



# Auto-QoS

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## Feature history for Auto-QoS

This table provides release and platform support information for the features explained in this module.

These features are available in all the releases subsequent to the one they were introduced in, unless noted otherwise.

| Release              | Feature name and description                                                                                                                                                                               | Supported platform                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Cisco IOS XE 17.18.1 | Auto-QoS: Auto-QoS feature simplifies the deployment of QoS features. This feature determines the network design and enables QoS configurations so that the switch can prioritize different traffic flows. | Cisco C9350 Series Smart Switches |

# Auto-QoS overview

Auto-QoS is a feature designed to simplify the deployment of Quality of Service (QoS) on network devices. It automates the configuration of QoS policies by detecting the type of traffic (such as voice or video) and applying appropriate QoS settings without requiring manual, detailed configuration. This helps ensure that critical traffic receives the necessary priority and bandwidth for optimal performance.

## Key points

- Automatic detection and configuration: Auto-QoS identifies network design and traffic types, then enables QoS configurations so the switch can prioritize different traffic flows.
- MQC model:
  - Uses the Modular QoS CLI (MQC) model.
  - Instead of individual global configurations, Auto-QoS applied to any interface generates several global class maps and policy maps.
- Traffic classification:
  - Auto-QoS classifies traffic and assigns each matched packet to a qos-group.
  - The output policy map places specific qos-groups into designated output queues, including the priority queue for real-time traffic.
- Egress queuing: Egress queuing policy maps traffic-class to output queues.
- Ingress policy: traffic-class must be set explicitly; otherwise, default mappings use only traffic-class 0 or 7.
- Trust behavior: DSCP is trusted by default for routed packets; CoS is trusted by default for bridged packets.
- Bi-directional QoS:
  - Inbound: Switch port should trust the DSCP value in the packet (default behavior).
  - Outbound: Switch port must ensure voice packets receive "front of line" priority, preventing excessive delay that could lead to packet loss at the end host.

## Why is QoS important?

QoS ensures timely delivery and prioritization of critical traffic (like voice and video) by managing bandwidth and scheduling at both inbound and outbound interfaces.

# Auto-QoS compact overview

Auto-QoS is a Cisco feature that automatically generates and applies recommended Quality of Service (QoS) configurations for your network devices. This simplifies QoS deployment by reducing the need for manual, detailed QoS design and configuration.

When you enter an Auto-QoS command, the switch displays all the generated commands as if they were entered manually via the CLI. This provides transparency into the QoS policies being applied.

Auto-QoS Compact is an enhancement that allows you to hide the Auto-QoS generated commands from the running configuration.

- This makes the running configuration easier to read and understand.
- It also helps optimize memory usage on the device, as only the Auto-QoS command itself is shown, rather than all the expanded underlying CLI commands.

#### Key benefits

- Simplifies configuration review: Reduces clutter in the running configuration.
- Efficient memory usage: Saves resources by not listing all auto-generated CLI lines.
- Easy deployment: Maintains the simplicity of Auto-QoS while enhancing manageability.

## Limitations for Auto-QoS

These are restrictions for auto-QoS:

- Auto-qos is not supported on SVI interfaces.
- Auto-QoS does not generate configuration when it is pushed from the startup-configuration using the `auto qos voip cisco-phone` command to the running-configuration. This is expected behavior and this is to prevent overwriting of user-created customized QoS policies by the default configuration, if any, every time the command `auto qos voip cisco-phone` is pushed from the startup-config.

Use any of these workarounds for this limitation:

- Configure the `auto qos voip cisco-phone` command manually on the switch interfaces.
- For new switches, if you push auto-QoS commands through startup-config, the command should include each of these as part of the standard template:
  - Interface-level:
    - `trust device cisco-phone`
    - `auto qos voip cisco-phone`
    - `service-policy input AutoQos-4.0-CiscoPhone-Input-Policy`
    - `service-policy output AutoQos-4.0-Output-Policy`
  - Global-level:
    - `Class-map`
    - `Policy-map`
    - `ACL (ACE)`

- If the **auto qos voip cisco-phone** command is already configured on an interface but policies are not being generated, disable the command from all the interfaces and reconfigure the command on each interface manually.

## How Auto-QoS generates QoS templates

- Class map generation: An Auto-QoS command automatically creates a series of class maps that match on Access Control Lists (ACLs), DSCP values, and/or CoS values. This differentiates network traffic into various application classes (such as voice, video, and data).
- Input policy generation: Auto-QoS also generates an input policy that references these class maps. In some cases, this input policy includes policing (rate-limiting) for specific classes to enforce bandwidth limits.
- Egress queue class maps: Auto-QoS generates eight egress-queue class maps. The egress (output) policy then assigns each of these class maps to a specific output queue, ensuring appropriate queueing and scheduling behavior for each traffic type.

### Template and resource efficiency

- Template generation: The first time an Auto-QoS command is used on a device, it creates global templates—such as the eight-queue egress service-policy—that define the basic QoS structure.
- Template reuse: After these templates are created, subsequent Auto-QoS commands applied to other interfaces do not re-create them. All Auto-QoS-enabled interfaces share the same global queueing model and templates, ensuring consistency and efficient use of device resources.

### Key points

- Auto-QoS simplifies traffic classification and queue assignment by generating standard templates and policies.
- Templates are generated once and reused, optimizing configuration and memory usage across the device.
- Eight-queue model is central to Cisco's Auto-QoS approach, covering a broad range of application classes with standardized output queueing.

## Auto-QoS policy and class maps

When you enter the appropriate Auto-QoS command, these actions occur automatically:

- Creation of specific class maps: Auto-QoS generates class maps that define how different types of traffic (such as voice, video, and data) are identified, often based on DSCP or CoS values.
- Creation of specific policy maps (input and output): Corresponding policy maps are created for both inbound (input) and outbound (output) traffic, referencing the generated class maps and defining actions such as marking, policing, or queueing.
- Attachment of policy maps to the interface: The generated policy maps are automatically applied (attached) to the specified interface where you enabled Auto-QoS.

