Community SONiC by Celestica with Advanced Feature Set - CLI Reference Guide

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SONiC CLI Reference Guide

Disclaimer

Preface

This guide covers the installation and basic setup of the SONiC Community SONiC by Celestica with Advanced Feature Set. Every effort has been made to ensure the accuracy and validity of this guide. Any updates of this guide are subject to change without notice.

Document Scope

This document is the installation guide for the SONiC Community SONiC by Celestica with Advanced Feature Set. It introduces the general hardware design and characteristics as well as basic hardware removal and installation instructions. It may also provide help with diagnosing and resolving some hardware related issues.

Intended Audiences

- System architects
- Firmware engineers
- System application engineers

Document Conventions

The following table describes various types of notes used within this installation guide.

Type	Generalized Definition
ⓘ NOTE:	Provides supplemental information.
⚠ CAUTION:	Indicates a situation that if not avoided, may result in equipment damage or minor to moderate injury.
ⓟ TIP:	Indicates information that helps you make better use of your system.
⚠ WARNING:	Indicates a hazardous situation that if not avoided, could result in data loss or serious injury.

Type	Generalized Definition
ⓘ DANGER:	Indicates a hazardous situation that if not avoided, will result in death or serious injury.

Introduction

This document is intended for system administrators to manage Celestica Enterprise SONiC using industry standard commands.

Getting Started

To install the SONiC image in ONIE, to setup the management IP address, and to SSH login to the device, refer and follow the instructions explained in the following documents.

- Quick Start
- SONiC User Manual

Login

Context

To log in to the SONiC CLI interface, execute `sonic-cli` command from the `admin` user prompt. You will receive another prompt with `<hostname>#`

```
admin@sonic:~$ sonic-cli
sonic#
```

Getting Help

To list all the available commands in any mode, use `?`

```
sonic# ?
  configure  Enter configuration mode
  exit       Exit from the CLI
  image      Image related operations
  no         No commands under exec mode
  show       Show running system information
  system     System command
sonic#
```

```
sonic(config)# ?
  aaa              Configures AAA
  end              Exit to EXEC mode
  exit             Exit from current mode
  feature          Configure feature commands
  hostname         Enter name of the host
  interface        Select an interface
  ip               Global IPv4 configuration commands
  ipv6             Global IPv6 configuration commands
  lldp             Configure lldp
  logging          Configures logging
  mac              Global MAC configuration commands
  mclag            Global mclag configuration commands
  mirror-session   Mirror session configuration
  no               Negate a command or set its defaults
  ntp              Configures NTP
  qos              Global QoS configuration commands
  radius-server    Configures RADIUS client
  sflow            Configure sFlow
  snmp-server      Configures SNMP server
  tacacs-server    Configures TACACS servers
  wred             Configures a weighted random early detection (WRED) profile
sonic(config)#
```

Command Modes

SONiC CLI contains two top-level modes:

- EXEC: This is the root mode, returned to the user initially. All troubleshooting, monitoring

and status related commands are available.

- CONFIG: All configurations are grouped in this mode, which is accessible using the `configure terminal` command in EXEC mode.

Auto Completion

To auto-complete the partial commands and to list the possible valid options, use `TAB` or `SPACEBAR`.

Common Mode Commands

For easy navigation, some commands are available in all the modes.

- `exit` – Navigate to the previous mode. Executing `exit` from the EXEC mode logs out the SONiC CLI.
- `end` – Go to the EXEC mode.
- `do` – EXEC mode commands are accessible from other modes through `do` prefix. Examples: `do show running-config`, `do show version`

Pipe Options

The following post processing options are available to deal with the show command outputs. Use the pipe symbol `|` after the command and maximum 5 pipes are allowed in a single command.

- `display-json [path <path-value>]` – Display the raw JSON output. Use the optional keyword `path` to filter based on the JSON path expression.
- `except` – Filter lines not matching with the regex pattern. Use `ignore-case` for case insensitive search.
- `grep` – Filter lines matching with the regex pattern. Use `ignore-case` for case insensitive search.
- `find` – Search for the first occurrence of a pattern and display all the subsequent lines. Use `ignore-case` for case insensitive search.
- `no-more` – Display all the lines without pagination
- `save` – Save the output to file inside mgmt-framework container. Use `append` to append on top of the existing file. Files are stored in mgmt-framework docker. Use the absolute path always. Relative path files are stored in `/home/cliadmin` directory.

```
sonic# show running-config |
```

```
  display-json  Show JSON content
  except        Show only text that does not match a pattern
  find          Search for the 1st occurrence of a pattern and display all
the subsequent configs
  grep          Show only text that matches a pattern
  no-more       Don't paginate output
  save          Save output to a file

sonic# show running-config | display-json
  |     Pipe through a command
  <cr>

sonic# show running-config | display-json path $..bgp
  |     Pipe through a command
  <cr>

sonic# show running-config | except aaa
  ignore-case  Case insensitive
  |            Pipe through a command
  <cr>

sonic# show running-config | grep aaa
  ignore-case  Case insensitive
  |            Pipe through a command
  <cr>

sonic# show running-config | no-more
  |     Pipe through a command
  <cr>

sonic# show running-config | save /tmp/2.txt
  append  Append output
  |       Pipe through a command
  <cr>

sonic# show running-config | grep pattern1 | except pattern2 | find pattern3
| grep pattern4 | save /tmp/2.txt
  append  Append output
  |       Pipe through a command
  <cr>
```

Basic Commands

terminal length

Sets the terminal length for the current session while displaying the show command output.

Syntax	`terminal length <count>`
Command Mode	EXEC
Parameters	`count` – Number of lines to be displayed (0 = disable pagination, default = 24)
Usage	Use this command to set the terminal length.
Supported Releases	1.0.0 or later
Click Command	None

Example

```
sonic# terminal length 20
sonic#
```

show terminal length

Displays the terminal length of the current session.

Syntax	`show terminal length`
Command Mode	EXEC
Parameters	None
Usage	Use this command to retrieve the terminal length of the current session.

Supported Releases	1.0.0 or later
Click Command	None

Example

```
sonic# show terminal length
Current terminal length : 24 lines
sonic#
```

---

show running-config

Displays the active configuration on the device.

Syntax	`show running-config`
Command Mode	EXEC
Parameters	None
Usage	Use this command to retrieve the active configuration.
Supported Releases	1.0.0 or later
Click Command	`show running configuration all`
Feature Specific Commands	▪ Release 1.0.0 ▪ `show running-config aaa` ▪ `show running-config interface [Ethernet <if-id> | Loopback <id> | PortChannel <id> | Vlan <>]` ▪ `show running-config ip access-list [<name>]`

- `show running-config ipv6 access-list [<name>]`
- `show running-config lldp`
- `show running-config logging`
- `show running-config mac access-list [<name>]`
- `show running-config mclag`
- `show running-config mirror-session`
- `show running-config ntp`
- `show running-config qos map {dot1p-tc [<name>] | dscp-tc [<name>] | pfc-priority-queue [<name>] | tc-dot1p [<name>] | tc-dscp [<name>] | tc-pg [<name>] | tc-queue [<name>]}`
- `show running-config qos scheduler-policy`
- `show running-config qos wred-profile [<profile-name>]`
- `show running-config radius`
- `show running-config sflow`
- `show running-config snmp`
- `show running-config tacacs`

Example

```
sonic# show running-config
!
tacacs-server host 1.2.3.4 timeout 10
!
radius-server host 1.2.3.4 auth-port 1000
!
lldp enable
lldp system-description Test
lldp system-name test
lldp timer 20
no lldp tlv-select system-capabilities
!
ip access-list ip1
 seq 10 permit ip 10.1.1.1/24 10.1.1.2/24 dscp 10
!
ipv6 access-list ipv6_1
 seq 100 deny 47 100::1/64 100::2/64
!
mac access-list m1
 seq 80 deny any any 0x88cc
!
interface Vlan 40
 description vlan40
!
interface PortChannel 2
 description PortChannel2
 mtu 9100
 no shutdown
!
interface Ethernet 0
 description Eth0
 mtu 1500
 shutdown
 speed 40000
 no lldp enable
!
interface Ethernet 4
 description Ethernet4
 fec FC
 mtu 1700
 no shutdown
 speed auto
```

```
!
interface Ethernet 8
 description "Ethernet 8"
 fec none
 mtu 1500
 no shutdown
 speed auto
!
interface Ethernet 12
 mtu 9100
 no shutdown
 speed 40000
!
interface Ethernet 16
 description "ETHERNET 12"
 fec RS
 mtu 1500
 no shutdown
 speed 40000
 no lldp enable
--more--
```

show startup-config

Displays the startup configuration on the device.

Syntax	`show startup-config`
Command Mode	EXEC
Parameters	None
Usage	Use this command to retrieve the startup configuration.
Supported Releases	1.0.0 or later
Click Command	None

Example

```
sonic# show startup-config
!
tacacs-server host 1.2.3.4 timeout 10
!
radius-server host 1.2.3.4 auth-port 1000
!
lldp enable
lldp system-description Test
lldp system-name test
lldp timer 20
no lldp tlv-select system-capabilities
!
interface Vlan 40
 description vlan40
!
interface PortChannel 2
 mtu 9100
 no shutdown
!
interface Ethernet 0
 mtu 1500
 shutdown
 speed 40000
 no lldp enable
!
interface Ethernet 4
 fec FC
 mtu 1700
 no shutdown
 speed auto
!
interface Ethernet 8
 fec none
 mtu 1500
 no shutdown
 speed auto
!
interface Ethernet 12
 mtu 9100
 no shutdown
 speed 40000
```

```
!
interface Ethernet 16
 fec RS
 mtu 1500
 no shutdown
 speed 40000
 no lldp enable
--more--
```

---

hostname

Configures the system hostname.

Syntax	`hostname <host_name>`
Command Mode	CONFIG
Parameters	`host_name` – String with a maximum length of 64 and minimum length of 1. Does not accept any special characters including the white spaces.
Usage	Use `no hostname` to reset the hostname to default. The default hostname is `sonic` .
Supported Releases	1.0.0 or later
Click Command	`config hostname <new_hostname>`

Example

```
sonic# configure terminal
sonic(config)# hostname mysystem
sonic(config)# exit
sonic# exit
admin@sonic:~$ sonic-cli
```

```
mysystem# configure terminal

mysystem(config)# no hostname
mysystem(config)# exit
mysystem# exit

admin@sonic:~$ sonic-cli
sonic#
```

---

reboot

Reboots the switch.

Syntax	`reboot`
Command Mode	EXEC
Parameters	None
Usage	Will reboot the entire switch.
Supported Releases	1.0.0 or later
Click Command	`reboot`

Example

```
sonic# reboot
  <cr>

sonic# reboot
Success
admin@sonic:~$
```

---

show history

Displays the current session's command history.

