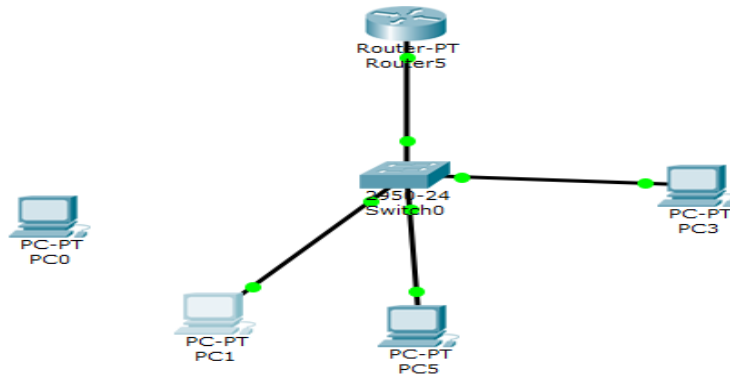


Configure Port Security in Cisco Packet Tracer

Step-1 Build the network single network topology in packet tracer.



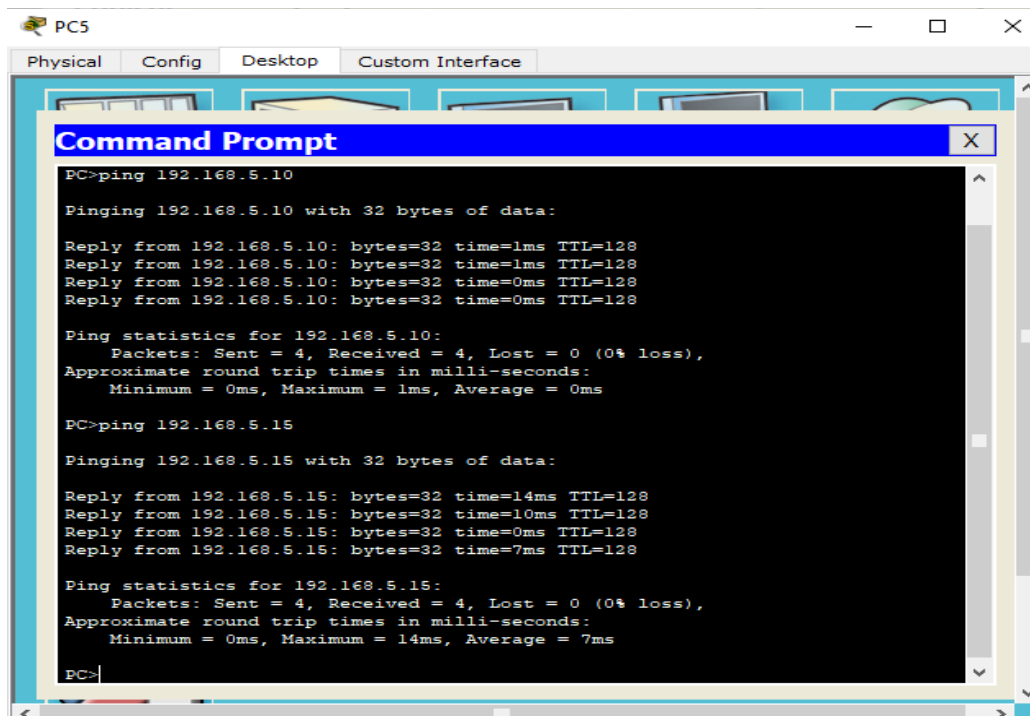
Step-2 Give wired connections for all the devices of PC1, PC2, PC3 and Router.

Step-3 Give IP addresses for PC1, PC2, PC3 and Router with default gateway address.

Step-3 Click on PC1, goto command prompt and ping the IP address of other PCs.