- Configuration of the interface trust level: The trust state for the interface is set, determining whether the switch will accept and honor incoming QoS markings (such as DSCP or CoS) from connected devices.
- DSCP is trusted by default for routed packets, and CoS is trusted by default for bridged packets.

## Behavior when Auto-QoS is enabled

- Addition of commands: When Auto-QoS is enabled, both the auto qos interface commands and the globally generated QoS configuration are automatically added to the device's running configuration.
- Command application: The switch applies the Auto-QoS-generated commands as if they were manually entered via the CLI.
- Interaction with existing configuration:
  - If there are existing user configurations, Auto-QoS-generated commands may fail to apply or may override user settings—sometimes without warning.
  - If all generated commands are applied successfully, any user configuration not overridden remains in the running configuration.
  - Any user configuration that was overridden can be restored by reloading the switch without saving the current (modified) configuration.
- Rollback behavior: If Auto-QoS-generated commands cannot be applied, the switch restores the previous running configuration.

### Key points

- Enabling Auto-QoS modifies the running configuration and may override user-entered settings.
- Overridden user configuration is not permanently lost unless you save the running configuration after enabling Auto-QoS.
- Safe rollback: If Auto-QoS configuration fails, your previous running config is restored automatically.

## Behavior when Auto-QoS compact is enabled

- Running configuration:
  - Only the auto-qos commands entered by the user are visible in the running configuration.
  - The detailed, auto-generated global and interface QoS configurations are hidden from the running-config output.
- Configuration save/reload:
  - When you save the configuration, only the auto-qos commands are stored (not the hidden, generated configuration).
  - Upon reload, the switch detects the saved auto-qos commands and re-executes them, regenerating the full Auto-QoS configuration (using the latest SRND-compliant config-set).

### Important considerations

No manual edits: Do not make changes to the hidden, auto-generated commands while Auto-QoS Compact is enabled. Any user modifications will be lost (overridden) when the switch reloads and the configuration is regenerated.

### Auto-QoS global compact mode

- Viewing derived config: Use the `show derived-config` command to view the hidden Auto-QoS global compact configuration.
- Memory and regeneration: Auto-QoS global compact-derived commands are not stored in memory. They are regenerated on every reload based on the current auto-qos commands present in the saved configuration.
- Modification warning: When compaction is enabled, do not modify auto-generated commands directly; any such changes will be lost at reload.
- Disabling compact: If you need to disable Auto-QoS global compact, first disable Auto-QoS at the interface level before disabling compact mode at the global level.

**Table showing comparison of standard and compact Auto-QoS**

| Feature/action                  | Standard Auto-QoS | Compact Auto-QoS              |
|---------------------------------|-------------------|-------------------------------|
| User CLI commands in config     | Visible           | Visible                       |
| Auto-generated config           | Visible           | Hidden                        |
| Save config                     | All commands      | Only auto-qos CLI commands    |
| Reload behavior                 | Normal reload     | Auto-QoS config regenerated   |
| Manual edits to auto-gen config | Allowed           | Not recommended (overwritten) |

## How to configure Auto-QoS

For optimum QoS performance, configure auto-QoS on all the devices in your network.

### Procedure

|               | Command or Action                                                                               | Purpose                           |
|---------------|-------------------------------------------------------------------------------------------------|-----------------------------------|
| <b>Step 1</b> | <b>configure terminal</b><br><br><b>Example:</b><br><br>Device# <code>configure terminal</code> | Enters global configuration mode. |

|               | Command or Action                                                                                                                                                                                                                                                                                                                                                                                                                      | Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 2</b> | <b>interface</b> <i>interface-id</i><br><b>Example:</b><br><pre>Device(config)# interface HundredGigE 1/0/1</pre>                                                                                                                                                                                                                                                                                                                      | Specifies the port connected to a VoIP phone, video device, or uplink. Enters interface configuration mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Step 3</b> | <p>Depending on your auto-QoS configuration, use one of the following commands:</p> <ul style="list-style-type: none"> <li>• <b>auto qos voip {cisco-phone   cisco-softphone   trust}</b></li> <li>• <b>auto qos video {cts   ip-camera   media-player}</b></li> <li>• <b>auto qos classify [police]</b></li> <li>• <b>auto qos trust {cos   dscp}</b></li> </ul> <b>Example:</b><br><pre>Device(config-if)# auto qos trust dscp</pre> | <p>Enables Auto-QoS for the interface and device type. See details and notes below:</p> <ul style="list-style-type: none"> <li>• <b>auto qos voip cisco-phone:</b> For Cisco IP Phones. Trusts QoS labels when the phone is detected via CDP.</li> </ul> <p><b>Note</b><br/>Do not use for IP phones that support video, as video DSCP markings may be overwritten and misclassified.</p> <ul style="list-style-type: none"> <li>• <b>auto qos voip cisco-softphone:</b> For PCs with Cisco IP SoftPhone. Generates QoS config and policing for untrusted endpoints.</li> <li>• <b>auto qos voip trust:</b> For uplinks to trusted switches or routers. Trusts VoIP QoS classification on ingress packets.</li> </ul> <p>These commands enable auto-QoS for the specified video device (system, camera, or media player):</p> <ul style="list-style-type: none"> <li>• <b>auto qos video cts:</b> For Cisco TelePresence systems. Trusts QoS labels when detected.</li> <li>• <b>auto qos video ip-camera:</b> For Cisco video surveillance cameras. Trusts QoS labels when detected.</li> <li>• <b>auto qos video media-player:</b> For Cisco digital media players. Trusts QoS labels when detected.</li> </ul> <p>This command enables auto-QoS for classification:</p> <ul style="list-style-type: none"> <li>• <b>auto qos classify police:</b> For untrusted interfaces. Classifies and marks traffic, applies policing.</li> </ul> <p>These commands enable auto-QoS for trusted interfaces:</p> |