Syntax	`show history [<lines>]`
Command Mode	EXEC
Parameters	`lines` – Number of lines to be displayed from recent history, range 1 to 300.
Usage	None
Supported Releases	1.0.0 or later
Click Command	None

Example

```
sonic# show history
Index  Timestamp             Command
-----  ---------             -------
1      14-Jul-2023 05:20:27  configure terminal
2      14-Jul-2023 05:20:33  interface Vlan 10
3      14-Jul-2023 05:20:37  show config
4      14-Jul-2023 05:20:49  no interface Vlan 10
5      14-Jul-2023 05:20:59  do show vlan 10
6      14-Jul-2023 05:21:03  end
7      14-Jul-2023 05:21:06  show history
sonic# show history 4
Index  Timestamp             Command
-----  ---------             -------
5      14-Jul-2023 05:20:59  do show vlan 10
6      14-Jul-2023 05:21:03  end
7      14-Jul-2023 05:21:06  show history
8      14-Jul-2023 05:21:12  show history 4
sonic#
```

show users

Displays the current active users.

Syntax	`show users`
Command Mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click Command	`show users`

Example

```
sonic# show users
------------------------------------------------------------------------
-
NAME       TERM_NO    DATE         TIME       IP-ADDR
------------------------------------------------------------------------
-
admin      pts/0      2023-03-07   09:02      (172.28.144.1)
admin      pts/1      2023-03-07   08:21      (172.28.144.1)
```

show version

Displays the version of the software, hardware and dockers.

Syntax	`show version`
Command Mode	EXEC
Parameters	None
Usage	None

Supported Releases	1.0.0 or later
Click Command	`show version`

Example

```
SONiC Software Version: SONiC.202111-CLS.0-ade5b1493
Distribution: Debian 11.6
Kernel: 5.10.0-8-2-amd64
Build commit: ade5b1493
Built by: vigneshs@AZUHPSP08
Platform: x86_64-kvm_x86_64-r0
HwSKU: Force10-S6000
ASIC: vs
ASIC Count: 1
Serial Number: N/A
Model Number: N/A
Hardware Revision: N/A
Uptime: 09:04:58 up  2:19,  2 users,  load average: 0.02, 0.09, 0.08
-------------------------------------------------------------------------
-----------
REPOSITORY                    TAG                         IMAGE-
ID        SIZE
-------------------------------------------------------------------------
-----------
docker-database               202111-CLS.0-ade5b1493
ed018f07aa55    427MB
docker-database               latest
ed018f07aa55    427MB
docker-dhcp-relay             latest
7af4d5e8f0ea    440MB
docker-fpm-frr                202111-CLS.0-ade5b1493
b02ae3a00657    460MB
docker-fpm-frr                latest
b02ae3a00657    460MB
docker-gbsyncd-vs             202111-CLS.0-ade5b1493
465f336c0acb    435MB
docker-gbsyncd-vs             latest
465f336c0acb    435MB
docker-iccpd                  202111-CLS.0-ade5b1493
2473048535bc    442MB
docker-iccpd                  latest
2473048535bc    442MB
```

```
docker-lldp                  202111-CLS.0-ade5b1493
55b0667ebc5e    467MB
docker-lldp                  latest
55b0667ebc5e    467MB
docker-macsec                202111-CLS.0-ade5b1493
78e4a9e82a10    444MB
docker-macsec                latest
78e4a9e82a10    444MB
docker-mux                   202111-CLS.0-ade5b1493
d6044577bff4    480MB
docker-mux                   latest
d6044577bff4    480MB
docker-nat                   202111-CLS.0-ade5b1493
3f6157c4ad68    444MB
docker-nat                   latest
3f6157c4ad68    444MB
docker-orchagent             202111-CLS.0-ade5b1493
1300337e52b9    460MB
docker-orchagent             latest
1300337e52b9    460MB
docker-platform-monitor      202111-CLS.0-ade5b1493
09fd862251be    691MB
docker-platform-monitor      latest
09fd862251be    691MB
docker-router-advertiser     202111-CLS.0-ade5b1493
d92c1c86611f    427MB
docker-router-advertiser     latest
d92c1c86611f    427MB
docker-sflow                 202111-CLS.0-ade5b1493
3f6384eb0dfa    442MB
docker-sflow                 latest
3f6384eb0dfa    442MB
docker-snmp                  202111-CLS.0-ade5b1493
25cc9835e1e7    471MB
docker-snmp                  latest
25cc9835e1e7    471MB
docker-sonic-mgmt-framework  202111-CLS.0-ade5b1493
b35b951eea55    645MB
docker-sonic-mgmt-framework  latest
b35b951eea55    645MB
docker-sonic-telemetry       202111-CLS.0-ade5b1493
dd9b1a2e7584    522MB
```

```
docker-sonic-telemetry         latest
dd9b1a2e7584    522MB
docker-syncd-vs                202111-CLS.0-ade5b1493
5dd189b7cc8e    440MB
docker-syncd-vs                latest
5dd189b7cc8e    440MB
docker-teamd                   202111-CLS.0-ade5b1493
3286bdc06cc4    441MB
docker-teamd                   latest
3286bdc06cc4    441MB
```

show reboot history

Displays the history of system reboots.

Syntax	`show reboot history`
Command Mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click Command	`show reboot history`

Example

```
sonic# show reboot history
--------------------------------------------------------------------------
----
NAME                 CAUSE    TIME                              USER
COMMENT
--------------------------------------------------------------------------
----
2023_02_21_08_08_08  reboot   Tue 21 Feb 2023 08:07:25 AM UTC admin N/A
2023_02_22_11_17_52  Unknown  N/A                               N/A   N/A
```

```
2023_02_23_04_14_41  Unknown  N/A                                  N/A   N/A
2023_02_23_08_01_06  Unknown  N/A                                  N/A   N/A
2023_02_27_04_55_26  Unknown  N/A                                  N/A   N/A
2023_02_28_04_58_17  Unknown  N/A                                  N/A   N/A
2023_03_01_04_19_24  Unknown  N/A                                  N/A   N/A
2023_03_03_04_47_29  Unknown  N/A                                  N/A   N/A
2023_03_06_05_23_09  Unknown  N/A                                  N/A   N/A
2023_03_07_06_45_39  Unknown  N/A                                  N/A   N/A
```

show reboot-cause

Displays the cause of latest reboot.

Syntax	`show reboot-cause`
Command Mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click Command	`show reboot-cause`

Example

```
sonic# show reboot-cause
Unknown
```

show environment

Displays the hardware status.

Syntax	`show environment`

Command Mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click Command	`show environment`

Example

```
sonic# show environment
acpitz-acpi-0
Adapter: ACPI interface
temp1:         +0.0 C  (crit = +94.0 C)
coretemp-isa-0000
Adapter: ISA adapter
Package id 0:  +28.0 C  (high = +74.0 C, crit = +94.0 C)
Core 2:        +25.0 C  (high = +74.0 C, crit = +94.0 C)
Core 6:        +26.0 C  (high = +74.0 C, crit = +94.0 C)
Core 8:        +25.0 C  (high = +74.0 C, crit = +94.0 C)
Core 12:       +26.0 C  (high = +74.0 C, crit = +94.0 C)
```

---

show log

Displays the **n** lines of syslog information of the corresponding process.

Syntax	`show log <process> <lines>`
Command Mode	EXEC
Parameters	▪ `process` – Name of the system process. Accepts a string of maximum 32 characters. ▪ `lines` – Number of lines to be displayed. Accepts an integer of

range 1 to 256.

Usage	None
Supported Releases	1.0.0 or later
Click Command	`show logging [OPTIONS] [PROCESS]`

Example

```
sonic# show log pattern mgmt-framework lines 10
Mar  3 08:24:35.788112 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787007      16 handler.go:48] [REST-7] GET
/restconf/data/openconfig-system:system/openconfig-system-cls-ext:log/
syslog_list="mgmt-framework",10; content-len=0
Mar  3 08:24:35.788273 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787047      16 handler.go:56] [REST-7] Translated
path = /openconfig-system:system/openconfig-system-cls-ext:log/
syslog_list[process="mgmt-framework"][lines=10]
Mar  3 08:24:35.788342 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787056      16 translib.go:491] Received Get
request for path = /openconfig-system:system/openconfig-system-cls-
ext:log/syslog_list[process="mgmt-framework"][lines=10]
Mar  3 08:24:35.788420 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787063      16 app_interface.go:129] getAppModule
called for path =/openconfig-system:system/openconfig-system-cls-
ext:log/syslog_list[process="mgmt-framework"][lines=10]
Mar  3 08:24:35.789948 sonic INFO sonic-host-server: command: ['show',
'logging', '-l', '10', '"mgmt-framework"']
Mar  3 08:24:35.792408 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787542      16 sys_app.go:93] SysApp:
initialize:sys:path =/openconfig-system:system/openconfig-system-cls-
ext:log/syslog_list[process="mgmt-framework"][lines=10]
Mar  3 08:24:35.792408 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787601      16 sys_app.go:285] SysApp:
translateGet:system:path =&{/openconfig-system:system/openconfig-system-
cls-ext:log/syslog_list[process="mgmt-framework"][lines=10] /openconfig-
system:system/openconfig-system-cls-ext:log/syslog_list{}{}
map[lines:10 process:"mgmt-framework"]}
Mar  3 08:24:35.792408 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787609      16 sys_app.go:641] SysApp: processGet
```

```
Path: /openconfig-system:system/openconfig-system-cls-ext:log/
syslog_list[process="mgmt-framework"][lines=10]
Mar  3 08:24:35.792408 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787693      16 sys_app.go:644] Received GET for
path /openconfig-system:system/openconfig-system-cls-ext:log/
syslog_list[process="mgmt-framework"][lines=10]; template_info:
/openconfig-system:system/openconfig-system-cls-ext:log/syslog_list{}{}
vars=map[lines:10 process:"mgmt-framework"]
Mar  3 08:24:35.792408 sonic INFO mgmt-framework#/supervisord: rest-
server I0303 08:24:35.787721      16 sys_app.go:656] targetUriPath :
/openconfig-system:system/openconfig-system-cls-ext:log/syslog_list
Args: map[lines:10 process:"mgmt-framework"]

sonic# show log lines 10
May 18 13:48:48.237992 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.235726      25 sys_app.go:713] Received GET for
path /openconfig-system:system/openconfig-system-cls-ext:log/
syslog[process=All][lines=10]; template_info: /openconfig-system:system/
openconfig-system-cls-ext:log/syslog{}{} vars=map[lines:10 process:All]
May 18 13:48:48.238133 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.235875      25 sys_app.go:725] targetUriPath :
/openconfig-system:system/openconfig-system-cls-ext:log/syslog Args:
map[lines:10 process:All]
May 18 13:48:48.238273 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236041      25 sys_app.go:922] Handeling logging
Get process
May 18 13:48:48.238414 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236055      25 sys_log.go:25] Handleing Getlog
Function
May 18 13:48:48.238792 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236070      25 sys_log.go:28] Building Log empty
tree
May 18 13:48:48.238936 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236083      25 sys_log.go:80] get logAll info
using dbus entry
May 18 13:48:48.239076 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236098      25 host_comm.go:20] HostQuery called
May 18 13:48:48.239213 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236110      25 host_comm.go:35] HostQueryAsync
called on endpoint 'system_mgmt.show'
May 18 13:48:48.239351 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236126      25 host_comm.go:42] HostQueryAsync
```

```
conn established
May 18 13:48:48.239490 sonic INFO mgmt-framework#/supervisord: rest-
server I0518 13:48:48.236161      25 host_comm.go:71] HostQueryAsync
Before objgo
```

---

show uptime

Displays the time since the system has been up.

