maximum 2` # This command will set the amount of MAC addresses allowed on the interface

`SW1(config-if-range)#switchport port-security mac-address sticky` # This command will apply the connected SRC MAC address to the running-configuration of the interface.

The full configuration is shown below

```
SW2(config)#int ra eth0/1, eth0/3
SW2(config-if-range)#switchport port-security
SW2(config-if-range)#switchport port-security maximum 2
SW2(config-if-range)#switchport port-security mac-address sticky
SW2(config-if-range)#
```

Verficaition

`SW1#show run interface ethernet0/3` # This command will show you the running configuration of the interface

`SW1#show port-security` # This command will show you the port-security table. This table shows you which ports are configured for port-security.

```
SW2#show port-security
Secure Port  MaxSecureAddr  CurrentAddr  SecurityViolation  Security Action
                (Count)       (Count)         (Count)
---------------------------------------------------------------------------
     Et0/1          2             0               0              Shutdown
     Et0/3          2             0               0              Shutdown
---------------------------------------------------------------------------
Total Addresses in System (excluding one mac per port)     : 0
Max Addresses limit in System (excluding one mac per port) : 4096
```

`SW1#show port-security interface ethernet0/1` # This command will show you the individual ports and how they are configured for port-security.

```
SW2#show port-security interface ethernet 0/1
Port Security              : Enabled
Port Status                : Secure-up
Violation Mode             : Shutdown
Aging Time                 : 0 mins
Aging Type                 : Absolute
SecureStatic Address Aging : Disabled
Maximum MAC Addresses      : 2
Total MAC Addresses        : 0
Configured MAC Addresses   : 0
Sticky MAC Addresses       : 0
Last Source Address:Vlan   : 0000.0000.0000:0
Security Violation Count   : 0

SW2#
```

`SW1#show port-security | include err` # This command will just show you the err-disabled ports in the port security table.

How to clear port-security

`SW1#clear port-security all` # This command will clear any port-security violations.

`SW1(config-if)#shut` `SW1(config-if)#no shut` # These two commands reset the interface. This is how you clear the **"err-disabled"** state on an interface.