

Port Additional 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 g0/0/1 not to forward the unknown unicast frame.

```
Switch(config)#interface g0/0/1
Switch(config-g0/0/1)#switchport block unicast
```

1.2 Configuring Port Isolation

Syntax

To configure a port isolation, run the following command.

```
[no] switchport protected
```

Parameters

None

Default Value

None

Usage Guidelines

The command can be used to configure the group isolation in the Layer 2 port configuration mode. Data communication cannot be performed between isolated ports, and data packets between non-isolated ports, between isolated ports and non-isolated ports can still be forwarded normally.

Example

The following example shows how to configure port g0/0/1 as an isolated port.

```
Switch(config-g0/0/1)#switchport protected
```

1.3 Configuring the Storm Control Command

Syntax

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

```
storm-control {mode [kpbs | pps]| broadcast | multicast | unicast} {threshold count | action [shutdown | block | resume ] | auto_resume time }
```

```
no storm-control {mode | broadcast | multicast | unicast} {threshold | action | auto_resume}
```

Parameters

Parameters	Description
mode broadcast multicast unicast {threshold action auto_resume }	Defines rate statistics mode, storm control for broadcast, multicast and unicast. Rate threshold, action after reaching threshold, automatic recovery.
<i>kpbs pps</i> <i>shutdown block resume</i> <i>count time</i>	<i>kpbs,pps</i> is the storm control mode; <i>shutdown,block , resume</i> is the action taken after the storm control reaches the threshold; <i>count</i> defines the upper limit traffic for storm occurrence, range GigaEthernet (1-1488095 pps, 1-1000000 kbps), TenGigaEthernet (1-14880952 pps, 1-10000000 kbps), QTGigaEthernet (1-59523809 pps / 1-40000000 kbps); <i>time</i> is the auto-recovery time of the port, 60-36000s (default 60 seconds).

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 g0/0/1.

```
Switch(config)#interface g0/0/1
```

```
Switch(config-g0/0/1)#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} { burst-size  
[ high | middle | low ] }
```

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%
ingress	Functions on the ingress port.
egress	Functions on the egress port.
<i>high</i>	Configures the high message buffer
<i>middle</i>	Configures the middle message buffer
<i>low</i>	Configures the low message buffer

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 g0/0/1.

```
Switch(config)#interface g0/0/1
```

```
Switch(config-g0/0/1)#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, range 0-32767 seconds, default 12 seconds.

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 g0/0/1.

```
Switch(config)#interface g0/0/1
Switch(config-g0/0/1)#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 g0/0/1.

```
Switch(config)#interface g0/0/1
Switch(config-g0/0/1)#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**

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] }
[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 g0/0/1 to the dynamic port security mode.

```
Switch(config)#interface g0/0/1
Switch(config-g0/0/1)#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
<i>dynamic_number</i>	The maximum address number that can be learned, range 1-4095, default: 1

Default Value

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

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 g0/0/1 to 10.

```
Switch(config)#interface g0/0/1
Switch(config-g0/0/1)#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`. To return to the default setting, use the `no` form of this command.

```
[no] switchport port-security static mac-address AA:BB:CC:DD:EE:FF [vlan
vlanid]
```

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 00:01:00:02:00:03 to a static security MAC address.

```
Switch(config)#interface g0/0/1
Switch(config-g0/0/1)#switchport port-security static mac-address 00:01:00:02:00:03
```

1.8 Configuring Port Binding

Syntax

To bind a MAC address to an IP address, run the first command.

To cancel the address binding one by one or to exit the port binding state by cancelling all addresses on the port, run no form of the command.

switchport port-security bind|block {ip_|arp_|vlan | both-arp-ip ip-addr_|mac mac-addr }

no switchport port-security bind|block {ip_|arp_|vlan | both-arp-ip ip-addr_|mac mac-addr }

Parameters

Parameters	Description	Range
<i>ip-addr</i>	IP address	A.B.C.D
<i>Mac-addr</i>	Mac address	AA:BB:CC:DD:EE:FF

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 00:01:00:01:11:11 on interface g0/0/1 to decline the IP packets and ARP packets from the bound address.

```
Switch(config)#interface g0/0/1
```

```
Switch(config-g0/0/1)#switchport port-security block both-arp-ip 1.2.3.4 mac 00:01:00:01:11:11
```

1.9 SVL/IVL

Syntax

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

[no]vlan shared-learning

Parameters

None

Default Value

VLAN IVL on the global mode

Usage Guidelines

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

Example

The following example shows how to set shared learning globally.

```
Switch(config)#vlan shared-learning
```

1.10 Configuring VLAN MAC Address Learning

Syntax

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

```
[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.

```
[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 4095

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.

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

Parameters

Parameters	Description
[normal fast]	Normal means standard link scan mode. Fast means fast link scan mode.
interval	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.

```
Switch(config)#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.

[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
```