Port Security

1	2	3	4	5	6	7	8	9	10

Manager laptop   HOD system   Faculty system
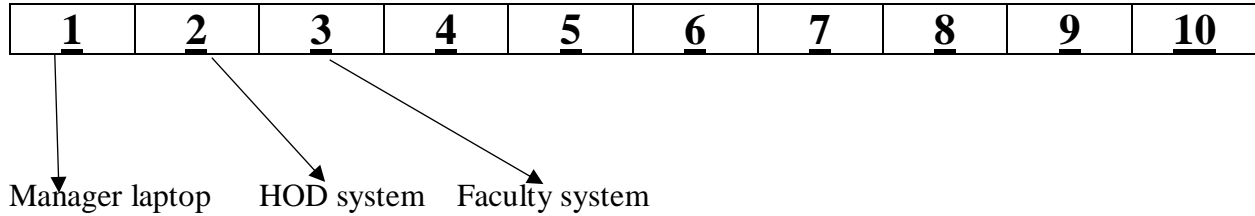
Important points

#switchport port-security mac Addresses

1. Static:
- Statically configure on each switchport
- Stored in the address table in running configure by default
2. Dynamic:
- Learned from device connected to the switchport.
- Address are store in the table and only can be lost when system switchport state down or system reboot.
3. Sticky:
- Hybrid
- Learned dynamically from the devices connected to the switchport.
- Mac address is stored in running configuration.

#switchport port-security violation

1. Protect
   - Discard the data
   - No notification will be send.
   - Port will be up
2. Restrict
   - Work like protect
   - Port up
   - But send an alert notification
3. Shutdown
   - Discard traffic
   - Notification message send
   - Port will be down

Configuration
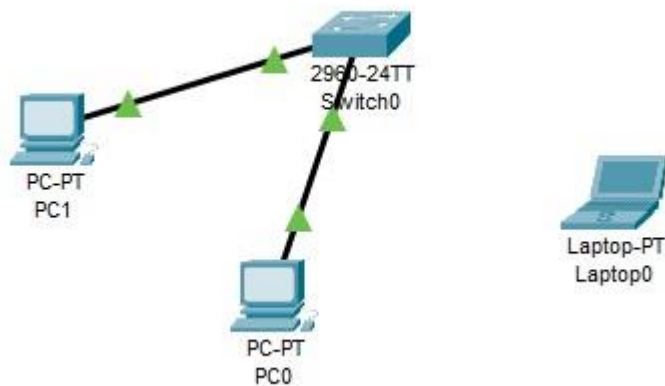
#enable

#show port-security interface fa0/1

```
Switch>enable
Switch#show port-
Switch#show port-security in
Switch#show port-security interface 0/1
                                     ^
% Invalid input detected at '^' marker.

Switch#show port-
Switch#show port-security inter
Switch#show port-security interface fa0/1
Port Security                : Disabled
Port Status                  : Secure-down
Violation Mode               : Shutdown
Aging Time                   : 0 mins
Aging Type                   : Absolute
SecureStatic Address Aging   : Disabled
Maximum MAC Addresses        : 1
Total MAC Addresses          : 0
Configured MAC Addresses     : 0
Sticky MAC Addresses         : 0
Last Source Address:Vlan     : 0000.0000.0000:0
Security Violation Count     : 0
Switch#
```