|               | Command or Action                                                                                                                            | Purpose                                                                                                                                                                                           |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                                                                                                              | <ul style="list-style-type: none"> <li>• <b>auto qos trust cos</b>/<b>auto qos trust dscp</b>: Trusts CoS or DSCP values, typically for uplink or trunk ports.</li> </ul>                         |
| <b>Step 4</b> | <b>end</b><br><br><b>Example:</b><br><br>Device(config-if) # <b>end</b>                                                                      | Returns to privileged EXEC mode.                                                                                                                                                                  |
| <b>Step 5</b> | <b>show auto qos interface</b> <i>interface-id</i><br><br><b>Example:</b><br><br>Device# <b>show auto qos interface</b><br>HundredGigE 1/0/1 | (Optional) Displays the auto-QoS command on the interface on which auto-QoS was enabled. Use the <b>show running-config</b> command to display the auto-QoS configuration and user modifications. |

## Upgrade Auto-QoS

### Before you begin

Prior to upgrading, you need to remove all auto-QoS configurations currently on the switch. This sample procedure describes that process.

After following this sample procedure, you must then reboot the switch with the new or upgraded software image and reconfigure auto-QoS.

### Procedure

|               | Command or Action                                                                                                                                                                  | Purpose                                                                                                                               |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | <b>show auto qos</b><br><br><b>Example:</b><br><br>Device# <b>show auto qos</b><br><br>TwentyFiveGigE1/0/1<br>auto qos trust dscp<br><br>TwentyFiveGigE1/0/2<br>auto qos trust cos | In privileged EXEC mode, record all current auto QoS configurations by entering this command.                                         |
| <b>Step 2</b> | <b>no auto qos</b><br><br><b>Example:</b><br><br>Device(config-if) # <b>no auto qos</b>                                                                                            | In interface configuration mode, run the appropriate <b>no auto qos</b> command on each interface that has an auto QoS configuration. |

|               | Command or Action                                                                                                                                                                                                                                                                    | Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 3</b> | <b>show running-config   i autoQos</b><br><b>Example:</b><br><pre>Device# show running-config   i autoQos</pre>                                                                                                                                                                      | Return to privileged EXEC mode, and record any remaining auto QoS maps class maps, policy maps, access lists, table maps, or other configurations by entering this command.                                                                                                                                                                                                                                                                                |
| <b>Step 4</b> | <b>no policy-map policy-map_name</b><br><b>Example:</b><br><pre>Device(config)# no policy-map pmap_101 Device(config)# no class-map cmap_101 Device(config)# no ip access-list extended AutoQos-101 Device(config)# no table-map 101 Device(config)# no table-map policed-dscp</pre> | In global configuration mode, remove the QoS class maps, policy maps, access-lists, table maps, and any other auto QoS configurations by entering these commands: <ul style="list-style-type: none"> <li>• <b>no policy-map policy-map-name</b></li> <li>• <b>no class-map class-map-name</b></li> <li>• <b>no ip access-list extended Auto-QoS-x</b></li> <li>• <b>no table-map table-map-name</b></li> <li>• <b>no table-map policed-dscp</b></li> </ul> |
| <b>Step 5</b> | <b>show running-config   i autoQos</b><br><b>Example:</b><br><pre>Device# show running-config   i autoQos</pre>                                                                                                                                                                      | Return to privileged EXEC mode, run this command again to ensure that no auto-QoS configuration or remaining parts of the auto-QoS configuration exists                                                                                                                                                                                                                                                                                                    |
| <b>Step 6</b> | <b>show auto qos</b><br><b>Example:</b><br><pre>Device# show auto qos</pre>                                                                                                                                                                                                          | Run this command to ensure that no auto-QoS configuration or remaining parts of the configuration exists.                                                                                                                                                                                                                                                                                                                                                  |
| <b>Step 7</b> | <b>write memory</b><br><b>Example:</b><br><pre>Device# write memory</pre>                                                                                                                                                                                                            | Write the changes to the auto QoS configuration to NV memory by entering the <b>write memory</b> command.                                                                                                                                                                                                                                                                                                                                                  |

### What to do next

Reboot the switch with the new or upgraded software image.

After rebooting with the new or upgraded software image, re-configure auto-QoS for the appropriate switch interfaces as determined by running the **show auto qos** command described in step 1.



**Note** On a Cisco switch or switch stack, only one table-map can be applied for the exceed action and one for the violate action (markdown) per device.

If a table-map is already in use under the exceed action, attempting to apply an Auto-QoS policy that also requires a table-map for the exceed action will fail.

## Enable Auto-QoS compact

To enable auto-QoS compact, enter these commands:

### Procedure

|               | Command or Action                                                                                       | Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | <b>configure terminal</b><br><b>Example:</b><br><pre>Device# configure terminal</pre>                   | Enters global configuration mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Step 2</b> | <b>auto qos global compact</b><br><b>Example:</b><br><pre>Device(config)# auto qos global compact</pre> | <p>Enables auto-QoS compact and generates (hidden) the global configurations for auto-QoS.</p> <p>You can then enter the auto-QoS command you want to configure in the interface configuration mode and the interface commands that the system generates are also hidden.</p> <p>To display the auto-QoS configuration that has been applied, use these the privileged EXEC commands:</p> <ul style="list-style-type: none"> <li>• <b>show derived-config</b></li> <li>• <b>show policy-map</b></li> <li>• <b>show access-list</b></li> <li>• <b>show class-map</b></li> <li>• <b>show table-map</b></li> <li>• <b>show auto qos</b></li> <li>• <b>show policy-map interface</b></li> <li>• <b>show ip access-lists</b></li> <li>• <b>show policy-map type queue</b></li> <li>• <b>show policy-map type queueing interface</b></li> </ul> |

|  | Command or Action | Purpose                                      |
|--|-------------------|----------------------------------------------|
|  |                   | These commands will have keyword "AutoQos-". |

### What to do next

To disable auto-QoS compact, remove auto-Qos instances from all interfaces by entering the **no** form of the corresponding auto-QoS commands and then enter the **no auto qos global compact** global configuration command.