Step-4 Repeat this step-3 for other two PCs as PC2 and PC3.

```
PC1
Physical Config Desktop Custom Interface
Command Prompt
PC>ping 192.168.5.15
Pinging 192.168.5.15 with 32 bytes of data:
Reply from 192.168.5.15: bytes=32 time=82ms TTL=128
Reply from 192.168.5.15: bytes=32 time=0ms TTL=128
Reply from 192.168.5.15: bytes=32 time=1ms TTL=128
Reply from 192.168.5.15: bytes=32 time=1ms TTL=128
Ping statistics for 192.168.5.15:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 82ms, Average = 21ms
PC>ping 192.168.5.10
Pinging 192.168.5.10 with 32 bytes of data:
Reply from 192.168.5.10: bytes=32 time=11ms TTL=128
Reply from 192.168.5.10: bytes=32 time=10ms TTL=128
Reply from 192.168.5.10: bytes=32 time=10ms TTL=128
Reply from 192.168.5.10: bytes=32 time=8ms TTL=128
Ping statistics for 192.168.5.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 8ms, Maximum = 11ms, Average = 9ms
PC>
```



Step-5 Click on Switch 0

Goto CLI command

#enable

#configure terminal

#int fa0/1

#switchport mode access

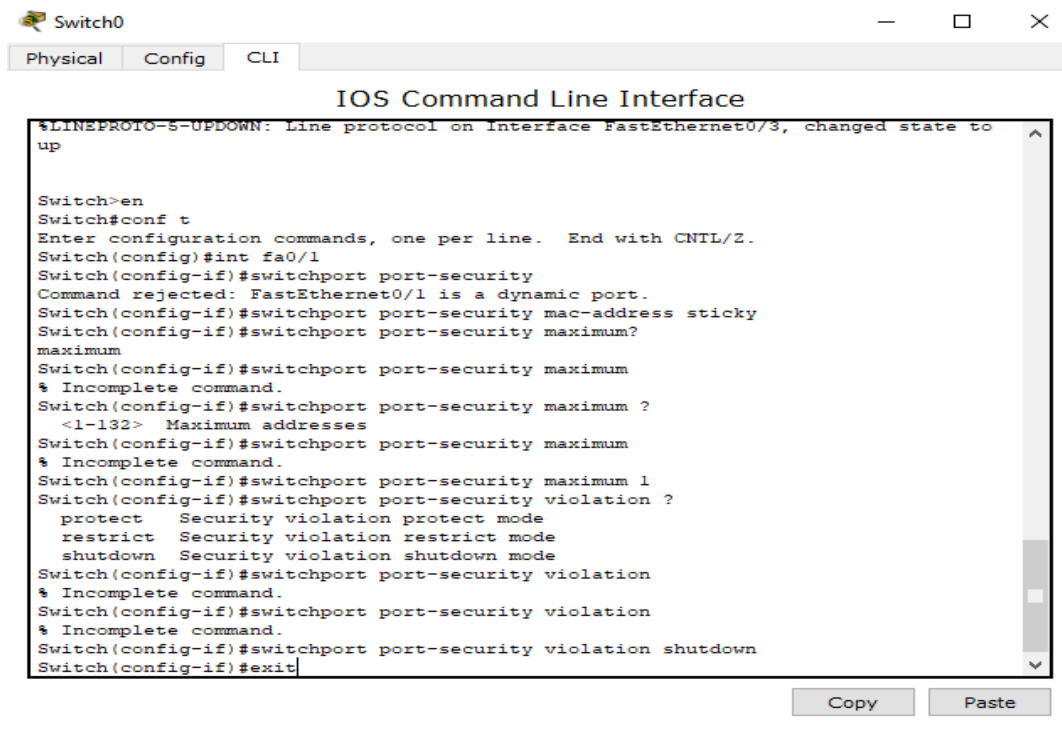
#switchport port-security

#switchport port-security mac-address sticky

#switchport port-security maximum ?

#switchport port-security maximum 1

#switchport port-security violation ?