#configure terminal

#int fa0/1

#Switchport mode access

#switchport port-security

#switchport port-security maximum 2
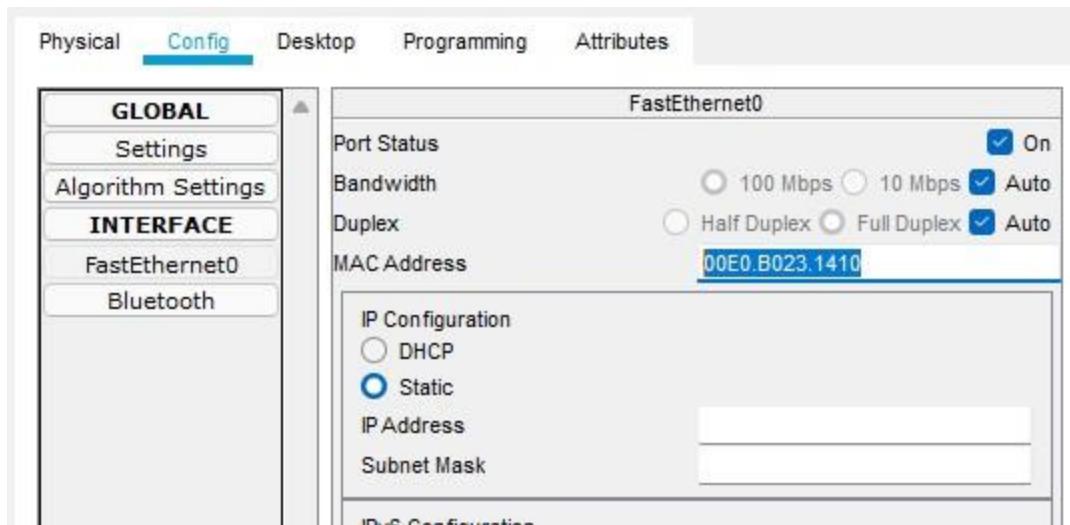
#switchport port-security violation protect

#switchport port-security mac-address 00E0.B023.1410

#switchport port-security mac-address sticky

#exit

#exit

$ipconfig /all


```
Switch(config)#int fa0/1
Switch(config-if)#sw
Switch(config-if)#switchport port-
Switch(config-if)#switchport mode a
Switch(config-if)#switchport mode access
Switch(config-if)#swi
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security
Switch(config-if)#swit
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security max
Switch(config-if)#switchport port-security maximum 2
Switch(config-if)#switch
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security violati
Switch(config-if)#switchport port-security violation prot
Switch(config-if)#switchport port-security violation protect
Switch(config-if)#switch
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security mac-
Switch(config-if)#switchport port-security mac-address 00E0.B023.1410
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG I: Configured from console by console
```

#show port-security

```
Switch#show port-
Switch#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security
Action
                (Count)         (Count)         (Count)
-------------------------------------------------------------------
        Fa0/1       2           1                   0       Protect
-------------------------------------------------------------------
-
Switch#|
```

#enable

#configure terminal

#int fa0/1

#switchport mode access

#swichport port-security

#switchport port-security mac-address sticky

#switchport port-security violation shutdown

#exit

#exit

```
Switch(config)#int fa0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switch
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security sticky
                                             ^
% Invalid input detected at '^' marker.

Switch(config-if)#switch
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security mac-
Switch(config-if)#switchport port-security mac-address
00E0.B023.1410
Port-security not enabled on interface FastEthernet0/1.
Switch(config-if)#switc
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security mac-
Switch(config-if)#switchport port-security mac-address sticky
Switch(config-if)#swit
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security vio
Switch(config-if)#switchport port-security violation shu
Switch(config-if)#switchport port-security violation shutdown
Switch(config-if)#exit
Switch(config)#|
```

#show IP interface brief

```
Switch#show ip interface brief
Interface              IP-Address      OK? Method Status
Protocol
FastEthernet0/1        unassigned      YES manual up
up
FastEthernet0/2        unassigned      YES manual up
up
FastEthernet0/3        unassigned      YES manual down
down
FastEthernet0/4        unassigned      YES manual down
down
FastEthernet0/5        unassigned      YES manual down
down
FastEthernet0/6        unassigned      YES manual down
down
FastEthernet0/7        unassigned      YES manual down
down
FastEthernet0/8        unassigned      YES manual down
down
FastEthernet0/9        unassigned      YES manual down
down
FastEthernet0/10       unassigned      YES manual down
down
```