## Monitor Auto-QoS

Table 1: Commands for monitoring Auto-QoS

| Command                                                 | Description                                                                                                                                                                                                                   |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>show auto qos</b> [interface <i>[interface-id]</i> ] | Displays the initial auto-QoS configuration.<br>You can compare the <b>show auto qos</b> and the <b>show running-config</b> command output to identify the user-defined QoS settings.                                         |
| <b>show running-config</b>                              | Displays information about the QoS configuration that might be affected by auto-QoS.<br>You can compare the <b>show auto qos</b> and the <b>show running-config</b> command output to identify the user-defined QoS settings. |
| <b>show derived-config</b>                              | Displays the hidden <b>mls qos</b> command which get configured along with the running configs because of auto-qos template.                                                                                                  |

## Troubleshoot Auto-QoS

To troubleshoot Auto-QoS processes and issues:

- Use the **debug auto qos** privileged EXEC command.
- Enables detailed debugging output for Auto-QoS operations.
- Refer to the device's command reference for more details on usage and output interpretation.

To disable Auto-QoS on a specific port:

- Use the no form of the **interface interface-id** and **no auto qos voip** Auto-QoS interface commands.
- This removes only the Auto-QoS-generated interface configuration commands from the specified port.
- Global config behavior: If this is the last port with Auto-QoS enabled, entering the **no auto qos** command disables Auto-QoS on the device.



**Note** The global Auto-QoS-generated configuration commands remain in place. This avoids interrupting traffic on other ports that might still rely on those global settings.

## Configuration examples

### Example: auto qos trust cos

This is an example of the **auto qos trust cos** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-Trust-Cos-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Signaling-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Transaction-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Stream-Queue (match-any)
- class-default (match-any)

The **show policy-map interface** will only display the ingress policy information.

```
Device(config)# interface HundredGigE1/0/9
Device(config-if)# auto qos trust cos
```

```
Device(config-if)# end
```

```
Device# show policy-map interface HundredGigE1/0/9
```

```
HundredGigE1/0/9
```

```
Service-policy input: AutoQos-4.0-Trust-Cos-Input-Policy
```

```
Class-map: class-default (match-any)
 0 packets
Match: any
QoS Set
traffic-class cos table AutoQos-4.0-Trust-Cos-Table
```

To view the egress queue information (output policy), use the **show policy-map type queueing interface** command.

```
Device(config)# interface HundredGigE1/0/9
```

```
Device(config-if)# auto qos trust cos
```

```
Device(config-if)# end
```

```
Device# show policy-map type queueing interface HunredGigE 1/0/9
```

```
HundredGigE1/0/9
```

```
Service-policy queueing output: AutoQos-4.0-Output-Policy
```

```
queue stats for all priority classes:
```

```
Queueing
priority level 1
queue limit 96000 bytes
(total drops) 0
(bytes output) 381284209
```

```
Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
3562992 packets
Match: traffic-class 7
Priority: Strict,
```

```
Priority Level: 1
shape (average) cir 12000000000, bc 1200000000, be 1200000000
target shape rate 12000000000
```

```
Class-map: AutoQos-4.0-Output-Signaling-Queue (match-any)
 0 packets
Match: traffic-class 6
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9
```

```
Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1
```

```

Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
0 packets
Match: traffic-class 5
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Transaction-Data-Queue (match-any)
0 packets
Match: traffic-class 4
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
0 packets
Match: traffic-class 3
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 4

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1

```

```
6 0 0 1/1
7 0 0 1/1
```

```
Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
0 packets
Match: traffic-class 2
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 1
```

```
Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1
```

```
Class-map: AutoQos-4.0-Output-Multimedia-Stream-Queue (match-any)
0 packets
Match: traffic-class 1
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9
```

```
Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1
```

```
Class-map: class-default (match-any)
3547910 packets
Match: any
Queueing
queue limit 75000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 23
```

```
Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
```

```

4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

```

## Example: auto qos trust dscp

This is an example of the **auto qos trust dscp** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-Trust-Dscp-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
- AutoQos-4.0-Trust-Dscp-Priority-Class1 (match-any)
- AutoQos-4.0-Trust-Dscp-Priority-Class2 (match-any)
- AutoQos-4.0-Trust-Dscp-Signaling-Class1 (match-any)
- AutoQos-4.0-Trust-Dscp-Signaling-Class2 (match-any)
- AutoQos-4.0-Trust-Dscp-Multimedia-Conf-Class1 (match-any)
- AutoQos-4.0-Trust-Dscp-Multimedia-Conf-Class2 (match-any)
- AutoQos-4.0-Trust-Dscp-Transaction-Data-Class1 (match-any)
- AutoQos-4.0-Trust-Dscp-Transaction-Data-Class2 (match-any)
- AutoQos-4.0-Trust-Dscp-Bulk-Data-Class1 (match-any)
- AutoQos-4.0-Trust-Dscp-Bulk-Data-Class2 (match-any)
- AutoQos-4.0-Trust-Dscp-Scavenger-Class (match-any)
- AutoQos-4.0-Trust-Dscp-Multimedia-Stream-Class1 (match-any)
- AutoQos-4.0-Trust-Dscp-Multimedia-Stream-Class2 (match-any)