The screenshot shows a network switch window titled "Switch0" with tabs for "Physical", "Config", and "CLI". The "CLI" tab is active, displaying the "IOS Command Line Interface". The terminal output shows the following sequence of commands and responses:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa0/1
Switch(config-if)#switchport port-security
Command rejected: FastEthernet0/1 is a dynamic port.
Switch(config-if)#switchport port-security mac-address sticky
Switch(config-if)#switchport port-security maximum?
maximum
Switch(config-if)#switchport port-security maximum
% Incomplete command.
Switch(config-if)#switchport port-security maximum ?
<1-132> Maximum addresses
Switch(config-if)#switchport port-security maximum
% Incomplete command.
Switch(config-if)#switchport port-security maximum 1
Switch(config-if)#switchport port-security violation ?
protect Security violation protect mode
restrict Security violation restrict mode
shutdown Security violation shutdown mode
Switch(config-if)#switchport port-security violation
% Incomplete command.
Switch(config-if)#switchport port-security violation
% Incomplete command.
Switch(config-if)#switchport port-security violation shutdown
Switch(config-if)#exit
```

At the bottom right of the CLI window, there are "Copy" and "Paste" buttons.

Step-6 Now, from the 3 port-security violation we will first process for Shutdown Mode.

```
#switchport port-security violation shutdown
```

```
#exit
```

Now, for the next interface connection access the shutdown mode.

```
#int fa1/1
```

```
#switchport mode access
```

```
#switchport port-security
```

```
#switchport port-security mac-address sticky
```

```
#switchport port-security maximum 1
```

```
#switchport port-security violation shutdown
```

```
#exit
```

Now, for the next interface connection access the shutdown mode.

Switch0

PhysicalConfigCLI

IOS Command Line Interface

```
Switch(config-if)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport port-security
Switch(config-if)#switchport port-security mac-address sticky
Switch(config-if)#switchport port-security maximum 1
Switch(config-if)#switchport port-security violation shutdown
Switch(config-if)#exit
Switch(config)#int fa0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport port-security
Switch(config-if)#switchport port-security mac-address sticky
Switch(config-if)#switchport port-security maximum 1
Switch(config-if)#switchport port security violation shutdown
Switch(config-if)#exit
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

Switch0

PhysicalConfigCLI

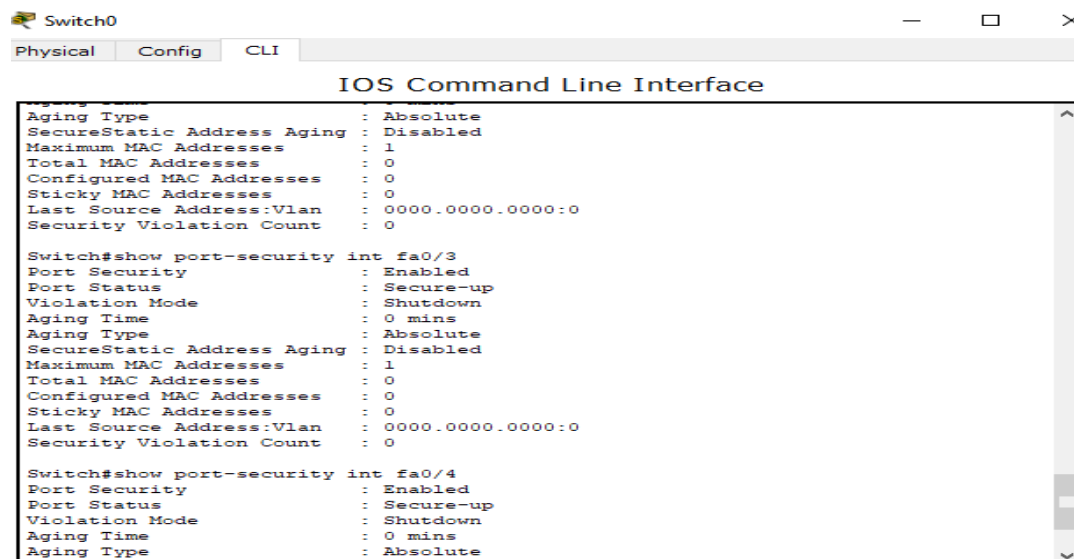
IOS Command Line Interface

```
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security Action
      (Count)      (Count)      (Count)
-----
Fa0/2          1          0          0          Shutdown
Fa0/3          1          0          0          Shutdown
Fa0/4          1          0          0          Shutdown
-----

Switch#show port-security int 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 : 1
Configured MAC Addresses : 0
Sticky MAC Addresses : 0
Last Source Address:Vlan : 0000.0000.0000:0
Security Violation Count : 0

Switch#show port-security int fa0/2
Port Security      : Enabled
Port Status       : Secure-up
Violation Mode     : Shutdown
```



