

# Port Additional Characteristics Configuration Commands

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# CHAPTER 1 PORT ADDITIONAL CHARACTERISTICS CONFIGURATION COMMANDS

## 1.1. Configuring Storm Blocking

### Syntax

To configure a port not to forward a designated type of packets, run the following command.

```
[no] switchport block {unicast | multicast | broadcast }
```

### Parameters

Parameters	Description
<i>unicast</i>	Means that the unknown unicast frame is not forwarded on a port.
<i>multicast</i>	Means that the multicast frame is not forwarded on the port.
<i>broadcast</i>	Means that the broadcast frame is not forwarded on the port.

### Default Value

All types of packets can be forwarded by default.

### Usage Guidelines

The command must be configured in L2 port configuration mode.

### Example

The following example shows how to configure port g0/1 not to forward the unknown unicast frame.

```
Switch_config#int g0/1
```

```
Switch_config_g0/1#switchport block unicast
```

## 1.2. Configuring Port Isolation

### 1.2.1. switchport protected

#### Syntax

To set port isolation, run this command.

```
[no] switchport protected <group-id>
```

#### Parameters

None

#### Default Value

None

### Usage Guidelines

The command must be configured in layer-2 port configuration mode. The system configures isolation not based on groups by default and group-id doesn't need to configure at the end. If configures isolation based on groups, it should be configured in global mode. Only deleting the isolation on all ports can you reselect isolation based on groups or not based on groups.

The command must be configured in layer-2 port configuration mode. There is not data transmission between isolated ports. There will be normal data transmission between non-isolated ports or the isolated ports and non-isolated ports.

### Example

The following example shows how to set isolation of port g0/1 not based on groups.

```
Switch_config_g0/1#switchport protected
```

## 1.3. Configuring the Storm Control Command

### Syntax

To configure flow control for a port, run `storm-control {broadcast | multicast | unicast} threshold count`.

**storm-control {mode | broadcast | multicast | unicast} threshold *count***

**no storm-control {broadcast | multicast | unicast} threshold**

### Parameters

Parameters	Description
<b>mode   broadcast   multicast   unicast</b>	Defines rate calculation mode, broadcast, multicast, and unicast storm control.
<i>count</i>	That is, it defines the threshold flux of the storm. 1-262143pps

### Default Value

The storm control function is disabled by default.

### Usage Guidelines

The command must be configured in L2 port configuration mode.

### Example

The following example shows how to set the unknown unicast-frame storm to 20pps on port g0/1.

```
Switch_config#interface g0/1
```

```
Switch_config_g0/1#storm-control unicast threshold 20
```

## 1.4. Configuring Switchport Rate Limit

### Syntax

To configure the rate limit for a port, run this command.

**[no] switchport rate-limit** {*band* | *bandwidth percent*} { *ingress|egress*}

### Parameters

Parameters	Description
<i>band</i>	Means the rate of the flow. The step length is 64Kbps.
<i>percent</i>	Means the percentage of the flow. unit 1%
<b>ingress</b>	Functions on the ingress port.
<b>egress</b>	Functions on the egress port.

### Default Value

The rate of the port is not limited by default.

### Usage Guidelines

The command must be configured in layer-2 port configuration mode

### Example

The following example shows how to set the incoming flow rate to 1M on port g0/1.

```
Switch_config#interface g0/1
```

```
Switch_config_g0/1#switchport rate-limit 16 ingress
```

## 1.5. Configuring Port Loop Check

### Syntax

To configure the interval for a port to transmit the loop check packets, run `keepalive second`.

**[no] keepalive** *second*

### Parameters

Parameters	Description
<i>Second</i>	Interval, unit: second.

### Default Value

12 seconds

### Usage Guidelines

The command must be configured in physical interface configuration mode.

### Example

The following example shows how to set the transmission interval to 10 seconds on interface g0/1.

```
Switch_config#interface g0/1
Switch_config_g0/1#keepalive 10
```

## 1.6. Configuring MAC Address Learning

### Syntax

To configure the MAC address learning for a port, run `switchport disable-learning`.

**[no] switchport disable-learning**

### Parameters

None

### Default Value

The MAC address learning is enabled by default.

### Usage Guidelines

The command must be configured in physical interface configuration mode.