The **show policy-map interface** command displays the ingress policy information

```
Device(config)# interface HundredGigE1/0/9
Device(config-if)# auto qos trust dscp
Device(config-if)# end

Device# show policy-map interface HundredGigE1/0/9

Service-policy input: AutoQos-4.0-Trust-Dscp-Input-Policy

Class-map: AutoQos-4.0-Trust-Dscp-Priority-Class1 (match-any)
  0 packets
Match: dscp ef (46)
QoS Set
traffic-class 7

Class-map: AutoQos-4.0-Trust-Dscp-Priority-Class2 (match-any)
  0 packets
Match: dscp cs4 (32) cs5 (40)
QoS Set
traffic-class 7
discard-class 1

Class-map: AutoQos-4.0-Trust-Dscp-Signaling-Class1 (match-any)
  0 packets
Match: dscp cs7 (56)
QoS Set
traffic-class 6

Class-map: AutoQos-4.0-Trust-Dscp-Signaling-Class2 (match-any)
  0 packets
Match: dscp cs2 (16) cs3 (24) cs6 (48)
QoS Set
traffic-class 6
discard-class 1

Class-map: AutoQos-4.0-Trust-Dscp-Multimedia-Conf-Class1 (match-any)
  0 packets
Match: dscp af41 (34)
QoS Set
traffic-class 5

Class-map: AutoQos-4.0-Trust-Dscp-Multimedia-Conf-Class2 (match-any)
  0 packets
Match: dscp af42 (36) af43 (38)
QoS Set
traffic-class 5
discard-class 1

Class-map: AutoQos-4.0-Trust-Dscp-Transaction-Data-Class1 (match-any)
  0 packets
Match: dscp af21 (18)
QoS Set
traffic-class 4

Class-map: AutoQos-4.0-Trust-Dscp-Transaction-Data-Class2 (match-any)
  0 packets
Match: dscp af22 (20) af23 (22)
QoS Set
traffic-class 4
discard-class 1

Class-map: AutoQos-4.0-Trust-Dscp-Bulk-Data-Class1 (match-any)
  0 packets
Match: dscp af11 (10)
QoS Set
```

```

traffic-class 3

Class-map: AutoQos-4.0-Trust-Dscp-Bulk-Data-Class2 (match-any)
 0 packets
Match: dscp af12 (12) af13 (14)
QoS Set
traffic-class 3
discard-class 1

Class-map: AutoQos-4.0-Trust-Dscp-Scavenger-Class (match-any)
 0 packets
Match: dscp cs1 (8)
QoS Set
traffic-class 2

Class-map: AutoQos-4.0-Trust-Dscp-Multimedia-Stream-Class1 (match-any)
 0 packets
Match: dscp af31 (26)
QoS Set
traffic-class 1

Class-map: AutoQos-4.0-Trust-Dscp-Multimedia-Stream-Class2 (match-any)
 0 packets
Match: dscp af32 (28) af33 (30)
QoS Set
traffic-class 1
discard-class 1

Class-map: class-default (match-any)
 0 packets
Match: any

```

To view egress queue information (output policy), use the **show policy-map type queueing interface** command:

```

Device(config)# interface HundredGigE1/0/9
Device(config-if)# auto qos trust dscp
Device(config-if)# end

Device# show policy-map type queueing interface HunredGigE 1/0/9

Service-policy queueing output: AutoQos-4.0-Output-Policy

queue stats for all priority classes:
Queueing
priority level 1
queue limit 96000 bytes
(total drops) 0
(bytes output) 6957

Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
49 packets
Match: traffic-class 7
Priority: Strict,

Priority Level: 1
shape (average) cir 30000000000, bc 300000000, be 300000000
target shape rate 30000000000

Class-map: AutoQos-4.0-Output-Signaling-Queue (match-any)
 0 packets
Match: traffic-class 6
Queueing
queue limit 30000000 bytes

```

```

(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
0 packets
Match: traffic-class 5
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Transaction-Data-Queue (match-any)
0 packets
Match: traffic-class 4
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
0 packets
Match: traffic-class 3

```

```

Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 4

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
0 packets
Match: traffic-class 2
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 1

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Multimedia-Stream-Queue (match-any)
0 packets
Match: traffic-class 1
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: class-default (match-any)

```

```

50 packets
Match: any
Queueing
queue limit 75000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 23

```

```

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

```

## Example: auto qos video cts

This is an example of the **auto qos video cts** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-Trust-Cos-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)

```

Device(config)# interface HundredGigE1/0/2
Device(config-if)# auto qos video cts
Device(config-if)# end

```

```

Device# show policy-map interface HundredGigE1/0/2

```

```

HundredGigE1/0/2

```

```

Service-policy input: AutoQos-4.0-Trust-Cos-Input-Policy

```

```

Class-map: class-default (match-any)
  Match: any

```

```

QoS Set
  cos cos table AutoQos-4.0-Trust-Cos-Table

Service-policy output: AutoQos-4.0-Output-Policy

queue stats for all priority classes:
  Queueing
  priority level 1

  (total drops) 0
  (bytes output) 0

Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
  Match: dscp cs4 (32) cs5 (40) ef (46)
  Match: cos 5
  Priority: 30% (300000 kbps), burst bytes 7500000,

  Priority Level: 1

Class-map: AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
  Match: dscp cs3 (24) cs6 (48) cs7 (56)
  Match: cos 3
  Queueing
  queue-limit dscp 16 percent 80
  queue-limit dscp 24 percent 90
  queue-limit dscp 48 percent 100

  (total drops) 0
  (bytes output) 0
  bandwidth remaining 10%

  queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
  Match: dscp af41 (34) af42 (36) af43 (38)
  Match: cos 4
  Queueing

  (total drops) 0
  (bytes output) 0
  bandwidth remaining 10%
  queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Trans-Data-Queue (match-any)
  Match: dscp af21 (18) af22 (20) af23 (22)
  Match: cos 2
  Queueing

  (total drops) 0
  (bytes output) 0
  bandwidth remaining 10%
  queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
  Match: dscp af11 (10) af12 (12) af13 (14)
  Match: cos 1
  Queueing

  (total drops) 0
  (bytes output) 0
  bandwidth remaining 4%
  queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)