Switch0

Physical Config CLI

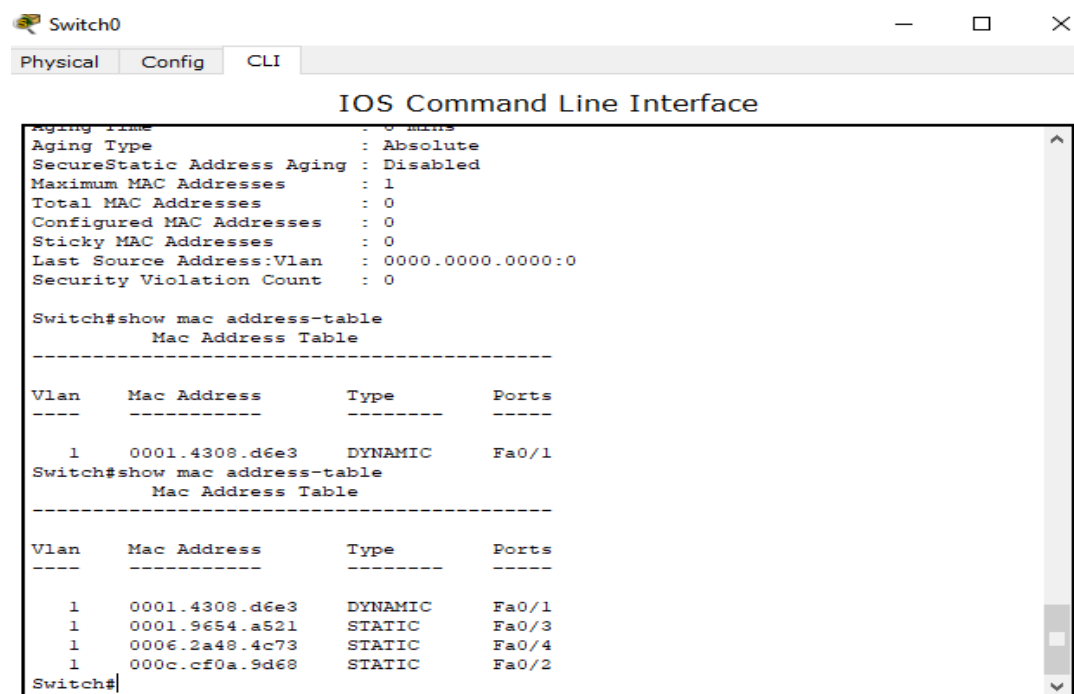
IOS Command Line Interface

```
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 int fa0/3
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 int fa0/4
Port Security : Enabled
Port Status : Secure-up
Violation Mode : Shutdown
Aging Time : 0 mins
Aging Type : Absolute
```

#show mac address-table



Switch0

Physical Config CLI

IOS Command Line Interface

```
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 mac address-table
Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
1       0001.4308.d6e3   DYNAMIC   Fa0/1
Switch#show mac address-table
Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
1       0001.4308.d6e3   DYNAMIC   Fa0/1
1       0001.9654.a521   STATIC    Fa0/3
1       0006.2a48.4c73   STATIC    Fa0/4
1       000c.cf0a.9d68   STATIC    Fa0/2
Switch#
```

Step-7 Now, Ping all PCs.