Syntax	`show uptime`
Command Mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click Command	`show uptime`

Example

```
sonic# show uptime
up 2 hours, 32 minutes
```

---

show services

Displays the system services and their process information.

Syntax	`show services`
Command Mode	EXEC
Parameters	None

Usage	None
Supported Releases	1.0.0 or later
Click Command	`show services`

Example

```
sonic# show services
-------------------------------------------------------------------
bgp                 docker
-------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30396     24184     pts/0
Ss+       04:52     0:02      /usr/bin/python3 /usr/local/bin/
supervisord
root                28   0.0  0.2       25620     19100     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name bgp
root                31   0.0  0.0       223808    5580      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
frr                 35   0.0  0.7       675496    61524     pts/0
Sl        04:52     0:02      /usr/lib/frr/zebra -A 127.0.0.1 -s
90000000 -M fpm -M snmp
frr                 55   0.0  0.1       43896     12740     pts/0
S         04:52     0:00      /usr/lib/frr/staticd -A 127.0.0.1
frr                 56   0.0  0.5       295544    44768     pts/0
Sl        04:52     0:07      /usr/lib/frr/bgpd -A 127.0.0.1 -M snmp
root                58   0.0  0.3       37584     26156     pts/0
S         04:52     0:00      /usr/bin/python3 /usr/local/bin/bgpcfgd
root                59   0.0  0.1       19968     15492     pts/0
S         04:52     0:01      /usr/bin/python3 /usr/local/bin/bgpmon
root                60   0.0  0.0       82184     4488      pts/0
Sl        04:52     0:00      fpmsyncd
-------------------------------------------------------------------
database            docker
-------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       29996     23616     pts/0
Ss+       04:52     0:01      /usr/bin/python3 /usr/local/bin/
supervisord
```

```
root                35   0.0  0.2       25612     19028     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name database
root                36   0.0  0.0       223808    3576      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
root                37   0.3  0.6       100592    52024     pts/0
Sl        04:52     0:29      /usr/bin/redis-server 127.0.0.1:6379
------------------------------------------------------------------------
gbsyncd             docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30256     24064     pts/0
Ss+       04:52     0:01      /usr/bin/python3 /usr/local/bin/
supervisord
root                10   0.0  0.2       25612     19064     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name gbsyncd
root                13   0.0  0.0       223808    3576      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
------------------------------------------------------------------------
lldp                docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30388     24108     pts/0
Ss+       04:52     0:02      /usr/bin/python3 /usr/local/bin/
supervisord
root                12   0.0  0.2       25616     19012     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name lldp
root                15   0.0  0.0       223808    3412      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
_lldpd              23   0.0  0.0       28364     7716      pts/0
S         04:52     0:00      lldpd: monitor.
_lldpd              25   0.0  0.0       28492     3756      pts/0
S         04:52     0:01      lldpd: no neighbor.
root                29   0.0  0.2       105000    21504     pts/0
Sl        04:52     0:01      python3 -m lldp_syncd
root                33   0.0  0.1       24452     15752     pts/0
S         04:52     0:00      python3 /usr/bin/lldpmgrd
------------------------------------------------------------------------
```

```
mgmt-framework      docker
--------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       29116     22792     pts/0
Ss+       06:30     0:00      /usr/bin/python3 /usr/local/bin/
supervisord
root                13   0.0  0.0       223808    3420      pts/0
Sl        06:30     0:00      /usr/sbin/rsyslogd -n -iNONE
root                17   0.2  2.7       1397164   225716    pts/0
Sl        06:30     0:04      /usr/sbin/rest_server -ui /rest_ui
-logtostderr -cert /tmp/cert.pem -key /tmp/key.pem
1000                58   0.0  0.0       3736      2708      pts/1
Ss+       06:32     0:00      /bin/bash /usr/sbin/cli/clish_start -t
3605
1000                64   0.0  0.4       157124    40328     pts/1
S+        06:32     0:00      /usr/sbin/cli/clish -o -t 3605
1000                76   0.0  0.0       3736      2788      pts/2
Ss+       07:02     0:00      /bin/bash /usr/sbin/cli/clish_start -t
3605
1000                82   1.3  0.3       144248    26032     pts/2
S+        07:02     0:00      /usr/sbin/cli/clish -o -t 3605
--------------------------------------------------------------------
pmon                docker
--------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.3       30308     24252     pts/0
Ss+       04:52     0:01      /usr/bin/python3 /usr/local/bin/
supervisord
root                21   0.0  0.2       25636     19156     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name pmon
root                24   0.0  0.0       223808    3608      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
--------------------------------------------------------------------
radv                docker
--------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30256     24020     pts/0
Ss+       04:52     0:01      /usr/bin/python3 /usr/local/bin/
```

```
supervisord
root                13   0.0  0.2       25612     19048     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name radv
root                17   0.0  0.0       223808    3596      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
------------------------------------------------------------------------
snmp                docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.3       33644     24304     pts/0
Ss+       04:55     0:02      /usr/bin/python3 /usr/local/bin/
supervisord
root                10   0.0  0.2       29060     19352     pts/0
S         04:55     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name snmp
root                18   0.0  0.0       223808    3340      pts/0
Sl        04:55     0:00      /usr/sbin/rsyslogd -n -iNONE
Debian-+            22   0.0  0.1       30868     12360     pts/0
S         04:55     0:03      /usr/sbin/snmpd -f -LS0-2d -u Debian-snmp
-g Debian-snmp -I -smux mteTrigger mteTriggerConf ifTable ifXTable
inetCidrRouteTable ipCidrRouteTable ip disk_hw -p /run/snmpd.pid
root                23   0.0  0.3       120552    32192     pts/0
Sl        04:55     0:02      python3 -m sonic_ax_impl
------------------------------------------------------------------------
swss                docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30724     24212     pts/0
Ss+       04:52     0:04      /usr/bin/python3 /usr/local/bin/
supervisord
root                109  0.0  0.1       88412     8116      pts/0
Sl        04:52     0:00      /usr/bin/tunnelmgrd
root                2547 0.0  0.0       2524      740       pts/0
S         06:57     0:00      sleep 300
root                28   0.0  0.2       25620     19044     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name swss
root                31   0.0  0.0       223808    5900      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
```

```
root                36   0.0  0.0       81256     5300      pts/0
Sl        04:52     0:00      /usr/bin/portsyncd
root                43   0.3  0.2       402896    20292     pts/0
Sl        04:52     0:25      /usr/bin/orchagent -d /var/log/swss -b
8192 -s -m 52:54:00:12:34:56
root                472  0.0  0.0       5668      1628      pts/0
S         04:52     0:00      /usr/sbin/ndppd
root                59   0.0  0.1       88504     8268      pts/0
Sl        04:52     0:00      /usr/bin/coppmgrd
root                81   0.0  0.0       3964      3016      pts/0
S         04:52     0:00      /bin/bash /usr/bin/arp_update
root                83   0.0  0.0       81124     4436      pts/0
Sl        04:52     0:02      /usr/bin/neighsyncd
root                85   0.0  0.1       88304     8236      pts/0
Sl        04:52     0:00      /usr/bin/fdbmgrd
root                87   0.0  0.1       88444     8384      pts/0
Sl        04:52     0:00      /usr/bin/vlanmgrd
root                88   0.0  0.1       88588     8700      pts/0
Sl        04:52     0:00      /usr/bin/intfmgrd
root                89   0.0  0.1       88408     10424     pts/0
Sl        04:52     0:00      /usr/bin/portmgrd
root                90   0.0  0.1       88500     8348      pts/0
Sl        04:52     0:00      /usr/bin/buffermgrd -l /usr/share/sonic/
hwsku/pg_profile_lookup.ini
root                92   0.0  0.1       88440     8440      pts/0
Sl        04:52     0:00      /usr/bin/vrfmgrd
root                93   0.0  0.1       88336     8180      pts/0
Sl        04:52     0:00      /usr/bin/nbrmgrd
root                94   0.0  0.1       88464     8316      pts/0
Sl        04:52     0:00      /usr/bin/vxlanmgrd
root                96   0.0  0.0       81168     4800      pts/0
Sl        04:52     0:01      /usr/bin/fdbsyncd
------------------------------------------------------------------------
syncd               docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30256     23984     pts/0
Ss+       04:52     0:02      /usr/bin/python3 /usr/local/bin/
supervisord
root                10   0.0  0.2       25612     19040     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
```

```
listener --container-name syncd
root                13   0.0  0.1       223808    9820      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
root                20   0.0  0.2       732848    20916     pts/0
Sl        04:52     0:04      /usr/bin/syncd -u -s -p /usr/share/sonic/
hwsku/sai.profile
------------------------------------------------------------------------
teamd               docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
root                1    0.0  0.2       30260     23948     pts/0
Ss+       04:52     0:01      /usr/bin/python3 /usr/local/bin/
supervisord
root                10   0.0  0.2       25612     19052     pts/0
S         04:52     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name teamd
root                16   0.0  0.0       223808    3604      pts/0
Sl        04:52     0:00      /usr/sbin/rsyslogd -n -iNONE
root                20   0.0  0.1       88440     8256      pts/0
Sl        04:52     0:00      /usr/bin/teammgrd
root                21   0.0  0.0       88208     7144      pts/0
Sl        04:52     0:04      /usr/bin/tlm_teamd
root                27   0.0  0.0       16076     3116      ?
S         04:52     0:03      /usr/bin/teamd -r -t PortChannel1 -c
{"device":"PortChannel1","hwaddr":"52:54:00:12:34:56","runner":{"active"
:true,"name":"lacp","min_ports":1}} -L /var/warmboot/teamd/ -g -d
root                33   0.0  0.0       81500     5128      pts/0
Sl        04:52     0:00      /usr/bin/teamsyncd
root                36   0.0  0.0       16072     3308      ?
S         04:52     0:02      /usr/bin/teamd -r -t PortChannel2 -c
{"device":"PortChannel2","hwaddr":"52:54:00:12:34:56","runner":{"active"
:true,"name":"lacp","min_ports":1}} -L /var/warmboot/teamd/ -g -d
root                45   0.0  0.0       15964     2648      ?
S         04:52     0:01      /usr/bin/teamd -r -t PortChannel3 -c
{"device":"PortChannel3","hwaddr":"52:54:00:12:34:56","runner":{"active"
:true,"name":"lacp","min_ports":1}} -L /var/warmboot/teamd/ -g -d
------------------------------------------------------------------------
telemetry           docker
------------------------------------------------------------------------
User                Pid  %Cpu %Memory   VSZ       RSS       TTY
Stat      Start     Time      Command
```

```
root                1    0.0  0.2       30256     24136     pts/0
Ss+       04:55     0:02      /usr/bin/python3 /usr/local/bin/
supervisord
root                12   0.0  0.0       223808    5476      pts/0
Sl        04:55     0:00      /usr/sbin/rsyslogd -n -iNONE
root                18   0.2  0.8       1177232   71180     pts/0
Sl        04:55     0:20      /usr/sbin/telemetry -logtostderr --noTLS
--port 8080 --allow_no_client_auth -v=2
root                41   0.2  0.9       1174316   75768     pts/0
Sl        04:55     0:20      /usr/sbin/dialout_client_cli -insecure
-logtostderr -v 2
root                9    0.0  0.2       25612     19068     pts/0
S         04:55     0:00      python3 /usr/bin/supervisor-proc-exit-
listener --container-name telemetry
```

---

show clock

Displays the current system clock in UTC.