```

```

Match: dscp cs1 (8)
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 1%
queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
Match: dscp af31 (26) af32 (28) af33 (30)
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 10%
queue-buffers ratio 10

Class-map: class-default (match-any)
Match: any
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 25%
queue-buffers ratio 25

```

## Example: auto-qos video ip-camera

This is an example of the **auto qos video ip-camera** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-Trust-Dscp-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)

```

Device(config)# interface HundredGigE1/0/2
Device(config-if)# auto qos video ip-camera
Device(config-if)# end

Device# show policy-map interface HundredGigE1/0/2

HundredGigE1/0/2

```

```

Service-policy input: AutoQos-4.0-Trust-Dscp-Input-Policy

  Class-map: class-default (match-any)
    Match: any
    QoS Set
      dscp dscp table AutoQos-4.0-Trust-Dscp-Table

Service-policy output: AutoQos-4.0-Output-Policy

  queue stats for all priority classes:
    Queueing
      priority level 1

      (total drops) 0
      (bytes output) 0

  Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
    Match: dscp cs4 (32) cs5 (40) ef (46)
    Match: cos 5
    Priority: 30% (300000 kbps), burst bytes 7500000,

    Priority Level: 1

  Class-map: AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
    Match: dscp cs3 (24) cs6 (48) cs7 (56)
    Match: cos 3
    Queueing
      queue-limit dscp 16 percent 80
      queue-limit dscp 24 percent 90
      queue-limit dscp 48 percent 100

      (total drops) 0
      (bytes output) 0
      bandwidth remaining 10%

      queue-buffers ratio 10

  Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
    Match: dscp af41 (34) af42 (36) af43 (38)
    Match: cos 4
    Queueing

      (total drops) 0
      (bytes output) 0
      bandwidth remaining 10%
      queue-buffers ratio 10

  Class-map: AutoQos-4.0-Output-Trans-Data-Queue (match-any)
    Match: dscp af21 (18) af22 (20) af23 (22)
    Match: cos 2
    Queueing

      (total drops) 0
      (bytes output) 0
      bandwidth remaining 10%
      queue-buffers ratio 10

  Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
    Match: dscp af11 (10) af12 (12) af13 (14)
    Match: cos 1
    Queueing

      (total drops) 0

```

```

(bytes output) 0
bandwidth remaining 4%
queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
  Match:  dscp cs1 (8)
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 1%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
  Match:  dscp af31 (26) af32 (28) af33 (30)
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: class-default (match-any)
  Match:  any
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 25%
    queue-buffers ratio 25

```

## Example: auto qos video media-player

This is an example of the **auto qos video media-player** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-Trust-Dscp-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)

```

Device(config)# interface HundredGigE1/0/2
Device(config-if)# auto qos video media-player

```

```

Device(config-if)# end

Device# show policy-map interface HundredGigE1/0/2

HundredGigE1/0/2

  Service-policy input: AutoQos-4.0-Trust-Dscp-Input-Policy

    Class-map: class-default (match-any)
      Match: any
      QoS Set
        dscp dscp table AutoQos-4.0-Trust-Dscp-Table

  Service-policy output: AutoQos-4.0-Output-Policy

    queue stats for all priority classes:
      Queueing
        priority level 1

        (total drops) 0
        (bytes output) 0

    Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
      Match: dscp cs4 (32) cs5 (40) ef (46)
      Match: cos 5
      Priority: 30% (300000 kbps), burst bytes 7500000,

      Priority Level: 1

    Class-map: AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
      Match: dscp cs3 (24) cs6 (48) cs7 (56)
      Match: cos 3
      Queueing
        queue-limit dscp 16 percent 80
        queue-limit dscp 24 percent 90
        queue-limit dscp 48 percent 100

        (total drops) 0
        (bytes output) 0
        bandwidth remaining 10%

        queue-buffers ratio 10

    Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
      Match: dscp af41 (34) af42 (36) af43 (38)
      Match: cos 4
      Queueing

        (total drops) 0
        (bytes output) 0
        bandwidth remaining 10%
        queue-buffers ratio 10

    Class-map: AutoQos-4.0-Output-Trans-Data-Queue (match-any)
      Match: dscp af21 (18) af22 (20) af23 (22)
      Match: cos 2
      Queueing

        (total drops) 0
        (bytes output) 0
        bandwidth remaining 10%
        queue-buffers ratio 10

    Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)

```

```

Match: dscp af11 (10) af12 (12) af13 (14)
Match: cos 1
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 4%
queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
Match: dscp cs1 (8)
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 1%
queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
Match: dscp af31 (26) af32 (28) af33 (30)
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 10%
queue-buffers ratio 10

Class-map: class-default (match-any)
Match: any
Queueing

(total drops) 0
(bytes output) 0
bandwidth remaining 25%
queue-buffers ratio 25

```

## Example: auto qos voip trust

=

This is an example of the **auto qos voip trust** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-Trust-Cos-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)

- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)

This is a sample output of the **show policy-map interface** command for a Layer 2 interface. Depending on the type of interface (Layer 3 or Layer 2), QoS policies from trust DSCP or CoS will be installed.

```
Device(config)# interface HundredGigE1/0/9
Device(config-if)# auto qos voip trust
Device(config-if)# end

Device# show policy-map interface HundredGigE1 1/0/9

HundredGigE1/0/9

Service-policy input: AutoQos-4.0-Trust-Cos-Input-Policy

Class-map: class-default (match-any)
 0 packets
Match: any
QoS Set
traffic-class cos table AutoQos-4.0-Trust-Cos-Table
```