### Example

The following example shows how to disable the MAC address learning on interface g0/1.

```
Switch_config1#interface g0/1
Switch_config_g0/1#switchport disable-learning
```

## 1.7. Configuring Port Security

The port security configuration commands include:

- **switchport port-security mode**
- **switchport port-security dynamic**
- **switchport port-security static**
- **switchport port-security sticky**

### 1.7.1. switchport port-security mode

#### Syntax

To set the interface security mode, run this command.

**switchport port-security mode {dynamic | static *accept/reject* | sticky}**

**[no] switchport port-security mode**

#### Parameters

None

## Default Value

The port security is disabled by default.

## Usage Guidelines

The command must be configured in physical interface configuration mode

## Example

The following example shows how to set interface g0/1 to the dynamic port security mode.

```
Switch_config#inter g0/1
```

```
Switch_config_g0/1#switchport port-security mode dynamic
```

### 1.7.2. switchport port-security dynamic

#### Syntax

To configure the maximum number of MAC addresses when the port is in dynamic security mode, run `switchport port-security dynamic maximum`.

**switchport port-security dynamic maximum** *dynamic\_number*

**[no] switchport port-security dynamic maximum**

#### Parameters

Parameters	Description	Value Range
<i>dynamic_number</i>	The maximum address number that can be learned	1-4095

## Default Value

The number of MAC addresses that can be learned is 1- the maximum number of items in the MAC address table.

## Usage Guidelines

Physical interface configuration mode

## Example

The following example shows how to set the number of that can be learned MAC addresses of port g0/1 to 10.

```
Switch_config#inter g0/1
```

```
Switch_config_g0/1# switchport port-security dynamic maximum 10
```

### 1.7.3. switchport port-security static mac-address

#### Syntax

To configure a static security MAC address, run `switchport port-security static mac-address H.H.H.`

**switchport port-security static mac-address H.H.H.**

To return to the default setting, use the no form of this command.

**[no] switchport port-security static mac-address H.H.H**

### Parameters

None

### Default Value

None

### Usage Guidelines

The command must be configured in physical interface configuration mode

### Example

The following example shows how to set MAC address 0001.0002.0003 to a static security MAC address.

```
Switch_config#inter g0/1
```

```
Switch_config_g0/1# switchport port-security static mac-address 1.2.3
```

## 1.7.4. switchport port-security sticky

### Syntax

To configure the sticky characteristic of MAC address, run this command. To return to the default setting, use the no form of this command.

**switchport port-security sticky {maximum *sticky\_number* | mac-address H.H.H | aging-time *aging\_time* | absolute-aging | inactivity-aging}**

**[no] switchport port-security sticky {maximum\_ | mac-address H.H.H | aging-time | absolute-aging | inactivity-aging}**

### Parameters

Parameters	Description
<i>sticky_number</i>	The maximum address number that can be learned. The default is 100 and the value range is from 1 to 4095.
H.H.H	Mac Address
<i>aging_time</i>	aging time Unit: minute, the default value is 0 and the value range is 0 to 100.

### Default Value

There is no sticky of mac address by default.

### Usage Guidelines

The command must be configured in physical interface configuration mode.



## Example

The following example shows how to set mac: 4433.0002.0021 to the sticky mac.

```
Switch_config#inter f0/1
```

```
Switch_config_f0/1# switchport port-security sticky mac-address 4433.0002.0021
```

## 1.8. Configuring Port Binding

### Syntax

To bind a MAC address to a IP address, run `switchport port-security bind|block {ip|arp|both-arp-ip ip-addr| ipv6 ipv6-addr | mac mac-addr }`.

To cancel the address binding one by one or to exit the port binding state by cancelling all addresses on the port, run `no switchport port-security bind|block {ip|arp| both-arp-ip ip-addr | ipv6 ipv6-addr | mac mac-addr}`.

**switchport port-security bind|block {ip|arp|both-arp-ip ip-addr| ipv6 ipv6-addr | mac mac-addr }**

**no switchport port-security bind|block {ip|arp| both-arp-ip ip-addr | ipv6 ipv6-addr | mac mac-addr}**

### Parameters

Parameters	Description	Value Range
<i>ip-addr</i>	IP address	A.B.C.D
<i>ipv6-addr</i>	Stands for the IPV6 address	X:X:X:X::XX
<i>Mac-addr</i>	Stands for the MAC address.	H.H.H

### Default Value

None

### Usage Guidelines

The command must be configured in layer-2 port configuration mode.