Syntax	`show clock`
Command Mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click Command	`show clock`

Example

```
sonic# show clock
Mon 03 Mar 2023 15:13:13 PM UTC
sonic#
```

---

show techsupport

Gathers and compresses information into an archive.

Syntax	`show techsupport [since <date>] [global-timeout <global-timeout value>] [cmd-timeout <cmd-timeout value>] [verbose] [allow-process-stop] [silent] [debug-dump] [redirect-stderr]`
Command mode	EXEC
Parameters	▪ `since` – Collect logs and core files since a specified date/time. Format: "DD Month YYYY". Example: "15 May 2023" ▪ `global-timeout` – Global timeout in minutes. Range : 10–120. Default: 30 minutes. ▪ `cmd-timeout` – Individual command timeout in minutes. Range : 1–30. Default 5 minutes. ▪ `verbose` – Enable verbose output. ▪ `allow-process-stop` – Dump additional data which may require system interruption. ▪ `silent` – Run techsupport in silent mode. ▪ `debug-dump` – Collect Debug Dump Output. ▪ `redirect-stderr` – Redirect an intermediate errors to STDERR.
Usage	Troubleshooting
Supported Releases	1.1.0 or later
Click command	`show techsupport`

Example

```
sonic# show techsupport since "15 May 2023"
%Info Use show techsupport status for techsupport progress
sonic#
```

show techsupport status

Displays the current state for show techsupport command.

Syntax	`show techsupport status`
Command mode	EXEC
Parameters	None
Usage	Checking the progress of techsupport
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show techsupport since "15 May 2023"
%Info Use show techsupport status for techsupport progress
sonic#
```

show interface autoneg status

Displays the statue of autoneg state for Ethernet interfaces.

Syntax	`show interface autoneg status [Ethernet <interface-id>]`
Command mode	EXEC
Parameters	None
Usage	For Ethernet ports, displays the statue of the autoneg state.
Supported Releases	1.1.0 or later
Click command	`show interfaces autoneg status`

Example

```
admin@sonic:~$ sonic-cli
sonic# show interface autoneg status
------------------------------------------------------------------------------
-------------------------------------
Name          Admin    Oper     Speed    autoneg   Type     Adv
Speeds    Adv Types
------------------------------------------------------------------------------
-----------
Ethernet0     up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet4     up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet8     up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet12    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet16    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet20    up       down     40GB     N/A       N/A      N/
A           all
Ethernet24    up       down     40GB     disabled  N/A      N/
A           N/A
Ethernet28    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet32    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet36    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet40    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet44    up       down     40GB     enabled   N/A      N/
A           N/A
Ethernet48    up       down     40GB     N/A       N/A
all           N/A
Ethernet52    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet56    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet60    up       down     40GB     N/A       N/A      N/
A           N/A
Ethernet64    up       down     40GB     N/A       N/A      N/
```

```
A           N/A
Ethernet68    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet72    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet76    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet80    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet84    up        down     40GB     N/A       N/A
10G,20G       N/A
Ethernet88    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet92    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet96    up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet100   up        down     40GB     N/A       CR        N/
A           N/A
Ethernet104   up        down     40GB     N/A       CR2       N/
A           N/A
Ethernet108   up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet112   up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet116   up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet120   up        down     40GB     N/A       N/A       N/
A           N/A
Ethernet124   up        down     40GB     N/A       N/A       N/
A           N/A
sonic#
```

Platform Show Commands

psustatus

Displays the platform PSU information.

Syntax	`show platform psustatus`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform psustatus`

Example

```
sonic# show platform psustatus
PSU       Model          Serial No      Hw Revision    Voltage(V)
Current(A)  Power(W)  Status    Led
------------------------------------------------------------------------
---------------------------------
PSU 1     FSP550-20FM     S2161000595   N/A            0.0
0.0         0.0       NOT OK    amber
PSU 2     FSP550-20FM     S2161000587   N/A            12.119
3.015       38.5      OK        green
```

fan

Displays the platform fan information.

Syntax	`show platform fan`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later

Click command	`show platform fan`

Example

```
sonic# show platform fan
Drawer    Led       Fan            Speed(%)  Direction
Presence       Status    Timestamp
------------------------------------------------------------------------
--------------------------------
Fantray1  green     Fantray1_1     40        EXHAUST
True           True      20230320 07:30:26
Fantray2  green     Fantray2_1     40        EXHAUST
True           True      20230320 07:30:26
Fantray3  green     Fantray3_1     40        EXHAUST
True           True      20230320 07:30:26
N/A       green     PSU1_FAN1      25        EXHAUST
True           True      20230320 07:30:26
N/A       green     PSU2_FAN1      11        INTAKE
True           True      20230320 07:30:27
```

temperature

Displays the platform sensor temperature information.

Syntax	`show platform temperature`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform temperature`

Example

```
sonic# show platform temperature
```

```
Sensor                          Temperature(C)  High TH(C)  Low TH(C)
Crit High TH(C)  Crit Low TH(C)   Warning   Timestamp
------------------------------------------------------------------------
-------------------------------------------------------
BCM inlet U60 temp              33.5            100.0       N/A
105.0            N/A              False     20230413 13:14:18
CPU core temp                   31.0            88.0        N/A
91.0             N/A              False     20230413 13:14:18
Inlet U10 temp (EXHAUST)        30.0            50.0        N/A         N/
A              N/A              False     20230413 13:14:18
Inlet U4 temp (EXHAUST)         25.0            50.0        N/A         N/
A              N/A              False     20230413 13:14:18
Inlet U7 temp (INTAKE)          27.0            50.0        N/A         N/
A              N/A              False     20230413 13:14:18
PSU1_TEMP1                      22.0            62          N/A         N/
A              N/A              False     20230413 13:14:18
PSU2_TEMP1                      30.0            62          N/A         N/
A              N/A              False     20230413 13:14:19
```

syseeprom

Displays the platform eeprom information.

Syntax	`show platform syseeprom`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform syseeprom`

Example

```
TLV Name             Code      Length    Value
```

```
-------------------------------------------------------------
Product Name          0x21      5         E1070
Part Number           0x22      14        R3059-F9010-01
Serial Number         0x23      22        E1070F2B063203GD200151
Base MAC Address      0x24      6         34:AD:61:F1:B4:47
Manufacture Date      0x25      19        08/02/2023 03:58:14
Device Version        0x26      1         6
Label Revision        0x27      7         Belgite
Platform Name         0x28      21        x86_64-cel_belgite-r0
ONIE Version          0x29      5         2.0.0
MAC Addresses         0x2a      2         57
Manufacturer          0x2b      9         Celestica
Manufacture Country   0x2c      3         THA
Vendor Name           0x2d      9         Celestica
Diag Version          0x2e      5         3.2.0
Service Tag           0x2f      2         LB
CRC-32                0xfe      4         0xBAD5C8FD
```

firmware

Displays the platform firmware information.

Syntax	`show platform firmware status`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform firmware status`

Example

```
sonic# show platform firmware status
Chassis   Module    Component      Version                 Description
```

```
------------------------------------------------------------------------
---------------------------
E1070     N/A       BIOS           COMe-Dnvt.3.01.00_B      Basic Input/
Output System
                    ONIE           2019.02.01.2.0.0         Open
Network Install Environment
                    SSD            L20B12i                  Solid State
Drive - M.2 (S80) 3IE4
                    SWCPLD         2.6                      For
managing the chassis and SFP+ ports (49-56)
```

---

ssdhealth

Displays the platform storage information.

Syntax	`show platform ssdhealth`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform ssdhealth`

Example

```
sonic# show platform ssdhealth
Device Model : M.2 (S80) 3IE4
Health       : 99.905%
Temperature  : 32C
```

---

summary

Displays the platform chassis information.

Syntax	`show platform summary`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform summary`

Example

```
sonic# show platform summary
Platform          : x86_64-cel_belgite-r0
HwSKU             : CELESTICA-BELGITE
ASIC              : broadcom
ASIC Count        : 1
Serial Number     : E1070F2B063203GD200158
Model Number      : R3059-F9010-01
Hardware Revision : 6
```

pcieinfo

Displays the PCIe information.

Syntax	`show platform pcieinfo`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show platform pcieinfo`

Example

```
sonic# show platform pcieinfo
Bus  Device Function  Id        Name
-------------------------------------------------------------------------
00   00     0         0x1980    Host bridge: Intel Corporation Atom
Processor C3000 Series System Agent (rev 11)
00   04     0         0x19a1    Host bridge: Intel Corporation Atom
Processor C3000 Series Error Registers (rev 11)
00   05     0         0x19a2    Generic system peripheral [0807]: Intel
Corporation Atom Processor C3000 Series Root Complex Event Collector
(rev 11)
00   06     0         0x19a3    PCI bridge: Intel Corporation Atom
Processor C3000 Series Integrated QAT Root Port (rev 11)
00   09     0         0x19a4    PCI bridge: Intel Corporation Atom
Processor C3000 Series PCI Express Root Port #0 (rev 11)
00   0b     0         0x19a6    PCI bridge: Intel Corporation Atom
Processor C3000 Series PCI Express Root Port #2 (rev 11)
00   0e     0         0x19a8    PCI bridge: Intel Corporation Atom
Processor C3000 Series PCI Express Root Port #4 (rev 11)
00   12     0         0x19ac    System peripheral: Intel Corporation
Atom Processor C3000 Series SMBus Contoller - Host (rev 11)
00   14     0         0x19c2    SATA controller: Intel Corporation Atom
Processor C3000 Series SATA Controller 1 (rev 11)
00   15     0         0x19d0    USB controller: Intel Corporation Atom
Processor C3000 Series USB 3.0 xHCI Controller (rev 11)
00   16     0         0x19d1    PCI bridge: Intel Corporation Atom
Processor C3000 Series Integrated LAN Root Port #0 (rev 11)
00   18     0         0x19d3    Communication controller: Intel
Corporation Atom Processor C3000 Series ME HECI 1 (rev 11)
00   1a     0         0x19d8    Serial controller: Intel Corporation
Atom Processor C3000 Series HSUART Controller (rev 11)
00   1a     1         0x19d8    Serial controller: Intel Corporation
Atom Processor C3000 Series HSUART Controller (rev 11)
00   1a     2         0x19d8    Serial controller: Intel Corporation
Atom Processor C3000 Series HSUART Controller (rev 11)
00   1f     0         0x19dc    ISA bridge: Intel Corporation Atom
Processor C3000 Series LPC or eSPI (rev 11)
00   1f     2         0x19de    Memory controller: Intel Corporation
Atom Processor C3000 Series Power Management Controller (rev 11)
00   1f     4         0x19df    SMBus: Intel Corporation Atom Processor
C3000 Series SMBus controller (rev 11)
00   1f     5         0x19e0    Serial bus controller [0c80]: Intel
```