#show port-security interface fa0/1

```
Switch#show port-
Switch#show port-security int
Switch#show port-security interface fa0/1
Port Security               : Enabled
Port Status                 : Secure-up
Violation Mode              : Shutdown
Aging Time                  : 0 mins
Aging Type                  : Absolute
SecureStatic Address Aging  : Disabled
Maximum MAC Addresses       : 1
Total MAC Addresses         : 0
Configured MAC Addresses    : 0
Sticky MAC Addresses        : 0
Last Source Address:Vlan    : 0000.0000.0000:0
Security Violation Count    : 0

Switch#|
```

#show port-security

```
Switch#show port-
Switch#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security
Action
            (Count)       (Count)        (Count)
-----------------------------------------------------------------
      Fa0/1       1          0              0        Shutdown
-----------------------------------------------------------------
-
Switch#|
```

#int fa0/2

#swichport mode access

#switchport port-security

#switchport port-security mac-address sticky

#switchport port-security violation shutdown

#exit

#exit

```
Switch(config)#int fa0/2
Switch(config-if)#sw
Switch(config-if)#switchport mode a
Switch(config-if)#switchport mode access
Switch(config-if)#swi
Switch(config-if)#switchport port-
Switch(config-if)#switchport port-security
Switch(config-if)#switch
Switch(config-if)#switchport port
Switch(config-if)#switchport port-security sticky
                                              ^
% Invalid input detected at '^' marker.

Switch(config-if)#switch
Switch(config-if)#switchport por
Switch(config-if)#switchport port-security mac-
Switch(config-if)#switchport port-security mac-address sticky
Switch(config-if)#switch
Switch(config-if)#switchport por
Switch(config-if)#switchport port-security vio
Switch(config-if)#switchport port-security violation shu
Switch(config-if)#switchport port-security violation shutdown
Switch(config-if)#exit
Switch(config)#
```

#show port-security

```
Switch#show po
Switch#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security
Action
             (Count)      (Count)       (Count)
----------------------------------------------------------------
    Fa0/1       2            1             0          Protect
    Fa0/2       1            0             0          Shutdown
----------------------------------------------------------------
-
Switch#
```

#switchport port-security address

```
Switch#show port
Switch#show port-security add
Switch#show port-security address
                              Secure Mac Address Table
------------------------------------------------------------------
----------
Vlan       Mac Address Type                        Ports
Remaining Age

           (mins)
----       ----------- ----                        -----
-------------
1          00E0.B023.1410       SecureConfigured
FastEthernet0/1                   -
------------------------------------------------------------------
--------
Total Addresses in System (excluding one mac per port)    : 0
Max Addresses limit in System (excluding one mac per port) : 1024
Switch#
```
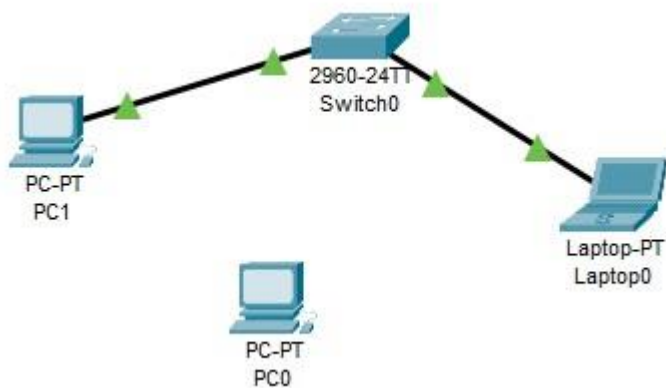
//Connected with laptop in port by removing port 2 the security is update and warning is 2.

//To command all port

#int range fa0/1-10

#switchport mode access

#switchport port-security

#switchport port-security mac-address sticky

#switchport port-security violation shutdown

#exit

#exit

//10 ports security are up-to-date

//to dis-able other ports

#int range fa0/3-24

#shutdown

#do show run

#int fa0/3

#no shutdown