The port binding function is forbidden by default. However, if one address is bound, the port is then in binding state unless you use the negative form of this command to clear all bound address items.

### Example

The following example shows how to bind IP address 1.2.3.4 to MAC address 0001.0001.1111 on interface g0/1 to decline the IP packets and ARP packets from the bound address.

```
Switch_config#inter g0/1
```

```
Switch_config_g0/1# switchport port-security block both-arp-ip 1.2.3.4 mac 0001.0001.1111
```

## 1.9. SVL/IVL

### Syntax

To set SVL, run `switchport shared-learning`. To return to the default setting, use the `no` form of this command.

**`switchport shared-learning`**

**`[no]switchport shared-learning`**

### Parameters

None

### Default Value

VLAN IVL on the port

### Usage Guidelines

The command must be configured in layer-2 port configuration mode.

### Example

The following example shows how to set shared learning on `g0/1`.

```
Switch_config#inter g0/1
```

```
Switch_config_g0/1# switchport shared-learning
```

## 1.10. Configuring VLAN MAC Address Learning

### Syntax

To set vlan learning address, run `vlan disable-learning < add | remove word | word >`. To return to the default setting, use the `no` form of this command.

`vlan disable-learning < add | remove word | word >`

**`[no] vlan disable-learning < add | remove word | word >`**

### Parameters

Parameters	Description
<i>word</i>	Vlan IDs such as (1,3,5,7) (1,3-5,7), or (1-7)

### Default Value

Enable vlan learning.

### Usage Guidelines

The command must be configured in layer-2 global configuration mode.

### Example

The following example shows how to disable vlan 1 learning.

```
Switch_config#vlan disable-learning 1
```

## 1.11. Configuring the learning number of vlan mac address

### Syntax

To set the max number of vlan learning address, run this command. To return to the default setting, use the no form of this command.

**vlan dynamic vlan** *word* **maximum** *num*

**[no] vlan dynamic vlan** *word* **maximum** *num*

### Parameters

Parameters	Description
<i>word</i>	Vlan IDs such as (1,3,5,7) (1,3-5,7), or (1-7)
<i>num</i>	The max number of vlan learning address, 1 to 32767

### Default Value

No limit to the learning number

### Usage Guidelines

The command must be configured in layer-2 global configuration mode.

### Example

The following example shows how to set the max number of vlan 1 dynamic learning to 100.

```
Switch_config# vlan dynamic vlan 1 maximum 100
```

## 1.12. Configuring Link Scan Commands

### Syntax

To set the scan interval of an interface, run this command. To return to the default setting, use the no form of this command.

**Link scan** [**normal** | **fast**] *interval*

**[no] Link scan** [**normal** | **fast**] *interval*

### Parameters

Parameters	Description
<b>[normal   fast]</b>	Normal means standard link scan mode. Fast means fast link scan mode.
<i>interval</i>	scan interval, unit 1ms, 10-1000.

### Default Value

The scan interval is 500ms in standard mode by default.  
fast mode, the default interval is 10ms.

### Usage Guidelines

This command is configured in global configuration mode. The Fast mode is mainly used for cooperating with the protocol, for instance, RSTP. The Normal mode is mainly used for finding up/down.

### Example

The following example shows how to set the scan interval of a switch to 20ms.  
Link scan normal 20

## 1.13. Configuring System MTU

### Syntax

To set the value of system mtu, run this command. To return to the default setting, use the no form of this command.

**system mtu** *mtu*

**[no] system mtu** *mtu*

### Parameters

Parameters	Description
<i>mtu</i>	Sets the value of system mtu, 1500-16105.

### Default Value

The default mtu is 1500 bytes.

### Usage Guidelines

The command must be configured in global configuration mode.

### Example

The following example shows how to set system mtu to 2000 bytes.

Switch#config

Switch\_config#system mtu 2000

## 1.14. Configuring fec-enable Commands

### Syntax

**[no] fec-enable**

To configure FEC of 100G ports, run this command.

### Parameter

None

### Default value

## Disable FEC

### Usage guidelines

In the mode of 100G

### Example

The following example shows how to configure FEC function on the port of cg/1.

```
Switch#config
```

```
Switch_config#interface cg0/1
```

```
Switch_config_cg0/1#fec-enable
```