```
Corporation Atom Processor C3000 Series SPI Controller (rev 11)
01   00     0         0x19e2    Co-processor: Intel Corporation Atom
Processor C3000 Series QuickAssist Technology (rev 11)
02   00     0         0xb277    Ethernet controller: Broadcom Inc. and
subsidiaries Device b277 (rev 02)
03   00     0         0x1533    Ethernet controller: Intel Corporation
I210 Gigabit Network Connection (rev 03)
05   00     0         0x15c2    Ethernet controller: Intel Corporation
Ethernet Connection X553 Backplane (rev 11)
05   00     1         0x15c2    Ethernet controller: Intel Corporation
Ethernet Connection X553 Backplane (rev 11)
```

port transceiver

Enables or disables the low-power mode and resets the SFP transceiver.

Syntax	`port transceiver <interface-id> {lpmode <enabled/disabled> | reset}`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`config interface transceiver lpmode <interface_name> (enable | disabled)` `config interface transceiver reset <interface_name>`

Example

```
sonic# port transceiver 53 lpmode enabled
sonic# port transceiver 53 lpmode disabled
```

show interface transceiver lpmode

Displays the interface transceiver lpmode details.

Syntax	`show interface transceiver lpmode [<interface-id>]`
Command mode	EXEC
Parameters	▪ `interface-id` - Ethernet interface ID to get the lpmode details
Usage	None
Supported Releases	1.0.0 or later
Click command	`show interface transceiver lpmode [<interface_name>]`

Example

```
sonic# show interface transceiver lpmode
Port           Lpmode
------------------------------
Ethernet0      Off
Ethernet1      Off
```

show system

system-health monitor-list

Displays the status of system components.

Syntax	`show system-health monitor-list`
Command mode	EXEC
Parameters	None

Usage	None
Supported Releases	1.0.0 or later
Click command	`show system-health monitor-list`

Example

```
sonic# show system-health monitor-list
-------------------------------------------------
Name                          Status    Type
-------------------------------------------------
Fantray1_1                    OK        Fan
Fantray2_1                    OK        Fan
Fantray3_1                    OK        Fan
PSU 1                         Not OK    PSU
PSU 2                         OK        PSU
bgp:bgpcfgd                   OK        Process
bgp:bgpd                      OK        Process
bgp:fpmsyncd                  OK        Process
bgp:staticd                   OK        Process
bgp:zebra                     OK        Process
container_checker             OK        Program
container_memory_telemetry    OK        Program
database:redis                OK        Process
diskCheck                     OK        Program
lldp:lldp-syncd               OK        Process
lldp:lldpd                    OK        Process
lldp:lldpmgrd                 OK        Process
root-overlay                  OK        Filesystem
routeCheck                    OK        Program
rsyslog                       OK        Process
snmp:snmp-subagent            OK        Process
snmp:snmpd                    OK        Process
sonic                         OK        System
swss:buffermgrd               OK        Process
swss:coppmgrd                 OK        Process
swss:fdbmgrd                  OK        Process
swss:fdbsyncd                 OK        Process
swss:intfmgrd                 OK        Process
swss:nbrmgrd                  OK        Process
swss:neighsyncd               OK        Process
swss:orchagent                OK        Process
```

```
swss:portmgrd                   OK          Process
swss:portsyncd                  OK          Process
swss:tunnelmgrd                 OK          Process
swss:vlanmgrd                   OK          Process
swss:vrfmgrd                    OK          Process
swss:vxlanmgrd                  OK          Process
syncd:syncd                     OK          Process
teamd:teammgrd                  OK          Process
teamd:teamsyncd                 OK          Process
teamd:tlm_teamd                 OK          Process
telemetry:dialout               OK          Process
telemetry:telemetry             OK          Process
var-log                         OK          Filesystem
vnetRouteCheck                  OK          Program
```

Advanced Commands

Execute file

Executes the commands from the file.

Syntax	`exec-file <file-path> [stop-on-error]`
Command mode	EXEC
Parameters	▪ `<file-path>` - Absolute file path. ▪ `stop-on-error` - Stops the execution when an error is encountered.
Usage	File shall be available in the mgmt-framework container.
Supported Releases	1.0.0 or later
Click command	None

Example

```
root@sonic:/# cat /tmp/1.txt
configure terminal
interface Vlan 10
description "Vlan 10"
no description
no interface Vlan 10
root@sonic:/#

sonic# exec-file /tmp/1.txt
sonic# configure terminal
sonic(config)# interface Vlan 10
sonic(conf-if-Vlan10)# description "Vlan 10"
sonic(conf-if-Vlan10)# no description
sonic(conf-if-Vlan10)# no interface Vlan 10
sonic(config)#
```

Guidelines

Common Guidelines

The Click command for applicable industry standard command is provided for informational purposes only. It is recommended to use only industry standard CLI for managing the system.

Encryption Guidelines

The encryption for the plain text passwords in few configurations (RADIUS, TACACS, SNMP, and so on) is done internally by the system generated secret key (or passphrase). The password that is encrypted outside shall not be configured in the system. The commands allow flexibility to accept either plain text or encrypted text as inputs. The `show running-config` and `show startup-config` commands print the encrypted password.

Telemetry Configuration Guidelines

Few configurations (
`server port <port-value>, server certificate file <cert-file> <key-file> and ca-certificate <cert-file>`
) require restarting telemetry service to apply the configuration. Follow the steps below to minimize the number of telemetry service restarts:

- Transfer the certificates and key files (server certificate, server key, CA certificate) into host system from external server.
- Transfer the certificates and key files from host system to telemetry container. Use `docker cp <local-file> telemetry:<absolute-file-path>` in admin or root user shell.
- Disable the telemetry feature using `config feature state telemetry disabled`.
- Configure the certificate, port number, authentication modes in sonic-cli.
- Enable the telemetry feature using `config feature state telemetry enabled`.

Config File Commands

Copy running-config to startup-config

Copies the running configuration to the startup configuration file.

Syntax	`copy running-config startup-config`
Command mode	EXEC
Parameters	None
Usage	Use this command to save the running configuration to the startup configuration file.
Supported Releases	1.0.0 or later
Click command	`config save`

Example

```
sonic# copy running-config startup-config
Success
sonic#
```

Copy running-config to local file

Copies the running configuration to the local configuration file.

Syntax	`copy running-config <destination_file_path>`
Command mode	EXEC
Parameters	▪ `destination_file_path` – Destination file absolute path (`local://<filepath>`)
Usage	Use this command to save the running configuration to the

	local configuration file.
Supported Releases	1.0.0 or later
Click command	`config save <filename>`

Example

```
sonic# copy running-config local://home/admin/sample_conf.json
Success
sonic#
```

Copy startup-config to local file

Copies the startup configuration to the local configuration file.

Syntax	`copy startup-config <destination_file_path>`
Command mode	EXEC
Parameters	▪ `destination_file_path` – Destination file absolute path (`local://<filepath>`)
Usage	Use this command to copy the startup configuration to the local configuration file.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# copy startup-config local://home/admin/sample_conf.json
Success
sonic#
```

Copy local file config to startup-config

Copies the local file configuration to the startup configuration.

Syntax	`copy <source_file_path> startup-config`
Command mode	EXEC
Parameters	▪ `source_file_path` – Source file absolute path (`local://<filepath>`)
Usage	Use this command to copy the local file configuration to the startup configuration.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# copy local://home/admin/sample_conf.json startup-config
Success
sonic#
```

Copy local file config to running-config

Copies the local file configuration to the running configuration.

Syntax	`copy <source_file_path> running-config`
Command mode	EXEC
Parameters	▪ `source_file_path` – Source file absolute path (`local://<filepath>`)
Usage	Use this command to copy the local file configuration to the running configuration.

Supported Releases	1.0.0 or later
Click command	`config load <filename>`

Example

```
sonic# copy local://home/admin/sample_conf.json running-config
Success
sonic#
```

Remove startup-config

Removes the startup configuration file.

Syntax	`write erase`
Command mode	EXEC
Parameters	None
Usage	Use this command to remove the startup configuration file.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# write erase
Success
sonic#
```

Access Control Lists

Access Control List (ACL) commands are organized and listed under the following sections.

- IPv4 ACL Commands
- IPv6 ACL Commands
- MAC ACL Commands

IPv4 ACL Commands

IPv4 Access-list create and delete

Creates a new IPv4 access-list (if not present) and enters into the `config-ipv4-acl` mode.

Syntax	`ip access-list <acl-name>`
Command mode	CONFIG
Parameters	• `acl-name` – IPv4 access list name. Accepts a string with a maximum of 63 characters.
Usage	Use `no ip access-list <acl-name>` to remove the access-list.
Supported Releases	1.0.0 or later
Click command	`config acl add table [OPTIONS] <table_name> <table_type>` Options: • `-d, --description TEXT` • `-p, --ports TEXT` • `-s, --stage [ingress|egress]`

Example

```
sonic(config)# ip access-list ip_access_name
sonic(config-ipv4-acl)#
```

```
sonic# configure terminal
sonic(config)# no ip access-list ip_access_name
```

IPv4 Access-list rules create and delete

Adds new rules for the IPv4 access-list from the `config-ipv4-acl` mode.