Step-8 Now, Give IP address for Rogue PC0.

Step-9 Now, again Ping PC1, PC2 and PC3.

Step-9 Now remove the wired connection from PC1 and give connection to Rogue PC0.

Step-10 Then, Ping the IP address of PC2 192.168.5.15 in the command prompt.

PC0

Physical Config Desktop Custom Interface

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.5.10

Pinging 192.168.5.10 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.5.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>
```

Step-11 Click on Switch

#enable

#show port-security

Switch0

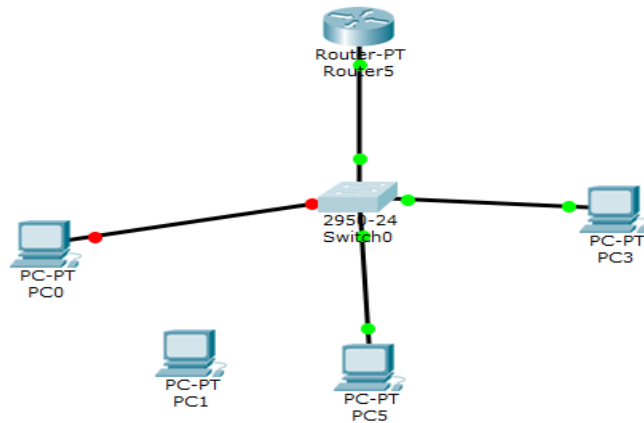
Physical Config CLI

IOS Command Line Interface

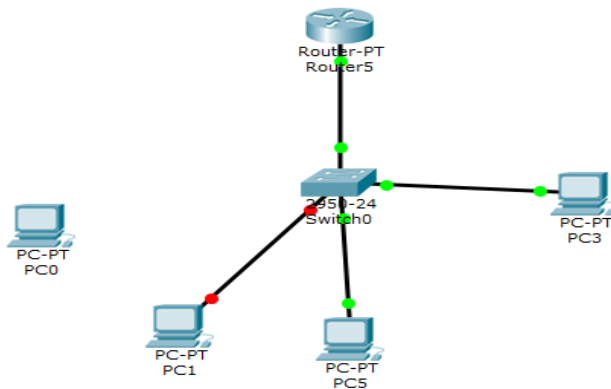
```
Switch#en
Switch#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security Action
          (Count)          (Count)          (Count)
-----
Fa0/2      1              1              1          Shutdown
Fa0/3      1              1              0          Shutdown
Fa0/4      1              1              0          Shutdown
-----

Switch#show port-security int fa0/2
Port Security          : Enabled
Port Status            : Secure-shutdown
Violation Mode         : Shutdown
Aging Time             : 0 mins
Aging Type             : Absolute
SecureStatic Address Aging : Disabled
Maximum MAC Addresses  : 1
Total MAC Addresses    : 1
Configured MAC Addresses : 0
Sticky MAC Addresses   : 1
Last Source Address:Vlan : 0090.2B82.A17B:1
Security Violation Count : 1

Switch#show mac address-table
Mac Address Table
-----
Vlan    Mac Address      Type      Ports
-----
-----
```



Step-12 Now, remove the wired connection from Rogue PC0 and connect the wire to PC1. But still it is in red color mode.



Step-13 Click on switch

```
#enable
```

```
#configure terminal
```

```
#int fa0/1
```

```
#shutdown
```

```
#no shutdown
```

```
#end
```

```
#show mac address-table
```

Switch0

Physical
Config
CLI

IOS Command Line Interface

```

-----
Vlan      Mac Address      Type      Ports
-----
1         0001.4308.d6e3    DYNAMIC   Fa0/1
1         0001.9654.a521    STATIC    Fa0/3
1         0006.2a48.4c73    STATIC    Fa0/4
Switch#en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fa0/2
Switch(config-if)#shutdown