This is a sample output of the **show policy-map type queueing interface** command.

```
Device(config)# interface FiftyGigE 6/0/1
Device(config-if)# auto qos voip trust
Device(config-if)# end

Device# show policy-map type queueing interface FiftyGigE 6/0/1

FiftyGigE6/0/1

Service-policy queueing output: AutoQos-4.0-Output-Policy

queue stats for all priority classes:
Queueing
priority level 1
queue limit 96000 bytes
(total drops) 0
(bytes output) 0

Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
 0 packets
Match: traffic-class 7
Priority: Strict,

Priority Level: 1
shape (average) cir 15000000000, bc 1500000000, be 1500000000
target shape rate 15000000000

Class-map: AutoQos-4.0-Output-Signaling-Queue (match-any)
 0 packets
Match: traffic-class 6
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
```

```

0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
0 packets
Match: traffic-class 5
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Transaction-Data-Queue (match-any)
0 packets
Match: traffic-class 4
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
0 packets
Match: traffic-class 3
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 4

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0

```

```

Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
0 packets
Match: traffic-class 2
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 1

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: AutoQos-4.0-Output-Multimedia-Stream-Queue (match-any)
0 packets
Match: traffic-class 1
Queueing
queue limit 30000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 9

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

Class-map: class-default (match-any)
0 packets
Match: any
Queueing
queue limit 75000000 bytes
(total drops) 0
(bytes output) 0
bandwidth remaining ratio 23

```

```

Exp-weight-constant: 1 (1/2)
Mean queue depth: 0
Minimum Maximum Mark
thresh thresh prob
0 85 100 1/1
1 65 100 1/1
2 0 0 1/1
3 0 0 1/1
4 0 0 1/1
5 0 0 1/1
6 0 0 1/1
7 0 0 1/1

```

## Example: auto qos voip cisco-phone

This is an example of the **auto qos voip cisco-phone** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-CiscoPhone-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- AutoQos-4.0-Voip-Data-Class (match-any)
- AutoQos-4.0-Voip-Signal-Class (match-any)
- AutoQos-4.0-Default-Class (match-any)
- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)

```

Device(config)# interface HundredGigE1/0/5
Device(config-if)# auto qos voip cisco-phone
Device(config-if)# end

```

```

Device# show policy-map interface HundredGigE1/0/5

```

```

HundredGigE1/0/5

```

```

Service-policy input: AutoQos-4.0-CiscoPhone-Input-Policy

```

```

Class-map: AutoQos-4.0-Voip-Data-Class (match-any)
  Match: ip dscp ef (46)
  QoS Set
    ip dscp ef

```

```

police:
  cir 128000 bps, bc 8000 bytes, be 8000 bytes
  conformed 0 bytes; actions:
    transmit
  exceeded 0 bytes; actions:
    set-dscp-transmit dscp table policed-dscp
  violated 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Voip-Signal-Class (match-any)
Match: ip dscp cs3 (24)
QoS Set
  ip dscp cs3
police:
  cir 32000 bps, bc 8000 bytes, be 8000 bytes
  conformed 0 bytes; actions:
    transmit
  exceeded 0 bytes; actions:
    set-dscp-transmit dscp table policed-dscp
  violated 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Default-Class (match-any)
Match: access-group name AutoQos-4.0-Acl-Default
QoS Set
  dscp default
police:
  cir 10000000 bps, bc 8000 bytes, be 8000 bytes
  conformed 0 bytes; actions:
    transmit
  exceeded 0 bytes; actions:
    set-dscp-transmit dscp table policed-dscp
  violated 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: class-default (match-any)
Match: any

Service-policy output: AutoQos-4.0-Output-Policy

queue stats for all priority classes:
Queueing
priority level 1

(total drops) 0
(bytes output) 0

Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
Match: dscp cs4 (32) cs5 (40) ef (46)
Match: cos 5
Priority: 30% (300000 kbps), burst bytes 7500000,

Priority Level: 1

Class-map: AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
Match: dscp cs3 (24) cs6 (48) cs7 (56)
Match: cos 3
Queueing
queue-limit dscp 16 percent 80
queue-limit dscp 24 percent 90
queue-limit dscp 48 percent 100

```

```
(total drops) 0
(bytes output) 0
bandwidth remaining 10%

queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
  Match: dscp af41 (34) af42 (36) af43 (38)
  Match: cos 4
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Trans-Data-Queue (match-any)
  Match: dscp af21 (18) af22 (20) af23 (22)
  Match: cos 2
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
  Match: dscp af11 (10) af12 (12) af13 (14)
  Match: cos 1
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 4%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
  Match: dscp cs1 (8)
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 1%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
  Match: dscp af31 (26) af32 (28) af33 (30)
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: class-default (match-any)
  Match: any
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 25%
    queue-buffers ratio 25
```

## Example: auto qos voip cisco-softphone

This is an example of the **auto qos voip cisco-softphone** command and the applied policies and class maps.

These policy maps are created and applied when running this command:

- AutoQos-4.0-CiscoSoftPhone-Input-Policy
- AutoQos-4.0-Output-Policy

These class maps are created and applied when running this command:

- AutoQos-4.0-Voip-Data-Class (match-any)
- AutoQos-4.0-Voip-Signal-Class (match-any)
- AutoQos-4.0-Multimedia-Conf-Class (match-any)
- AutoQos-4.0-Bulk-Data-Class (match-any)
- AutoQos-4.0-Transaction-Class (match-any)
- AutoQos-4.0-Scavenger-Class (match-any)
- AutoQos-4.0-Signaling-Class (match-any)
- AutoQos-4.0-Default-Class (match-any)
- class-default (match-any)
- AutoQos-4.0-Output-Priority-Queue (match-any)
- AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
- AutoQos-4.0-Output-Trans-Data-Queue (match-any)
- AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
- AutoQos-4.0-Output-Scavenger-Queue (match-any)
- AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)

```
Device(config)# interface HundredGigE1/0/20
Device(config-if)# auto qos voip cisco-softphone
Device(config-if)# end

Device# show policy-map interface HundredGigE1/0/20

HundredGigE1/0/20

Service-policy input: AutoQos-4.0-CiscoSoftPhone-Input-Policy

Class-map: AutoQos-4.0-Voip-Data-Class (match-any)
  Match: ip dscp ef (46)
    QoS Set
      ip dscp ef
    police:
      cir 128000 bps, bc 8000 bytes, be 8000 bytes
      conformed 0 bytes; actions:
```

```
        transmit
    exceeded 0 bytes; actions:
        set-dscp-transmit dscp table policed-dscp
    violated 0 bytes; actions:
        drop
    conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Voip-Signal-Class (match-any)
  Match: ip dscp cs3 (24)
  QoS Set
    ip dscp cs3
  police:
    cir 32000 bps, bc 8000 bytes, be 8000 bytes
    conformed 0 bytes; actions:
        transmit
    exceeded 0 bytes; actions:
        set-dscp-transmit dscp table policed-dscp
    violated 0 bytes; actions:
        drop
    conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Multimedia-Conf-Class (match-any)
  Match: access-group name AutoQos-4.0-Acl-MultiEnhanced-Conf
  QoS Set
    dscp af41
  police:
    cir 5000000 bps, bc 8000 bytes, be 8000 bytes
    conformed 0 bytes; actions:
        transmit
    exceeded 0 bytes; actions:
        set-dscp-transmit dscp table policed-dscp
    violated 0 bytes; actions:
        drop
    conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Bulk-Data-Class (match-any)
  Match: access-group name AutoQos-4.0-Acl-Bulk-Data
  QoS Set
    dscp af11
  police:
    cir 10000000 bps, bc 8000 bytes, be 8000 bytes
    conformed 0 bytes; actions:
        transmit
    exceeded 0 bytes; actions:
        set-dscp-transmit dscp table policed-dscp
    violated 0 bytes; actions:
        drop
    conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Transaction-Class (match-any)
  Match: access-group name AutoQos-4.0-Acl-Transactional-Data
  QoS Set
    dscp af21
  police:
    cir 10000000 bps, bc 8000 bytes, be 8000 bytes
    conformed 0 bytes; actions:
        transmit
    exceeded 0 bytes; actions:
        set-dscp-transmit dscp table policed-dscp
    violated 0 bytes; actions:
        drop
    conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Scavenger-Class (match-any)
```

```

Match: access-group name AutoQos-4.0-Acl-Scavanger
QoS Set
  dscp cs1
police:
  cir 10000000 bps, bc 8000 bytes, be 8000 bytes
  conformed 0 bytes; actions:
    transmit
  exceeded 0 bytes; actions:
    set-dscp-transmit dscp table policed-dscp
  violated 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Signaling-Class (match-any)
Match: access-group name AutoQos-4.0-Acl-Signaling
QoS Set
  dscp cs3
police:
  cir 32000 bps, bc 8000 bytes, be 8000 bytes
  conformed 0 bytes; actions:
    transmit
  exceeded 0 bytes; actions:
    set-dscp-transmit dscp table policed-dscp
  violated 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: AutoQos-4.0-Default-Class (match-any)
Match: access-group name AutoQos-4.0-Acl-Default
QoS Set
  dscp default
police:
  cir 10000000 bps, bc 8000 bytes, be 8000 bytes
  conformed 0 bytes; actions:
    transmit
  exceeded 0 bytes; actions:
    set-dscp-transmit dscp table policed-dscp
  violated 0 bytes; actions:
    drop
  conformed 0000 bps, exceed 0000 bps, violate 0000 bps

Class-map: class-default (match-any)
Match: any

Service-policy output: AutoQos-4.0-Output-Policy

queue stats for all priority classes:
  Queueing
  priority level 1

  (total drops) 0
  (bytes output) 0

Class-map: AutoQos-4.0-Output-Priority-Queue (match-any)
Match: dscp cs4 (32) cs5 (40) ef (46)
Match: cos 5
Priority: 30% (300000 kbps), burst bytes 7500000,

Priority Level: 1

Class-map: AutoQos-4.0-Output-Control-Mgmt-Queue (match-any)
Match: dscp cs3 (24) cs6 (48) cs7 (56)
Match: cos 3
Queueing

```

```
queue-limit dscp 16 percent 80
queue-limit dscp 24 percent 90
queue-limit dscp 48 percent 100

(total drops) 0
(bytes output) 0
bandwidth remaining 10%

queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Conf-Queue (match-any)
  Match: dscp af41 (34) af42 (36) af43 (38)
  Match: cos 4
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Trans-Data-Queue (match-any)
  Match: dscp af21 (18) af22 (20) af23 (22)
  Match: cos 2
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Bulk-Data-Queue (match-any)
  Match: dscp af11 (10) af12 (12) af13 (14)
  Match: cos 1
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 4%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Scavenger-Queue (match-any)
  Match: dscp cs1 (8)
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 1%
    queue-buffers ratio 10

Class-map: AutoQos-4.0-Output-Multimedia-Strm-Queue (match-any)
  Match: dscp af31 (26) af32 (28) af33 (30)
  Queueing

    (total drops) 0
    (bytes output) 0
    bandwidth remaining 10%
    queue-buffers ratio 10

Class-map: class-default (match-any)
  Match: any
  Queueing

    (total drops) 0
    (bytes output) 0
```

```
bandwidth remaining 25%  
queue-buffers ratio 25
```

## Example: auto qos global compact

This is an example of the **auto qos global compact** command.

```
Device# configure terminal  
Device(config)# auto qos global compact  
Device(config)# interface HundredGigE1/0/2  
Device(config-if)# auto qos voip trust  
  
Device# show auto qos  
  
HundredGigE1/0/2  
auto qos voip trust  
  
Device# show running-config interface HundredGigE1/0/2  
  
interface HundredGigE1/0/2  
auto qos voip trust  
end
```