Syntax for L3 protocols {protocol-number | ip | icmp}	`sequence <seq-number> {permit | deny} {protocol-number | ip | icmp} <source-ip-address> <destination-ip-address> [dscp <dscp-value>]`
Command mode	ACL IPv4 mode

Parameters	▪ `seq-number` – Sequence number for the ACL rule. Range: 1 – 65535.
	▪ `permit` – Forward the traffic.
	▪ `deny` – Drop the traffic.
	▪ `protocol-number` – Supported protocol number (1, 2, 6, 17, 46, 47, 51, 58, 103, 115). Range: 0 – 255.
	▪ `ip` – IP packets.
	▪ `icmp` – ICMP packets.
	▪ `source-ip-address` – Can be one of the below value:
	  ▪ `A.B.C.D/mask` – Source IPv4 prefix.
	  ▪ `any` – Keyword for matching any IPv4 address.
	  ▪ `src-host <ipv4-address>` – Source Host IPv4 address.
	▪ `destination-ip-address` – Can be one of the below value:
	  ▪ `A.B.C.D/mask` – Destination IPv4 prefix.
	  ▪ `any` – Keyword for matching any IPv4 address.
	  ▪ `dst-host <ipv4-address>` – Destination Host

	IPv4 address. ▪ `dscp-value` – Considers only packets matching the DSCP value. Range: 0 – 63.
Syntax for L4 protocols {tcp | udp}	`sequence <seq-number> {permit | deny} {tcp | udp} <source-ip-address> [src-eq <src-l4-port>| src-gt <src-start-l4-port> | src-lt <src-end-l4-port> | src-range <src-start-l4-port> <src-end-l4-port>] <destination-ip-address> [dst-eq <dst-l4-port>| dst-gt <dst-start-l4-port> | dst-lt <dst-end-l4-port> | dst-range <dst-start-l4-port> <dst-end-l4-port>] [ack | fin | psh | rst | syn | urg] [dscp <dscp-value>]`
Parameters	▪ `src-l4-port` – L4 port number. Range: 0 – 65535. ▪ `src-start-l4-port` – Matches all the L4 source port number greater than the given L4 port number. Range: 0 – 65534. ▪ `src-end-l4-port` – Matches all the L4 source port number lesser than the given L4 port number. Range: 1 – 65535. ▪ `dst-l4-port` – L4 port number. Range: 0 – 65535. ▪ `dst-start-l4-port` – Matches all the L4 destination port number greater than the given L4 port number. Range: 0 – 65534. ▪ `dst-end-l4-port` – Matches all the L4 destination port number lesser than the given L4 port number. Range: 1 – 65535. ▪ `ack | fin | psh | rst | syn | urg` – Matches the TCP flags. Applicable only for TCP protocol.
Usage	Use the `no sequence <sequence-number>` command to remove the access-list rule corresponding to the given sequence number.
Supported Releases	1.0.0 or later

Click command	`config acl update {full | incremental} <filename>` ▪ `full` – Full update of the ACL rules configuration. ▪ `incremental` – Incremental update of the ACL rule configuration.

Example

```
sonic(config)# ip access-list ip_access_name
sonic(config-ipv4-acl)# sequence 1 permit ip 1.1.1.1/24 2.2.2.2/16 dscp
63
sonic(config-ipv4-acl)# sequence 2 deny tcp src-host 1.1.1.1 src-eq
1000 dst-host 2.2.2.2 dst-range 2000 4000 ack urg dscp 63

sonic# configure terminal
sonic(config)# ip access-list ip_access_name
sonic(config-ipv4-acl)# no sequence 1
sonic(config-ipv4-acl)# no sequence 2
```

IPv4 Access-list bind to interface

Binds the access-list of type IPv4 to the interface in interface mode.

Syntax	`ip access-group <acl-name> {in | out}`
Command mode	Interface modes (Ethernet, PortChannel and VLAN)
Parameters	▪ `acl-name` – Access list name. Accepts a string with a maximum of 63 characters.
Usage	Use the `no ip access-group <acl-name> {in | out}` command to unbind the access-list from the interface.
Supported Releases	1.0.0 or later
Click command	`config acl add table -p <port-name-list> -s <ingress | egress> <table_name> <table_type>`

	▪ Options: -p and -s help to bind access-list to interface.

Example

```
L3V4/IPv4 :
sonic(config)# interface Ethernet 1
sonic(conf-if-Ethernet1)# ip access-group ip_access_in in
sonic(conf-if-Ethernet1)# ip access-group ip_access_out out

sonic(config)# interface Ethernet 1
sonic(conf-if-Ethernet1)# ip access-group ip_access_in in
sonic(conf-if-Ethernet1)# ip access-group ip_access_out out
```

IPv4 Access-list show command

Displays the details of IPv4 access-list and rules, along with the packets and bytes count of each rule.

Syntax	`show ip access-lists [<acl-name>]`
Command mode	EXEC
Parameters	▪ `acl-name` – Access list name. Accepts a string with a maximum of 63 characters.
Usage	Use `show ip access-lists [<acl-name>]` to display the access-list.
Supported Releases	1.0.0 or later
Click command	▪ `show acl table` ▪ `show acl rule` Options: -p and -s help to bind access-list to interface.

Example

```
sonic# show ip access-lists
```

```
ip access-list ip_access_name
     sequence 1 permit ip 1.1.1.1/24 2.2.2.2/16 dscp 63 (0 packets) [0
octets]
     sequence 2 deny tcp 1.1.1.1/32 eq 1000 2.2.2.2/32 eq 2000-4000 ack
urg dscp 63 (0 packets) [0 octets]
```

IPv4 Access-group show command

Displays the details of IPv4 access-group bindings.

Syntax	`show ip access-group`
Command mode	EXEC
Parameters	None
Usage	Use show ip access-group
Supported Releases	1.0.0 or later
Click command	show acl table

Example

```
sonic# show ip access-group
IP access-list ip-access-in configured on Ethernet1 in Ingress direction
sonic# show ip access-group
IP access-list ip-access-out configured on Ethernet1 in Egress direction
```

IPv4 Access-list clear command

Clears the packets and bytes count of each IPv4 rule for the specified access-list name, and if the name is not specified, then for all the access-lists of type IPv4.

Syntax	`clear ip access-list counters [<acl-name>]`

Command mode	EXEC
Parameters	▪ `acl-name` – Name of the IPv4 access-list. Accepts a string with a maximum of 63 characters.
Usage	Use `clear ip access-list counters [<acl-name>]` to clear the access-list rules counters.
Supported Releases	1.0.0 or later
Click command	`aclshow -c`

Example

```
sonic# clear ip access-list counters
Success
```

IPv6 ACL Commands

IPv6 Access-list create and delete

Creates a new IPv6 access-list (if not present) and enters into the `config-ipv6-acl` mode.

Syntax	`ipv6 access-list <acl-name>`
Command mode	CONFIG
Parameters	▪ `acl-name` – IPv6 access list name. Accepts a string with a maximum of 63 characters.
Usage	Use `no ipv6 access-list <acl-name>` to remove the access-list.
Supported Releases	1.0.0 or later
Click command	`config acl add table [OPTIONS] <table_name> <table_type>`

Options:

- `-d, --description TEXT`
- `-p, --ports TEXT`
- `-s, --stage [ingress|egress]`

Example

```
sonic(config)# ipv6 access-list ipv6_access_name
sonic(config-ipv6-acl)#

sonic# configure terminal
sonic(config)# no ipv6 access-list ipv6_access_name
```

IPv6 Access-list rules create and delete

Adds new rules for the IPv6 access-list from the `config-ipv6-acl` mode.

Syntax for L3 protocols {protocol-number | ipv6 | icmpv6}	`sequence <seq-number> {permit | deny} {protocol-number | ipv6 | icmpv6} <source-ipv6-address> <destination-ipv6-address> [dscp <dscp-value>]`
Command mode	ACL IPv6 mode
Parameters	• `seq-number` – Sequence number for the ACL rule. Range: 1 – 65535. • `permit` – Forward the traffic. • `deny` – Drop the traffic. • `protocol-number` – Supported protocol number (1, 2, 6, 17, 46, 47, 51, 58, 103, 115). Range: 0 – 255. • `ipv6` – IPv6 packets. • `icmpv6` – ICMPv6 packets. • `source-ipv6-address` – Can be one of the below value: ◦ `A::B/mask` – Source IPv6 prefix.

- `any` – Keyword for matching any IPv6 address.
- `src-host <ipv6-address>` – Source Host IPv6 address.

- `destination-ipv6-address` – Can be one of the below value:
  - `A::B/mask` – Destination IPv6 prefix.
  - `any` – Keyword for matching any IPv6 address.
  - `dst-host <ipv6-address>` – Destination Host IPv6 address.
- `dscp-value` – Considers only packets matching DSCP value. Range: 0 – 63.

Syntax for L4 protocols {tcp | udp}	`sequence <seq-number> {permit | deny} {tcp | udp} <source-ipv6-address> [src-eq <src-l4-port>| src-gt <src-start-l4-port> | src-lt <src-end-l4-port> | src-range <src-start-l4-port> <src-end-l4-port>] <destination-ipv6-address> [dst-eq <dst-l4-port>| dst-gt <dst-start-l4-port> | dst-lt <dst-end-l4-port> | dst-range <dst-start-l4-port> <dst-end-l4-port>] [ack | fin | psh | rst | syn | urg] [dscp <dscp-value>]`

Parameters

- `src-l4-port` – L4 port number. Range: 0 – 65535.
- `src-start-l4-port` – Matches all L4 source port number greater than the given L4 port number. Range: 0 – 65534.
- `src-end-l4-port` – Matches all L4 source port number lesser than the given L4 port number. Range: 1 – 65535.
- `dst-l4-port` – L4 port number. Range: 0 – 65535.
- `dst-start-l4-port` – Matches all L4 destination port number greater than the given L4 port number. Range: 0 – 65534.
- `dst-end-l4-port` – Matches all L4 destination port number lesser than the given L4 port number. Range: 1 –

65535.

- `ack | fin | psh | rst | syn | urg` – Matches the TCP flags. Applicable only for TCP protocol.

Usage	Use the `no sequence <sequence-number>` command to remove the access-list rule corresponding to given sequence number.
Supported Releases	1.0.0 or later
Click command	`config acl update {full | incremental} <filename>` ▪ `full` – Full update of ACL rules configuration. ▪ `incremental` – Incremental update of ACL rule configuration.

Example

```
sonic(config)# ipv6 access-list ipv6_access_name
sonic(config-ipv6-acl)# sequence 1 permit ipv6 1::1/64 2::2/64 dscp 63
sonic(config-ipv6-acl)# sequence 2 deny tcp src-host 1::1 src-eq 1000
dst-host 2::2 dst-range 2000 4000 ack urg dscp 63

sonic# configure terminal
sonic(config)# ipv6 access-list ipv6_access_name
sonic(config-ipv6-acl)# no sequence 1
sonic(config-ipv6-acl)# no sequence 2
```

IPv6 Access-list bind to interface

Binds the access-list of type IPv6 to interface in interface mode.

Syntax	`ipv6 access-group <acl-name> {in | out}`
Command mode	Interface modes (Ethernet, PortChannel and VLAN)
Parameters	▪ `acl-name` – Access list name. Accepts a string with a

maximum of 63 characters.

Usage	Use the `no ipv6 access-group <acl-name> {in | out}` command to unbind the access-list from the interface.
Supported Releases	1.0.0 or later
Click command	`config acl add table -p <port-name-list> -s <ingress | egress> <table_name> <table_type>` ▪ Options: -p and -s help to bind access-list to interface.

Example

```
sonic(config)# interface Ethernet 1
sonic(conf-if-Ethernet1)# ipv6 access-group newipv6 in
sonic(conf-if-Ethernet1)# ipv6 access-group newipv6out out

sonic(config)# interface Ethernet 1
sonic(conf-if-Ethernet1)# ipv6 access-group newipv6 in
sonic(conf-if-Ethernet1)# ipv6 access-group newipoutv6 out
```

IPv6 Access-list show command

Displays the details of IPv6 access-list and rules, along with packets and bytes count of each rule.