%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to administratively down
Switch(config-if)#no shutdown

Switch(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up

Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
show mac address-table
      Mac Address Table
-----

Vlan      Mac Address      Type      Ports
-----
1         0001.4308.d6e3    DYNAMIC   Fa0/1
1         0001.9654.a521    STATIC    Fa0/3
1         0006.2a48.4c73    STATIC    Fa0/4
1         000c.cf0a.9d68    STATIC    Fa0/2
Switch#en
Switch#show running-config
Building configuration...

Current configuration : 1491 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
spanning-tree mode pvst
!

```

Step-14 Click on PC1 and ping the command 192.168.5.15 and 192.168.5.20

#show running-config


```

1      0001.4308.d6e3      DYNAMIC      Fa0/1
1      0001.9654.a521      STATIC       Fa0/3
1      0006.2a48.4c73      STATIC       Fa0/4
1      000c.cf0a.9d68      STATIC       Fa0/2
Switch#en
Switch#show running-config
Building configuration...

Current configuration : 1491 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
spanning-tree mode pvst
!
interface FastEthernet0/1
 switchport port-security mac-address sticky
!
interface FastEthernet0/2
 switchport mode access
 switchport port-security
 switchport port-security mac-address sticky
--More-- |

```

Restrict Mode:

Step-1 Click on switch 0

#enable

#configure terminal

#int fa1/1

#switchport mode access

#switchport port-security

#switch port-security violation restrict

#exit

#end

#show port-security

#show port-security int fa1/1

Step-2 Now, cut the wired connection from PC2 and give connection to PC

(Rogue).

Step-3 Give the Ping command 192.168.5.10 and 192.168.5.20

(mode of switch not changed, we will get request timeout)

Close it

Step-4 Click switch 0

#show port-security

#show port-security int fa1/1

Step-5 Now cut the connection wire connection from PC0 (Rogue) and connect to PC2.

Step-6 Check ping command from PC2 to PC1 and PC3, 192.168.5.10 and 192.168.5.20.

#show running-config

Protect Mode:

Step-1 Click on switch 0

#enable

#configure terminal

#int fa2/1

#switchport mode access

#switchport port-security

#switch port-security violation protect

#exit

#end

#show port-security

#show port-security int fa2/1

Step-2 Check ping command PC1 to PC2 and PC3,

Check ping command PC3 to PC2 and PC1.

Step-3 Now, cut the wired connection from PC3 and give connection to PC0
(Rogue).

Step-4 Give the Ping command 192.168.5.10 and 192.168.5.20

(mode of switch not changed, we will get request timeout)

Close it

Step-5 Click switch 0

#show port-security

#show port-security int fa1/1

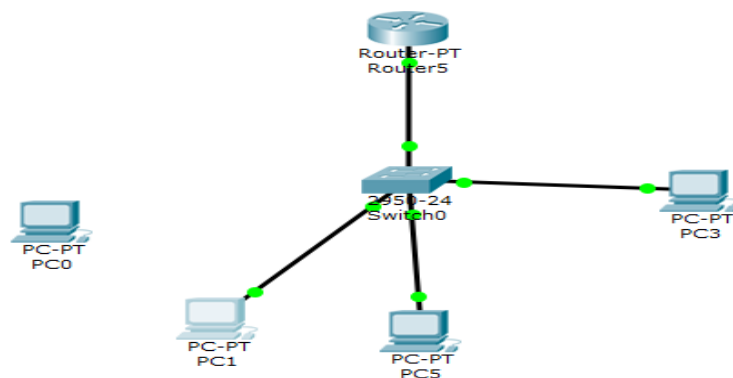
#show mac address-table

#show ip int br

Ping -t 192.168.5.10

Cntrl c

OUTPUT:



RESULT:

The port security is configured successfully in cisco packet tracer.