Syntax	`show ipv6 access-lists [<acl-name>]`
Command mode	EXEC
Parameters	▪ `acl-name` – Access list name. Accepts a string with a maximum of 63 characters.
Usage	`se show ipv6 access-lists [<acl-name>]` to display the access-list.
Supported Releases	1.0.0 or later

Click command	▪ `show acl table` ▪ `show acl rule` Options: -p and -s help to bind access-list to interface.

Example

```
sonic# show ipv6 access-lists
ipv6 access-list ipv6_access_name
     sequence 1 permit ipv6 1::1/64 2::2/64 dscp 63 (0 packets) [0
octets]
     sequence 2 deny tcp 1::1/128 eq 1000 2::2/128 eq 2000-4000 ack urg
dscp 63 (0 packets) [0 octets]
```

IPv6 Access-group show command

Displays the details of IPv6 access-group bindings.

Syntax	`show ipv6 access-group`
Command mode	EXEC
Parameters	None
Usage	Use `show ipv6 access-group`
Supported Releases	1.0.0 or later
Click command	`show acl table`

Example

```
sonic# show ipv6 access-group
IPV6 access-list ipv6_access_in configured on Ethernet1 in Ingress
direction
sonic# show ipv6 access-group
IPV6 access-list ipv6_access_in configured on Ethernet1 in Egress
direction
```

IPv6 Access-list clear command

Clears the packets and bytes count of each IPv6 rule for the specified access-list name, and if the name is not specified, then for all the access-lists of type IPv6.

Syntax	`clear ipv6 access-list counters [<acl-name>]`
Command mode	EXEC
Parameters	▪ `acl-name` – Name of the IPv6 access-list. Accepts a string with a maximum of 63 characters.
Usage	Use `clear ipv6 access-list counters [<acl-name>]` to clear the access-list rules counters.
Supported Releases	1.0.0 or later
Click command	`aclshow -c`
Example	

```
sonic# clear ipv6 access-list counters
Success
```

MAC ACL Commands

MAC Access-list create and delete

Creates a new MAC access-list (if not present) and enters into the `config-mac-acl` mode.

Syntax	`mac access-list <acl-name>`
Command mode	CONFIG
Parameters	▪ `acl-name` – MAC access list name. Accepts a string with a maximum of 63 characters.

Usage	Use `no mac access-list <acl-name>` to remove the access-list.
Supported Releases	1.0.0 or later
Click command	`config acl add table [OPTIONS] <table_name> <table_type>` Options: ▪ `-d, --description TEXT` ▪ `-p, --ports TEXT` ▪ `-s, --stage [ingress|egress]`

Example

```
sonic(config)# mac access-list mac_access_name
sonic(config-mac-acl)#

sonic# configure terminal
sonic(config)# no mac access-list mac_access_name
```

MAC Access-list rules create and delete

Adds new rules for the MAC access-list from the `config-mac-acl` mode.

Syntax	`sequence <seq-number> {permit | deny} {any | <src-mac-address> | <src-mask-address>} {any | <dst-mac-address> | <dst-mask-address>} [ <Ether-type> | arp | ip | ipv6]`
Command mode	ACL MAC mode
Parameters	▪ `seq-number` – Sequence number for the ACL rule. Range: 1 – 65535. ▪ `permit` – Forward the traffic. ▪ `deny` – Drop the traffic. ▪ `any` – Keyword for matching any MAC address.

	• `src-mac-address` – Source MAC address of the format nn:nn:nn:nn:nn:nn, where n is any number in the range of 0 – f. • `src-mask-address` – Source mask MAC address. • `dst-mac-address` – Destination MAC address of the format nn:nn:nn:nn:nn:nn, where n is any number in the range of 0 – f. • `dst-mask-address` – Destination mask MAC address. • `Ether-type` – (0x600-0xffff) Ether type (0x0800, 0x0806, 0x86dd, 0x8847, 0x88cc, 0x8915)
Usage	Use `no sequence <sequence-number>` to remove the access-list rule corresponding to given sequence number.
Supported Releases	1.0.0 or later
Click command	`config acl update {full | incremental} <filename>` • `full` – Full update of ACL rules configuration. • `incremental` – Incremental update of ACL rule configuration.

Example

```
sonic(config)# mac access-list mac_access_name
sonic(config-mac-acl)# sequence 1 permit any any ip
sonic(config-mac-acl)# sequence 2 deny 11:11:11:11:11:11
ff:ff:ff:ff:ff:ff 22:22:22:22:22:22 ff:ff:ff:ff:ff:ff arp

sonic# configure terminal
sonic(config)# mac access-list mac_access_name
sonic(config-mac-acl)# no sequence 1
sonic(config-mac-acl)# no sequence 2
```

MAC Access-list bind to interface

Binds the access-list of type MAC to interface in interface mode.

Syntax	`mac access-group <acl-name> {in | out}`
Command mode	Interface modes (Ethernet, PortChannel and VLAN)
Parameters	▪ `acl-name` – Access list name. Accepts a string with a maximum of 63 characters.
Usage	Use the `no mac access-group <acl-name> {in | out}` command to unbind the access-list from the interface.
Supported Releases	1.0.0 or later
Click command	`config acl add table -p <port-name-list> -s <ingress | egress> <table_name> <table_type>` ▪ Options: -p and -s help to bind access-list to interface.

Example

```
sonic(config)# interface Ethernet 1
sonic(conf-if-Ethernet1)# mac access-group newmac in
sonic(conf-if-Ethernet1)# mac access-group newmac out

sonic(config)# interface Ethernet 1
sonic(conf-if-Ethernet1)# mac access-group newmac in
sonic(conf-if-Ethernet1)# mac access-group newmac out
```

MAC Access-list show command

Displays the details of MAC access-list and rules, along with packets and bytes count of each rule.

Syntax	`show mac access-lists [<acl-name>]`
Command mode	EXEC
Parameters	▪ `acl-name` – Access list name. Accepts a string with a maximum of 63 characters.

Usage	Use `show mac access-lists [<acl-name>]` to display the access-list.
Supported Releases	1.0.0 or later
Click command	▪ `show acl table` ▪ `show acl rule` Options: -p and -s help to bind access-list to interface.

Example

```
sonic# show mac access-lists
mac access-list mac_access_name
     sequence 1 permit 00:00:00:00:00:00 00:00:00:00:00:00
00:00:00:00:00:00 00:00:00:00:00:00 ip (0 packets) [0 octets]
     sequence 2 deny 11:11:11:11:11:11 ff:ff:ff:ff:ff:ff
22:22:22:22:22:22 ff:ff:ff:ff:ff:ff arp (0 packets) [0 octets]
```

MAC Access-group show command

Displays the details of MAC access-group bindings.

Syntax	`show mac access-group`
Command mode	EXEC
Parameters	None
Usage	Use `show mac access-group`
Supported Releases	1.0.0 or later
Click command	`show acl table`

Example

```
sonic# show mac access-group
MAC access-list mac-access-in configured on Ethernet1 in Ingress
```

```
direction
sonic# show mac access-group
MAC access-list mac-access-out configured on Ethernet1 in Egress
direction
```

MAC Access-list clear command

Clears the packets and bytes count of each MAC rule for the specified access-list name, and if the name is not specified, then for all the access-lists of type MAC.

Syntax	`clear mac access-list counters [<acl-name>]`
Command mode	EXEC
Parameters	▪ `acl-name` – Name of the MAC access-list. Accepts a string with a maximum of 63 characters.
Usage	Use `clear mac access-list counters [<acl-name>]` to clear the access-list rules counters.
Supported Releases	1.0.0 or later
Click command	▪ `aclshow -c`

Example

```
sonic# clear mac access-list counters
Success
```

RADIUS

RADIUS commands are organized and listed under the following sections.

- RADIUS Config Commands
- RADIUS Show Commands

RADIUS Config Commands

RADIUS timeout

Configures global timeout for RADIUS.

Syntax	`radius-server timeout <timeout-value>`
Command mode	CONFIG
Parameters	`timeout-value` – Enter the timeout value in seconds. Range: 1 – 60, Default: 5.
Usage	Use `no radius-server timeout` to remove the configured global timeout.
Supported Releases	1.0.0 or later
Click command	`config radius timeout [OPTIONS] <time_second>`

Example

```
sonic# configure terminal
sonic(config)# radius-server timeout 4
sonic(config)# no radius-server timeout
sonic(config)#
```

RADIUS passkey

Configures global passkey for RADIUS server.

Syntax	`radius-server passkey { encrypted <encrypted-passkey-input> | <secret-key-value> }`
Command mode	CONFIG
Parameters	▪ `encrypted-passkey-input` – Pre encrypted passkey string ▪ `secret-key-value` – Secret key string. Valid characters: ASCII printable except SPACE, #, and COMMA, Maximum length: 65.
Usage	Use `no radius-server passkey` to remove the configured global passkey.
Supported Releases	1.0.0 or later
Click command	`config radius passkey [OPTIONS] <time_second>`

Example

```
sonic# configure terminal
sonic(config)# radius-server passkey test456
sonic(config)# no radius-server passkey
sonic(config)#
```

RADIUS authtype

Configures global authentication type for RADIUS.

Syntax	`radius-server authtype {pap | chap | mschapv2}`
Command mode	CONFIG
Parameters	▪ `pap` – Password Authentication Protocol authentication type (default) string ▪ `chap` – Challenge-Handshake Authentication Protocol

	▪ `mschapv2` – Microsoft Challenge-Handshake Authentication Protocol, version 2
Usage	Use `no radius-server authtype` to remove the configured global authentication type.
Supported Releases	1.0.0 or later
Click command	`config radius authtype [OPTIONS] <[chap | pap | mschapv2]>`

Example

```
sonic# configure terminal
sonic(config)# radius-server authtype pap
sonic(config)# no radius-server authtype
sonic(config)#
```

RADIUS retransmit

Configures global retransmit attempts for RADIUS.

Syntax	`radius-server retransmit <retransmit-attempt-value>`
Command mode	CONFIG
Parameters	▪ `retransmit-attempt-value` – Enter the number of retransmit attempts. Range: 0 – 10, Default: 3.
Usage	Use `no radius-server retransmit` to remove the configured global transmit attempts.
Supported Releases	1.0.0 or later
Click command	`config radius retransmit [OPTIONS] <retry_attempts>`

Example

```
sonic# configure terminal
sonic(config)# radius-server retransmit 4
sonic(config)# no radius-server retransmit
sonic(config)#
```

RADIUS host

Configures a RADIUS server.

Syntax	`radius-server host <server-ip-address> | auth-port <auth-port-value> | auth-type {pap | chap | mschapv2} | key { encrypted <encrypted-key-value> | <secret-key-value> } | priority <priority-value> | retransmit <retransmit-attempts-value> | source-interface {Ethernet <eth-if-id> | PortChannel <po-if-id> | Loopback <lpbk-if-id> | Vlan <vl-if-id> | Management } | timeout <timeout-value> | vrf mgmt`
Command mode	CONFIG
Parameters	▪ `server-ip-address` – IPv4 or IPv6 address ▪ `auth-port-value` – Enter authentication port number, Range: 1 – 65535, Default: 1812 ▪ `pap` – Password Authentication Protocol authentication type (default) ▪ `chap` – Challenge-Handshake Authentication Protocol authentication type ▪ `mschapv2` – Microsoft Challenge-Handshake Authentication Protocol, version 2 authentication type ▪ `encrypted-key-value` – Pre encrypted passkey string ▪ `secret-key-value` – Secret key string. Valid

characters: ASCII printable except SPACE, #, and COMMA. Maximum length: 65

- `priority-value` – Enter the priority of RADIUS server, Range: 1 – 60, Default: 1
- `retransmit-attempts-value` – Enter the number of retransmit attempts, Range: 0 – 10, Default: 3
- `eth-if-id` – Ethernet interface identifier in multiples of 4
- `po-if-id` – PortChannel identifier, Range: 1 – 256
- `lpbk-if-id` – Loopback interface identifier, Range: 0 – 16383
- `vl-if-id` – VLAN interface identifier, Range : 1 – 4094
- `timeout-value` – Enter the RADIUS server timeout value, Range: 1 – 60, Default: 5
- `mgmt` – Management VRF, Default: no VRF

Usage	Use `no radius-server host` to remove the configured global radius server.
Supported Releases	1.0.0 or later
Click command	▪ `config radius add [OPTIONS] <ip_address>` `config radius delete [OPTIONS]` ▪ `<ip_address>`

Example

```
sonic# configure terminal
sonic(config)# radius-server host 1.2.3.4 auth-port 32 key abcd123 auth-
type chap priority 3 retransmit 3 source-interface Ethernet 0 timeout 4
vrf mgmt
sonic(config)# no radius-server host 1.2.3.4
sonic(config)#
```

RADIUS Show Commands

show radius

Displays the RADIUS information.

Syntax	`show radius`
Command mode	EXEC
Parameters	None
Usage	Use show radius
Supported Releases	1.0.0 or later
Click command	show radius

Example

```
sonic# show radius
RADIUS global timeout                : 5
RADIUS global auth-type              : pap
RADIUS global retransmit_attempts    : 3
RADIUS_SERVER  address 1.2.3.4
               auth_port 1812
               priority 1
```

TACACS

TACACS commands are organized and listed under the following sections.

- TACACS Config Commands
- TACACS Show Commands

TACACS Config Commands

TACACS timeout

Configures global timeout for TACACS.

Syntax	`tacacs-server timeout <timeout-value>`
Command mode	CONFIG
Parameters	▪ `timeout-value` – Enter the timeout value in seconds. Range: 1 – 60, Default: 5
Usage	Use `no tacacs-server timeout` to remove the configured global timeout.
Supported Releases	1.0.0 or later
Click command	`config tacacs timeout [OPTIONS] <time_second>`

Example

```
sonic# configure terminal
sonic(config)# tacasc-server timeout 4
sonic(config)# no tacas-server timeout
sonic(config)#
```

TACACS authtype

Configures global authentication type for TACACS.

Syntax	`tacacs-server authtype {pap | chap | mschap | login}`
Command mode	CONFIG
Parameters	▪ `pap` – Password Authentication Protocol authentication type (default) ▪ `chap` – Challenge-Handshake Authentication Protocol ▪ `mschap` – Microsoft Challenge-Handshake Authentication Protocol ▪ `login` – Login method
Usage	Use `no tacacs-server authtype` to remove the configured global authentication type.
Supported Releases	1.0.0 or later
Click command	`config tacacs authtype [OPTIONS] <[chap | pap | mschap | login]>`

Example

```
sonic# configure terminal
sonic(config)# tacacs-server authtype login
sonic(config)# no tacacs-server authtype
sonic(config)#
```

TACACS passkey

Configures global passkey for TACACS.

Syntax	`tacacs-server passkey { encrypted <encrypted-key-value> | <secret-key-value> }`
Command mode	CONFIG
Parameters	▪ `encrypted-key-value` – Pre encrypted passkey

	string ▪ `secret-key-value` – Secret key string. Valid characters: ASCII printable except SPACE, #, and COMMA, Maximum length: 65
Usage	Use `no tacacs-server passkey` to remove the configured global passkey.
Supported Releases	1.0.0 or later
Click command	`config tacacs passkey [OPTIONS] <secret_string>`

Example

```
sonic# sonic# configure terminal
sonic(config)# tacacs-server passkey testing32
sonic(config)# tacacs-server encrypted passkey
U2FsdGVkX18cfkNuRGFefzU6KLbl1nfCtdS/pepGnRU=
sonic(config)# no tacacs-server passkey
sonic(config)#
```

TACACS host

Configures a TACACS server.

Syntax	`tacacs-server host <server-ip-address> key { encrypted <encrypted-key-value> | <secret-key-value> } | port <auth-port-value> | priority <priority-value> | auth_type {pap | chap | mschap | login} | timeout <timeout-value> | vrf mgmt`
Command mode	CONFIG
Parameters	▪ `server-ip-address` – IPv4 or IPv6 address ▪ `encrypted-key-value` – Pre-encrypted passkey

string

- `secret-key-value` – Secret key string. Valid characters: ASCII printable except SPACE, #, and COMMA, Maximum length: 65
- `auth-port-value` – Enter authentication port number. Range: 1– 65535, Default: 49
- `priority-value` – Enter the priority of TACACS server. Range: 1– 60, Default: 1
- `pap` – Password Authentication Protocol authentication type (default)
- `chap` – Challenge-Handshake Authentication Protocol authentication type
- `mschap` – Microsoft Challenge-Handshake Authentication Protocol, authentication type
- `login` – Login method authentication type
- `timeout-value` – Enter the TACACS server timeout value. Range: 1 – 60, Default: 5
- `mgmt` – Management VRF, Default: no VRF

Usage	Use `no tacacs-server host` to remove the configured global tacacs server.
Supported Releases	1.0.0 or later
Click command	• `config tacacs add [OPTIONS] <ip_address>` `config tacacs delete [OPTIONS]` • `<ip_address>`

Example

```
sonic# configure terminal
sonic(config)# tacacs-server host 10.208.120.120 key test23 port 23
priority 3 timeout 6 auth_type login vrf mgmt
sonic(config)# no tacacs-server host 10.208.120.120
sonic(config)#
```

TACACS Show Commands

show tacacs

Displays the TACACS information.

Syntax	`show tacacs`
Command mode	EXEC
Parameters	None
Usage	Use show tacacs
Supported Releases	1.0.0 or later
Click command	show tacacs

Example

```
sonic# show tacacs
TACACS global timeout : 5
TACACS global auth-type : pap
TACACS_SERVER address 10.208.29.3
              priority 1
              tcp_port 49
              passkey(encrypted) U2FsdGVkX18cfkNuRGFefzU6KLbl1nfCtdS/
pepGnRU
```

NTP

NTP commands are organized and listed under the following sections.

- NTP Config Commands
- NTP Show Commands

NTP Config Commands

NTP source-interface

Configures NTP source interface to pick the source IP used for the NTP packets.

Syntax	`ntp source-interface { Ethernet <eth-id> | PortChannel <po-id> | Loopback <lo-id> | Vlan <vl-id> | Management }`
Command mode	CONFIG
Parameters	▪ `eth-id` – Physical interface identifier. ▪ `po-id` – Portchannel number. ▪ `lo-id` – Loopback identifier. ▪ `vl-id` – VLAN identifier.
Usage	Use `no ntp source-interface` to remove the configured ntp source-interface.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# configure terminal
sonic(config)# ntp source-interface Management
sonic(config)# no ntp source-interface
sonic(config)#
```

NTP vrf

Enables NTP on a VRF.

Syntax	`ntp vrf {default | mgmt }`
Command mode	CONFIG
Parameters	None
Usage	Use `no ntp vrf` to remove the configured ntp VRF.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# configure terminal
sonic(config)# ntp vrf default
sonic(config)# no ntp vrf
sonic(config)#
```

NTP server

Configures NTP server.

Syntax	`ntp server <ip-address>`
Command mode	CONFIG
Parameters	▪ `ip-address` – IP address of the NTP server.
Usage	Use `no ntp server <ip-address>` to remove the configured ntp server.
Supported Releases	1.0.0 or later
Click command	▪ `config ntp add [OPTIONS] <ip_address>`

- `config ntp del [OPTIONS] <ip_address>`

Example

```
sonic# configure terminal
sonic(config)# ntp server 1.2.3.4
sonic(config)# no ntp server 1.2.3.4
sonic(config)#
```

NTP Show Commands

show ntp status

Displays the NTP synchronization status.

Syntax	`show ntp status`
Command mode	EXEC
Parameters	None
Usage	Use `show ntp status`
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show ntp status
synchronised to NTP server (10.208.32.30) at stratum 4
   time correct to within 48082 ms
   polling server every 64 s
```

---

show ntp associations

Displays the NTP association.

Syntax	`show ntp associations`
Command mode	EXEC
Parameters	None
Usage	Use `show ntp associations`
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show ntp associations
remote                       refid           st   t   when   poll
reach  delay  offset       jitter
==============================================================================
==================================
*10.208.32.30                10.39.4.76      3    u   15     64
3      0.258  +46769.      24.950
* master (synced), # master (unsynced), + selected, - candidate, ~
configured
sonic#
```

Syslog

Syslog Config Commands

syslog server

Configures syslog server.

Syntax	`syslog server <ip-address>`
Command mode	CONFIG
Parameters	▪ `ip-address` – IP address of the syslog server.
Usage	Use `no syslog server <ip-address>` to remove the configured syslog server.
Supported Releases	1.0.0 or later
Click command	▪ `config syslog add [OPTIONS] <ip_address>`

Example

```
sonic# configure terminal
sonic(config)# syslog server 1.2.3.4
sonic(config)# no syslog server 1.2.3.4
sonic(config)#
```

Interfaces

Interface commands are organized and listed under the following sections.

- Common Interface Commands
- Ethernet Interface commands

Common Interface Commands

Interface create and delete

Creates the interface, if not present and enters into the interface mode.

Syntax	`interface {Ethernet <eth-if-id> | PortChannel <po-if-id> [fallback] [min-links <min-links-value>] [static] [fast-lag]| Loopback <lpbk-if-id> | Vlan <vl-if-id>}`
Command mode	CONFIG
Parameters	• `eth-if-id` – Ethernet interface identifier in multiples of 4. • `po-if-id` – PortChannel identifier. Range: 1 – 256. • `fallback` – Enables LACP fallback or not, Default: disabled. • `min-links < >` – Sets the minimum number of links. Range: 1 – 255, Default: 1. • `fast-lag` – Enable short LACP timeout period. • `lpbk-if-id` – Loopback interface identifier, Range: 0 – 16383. • `vl-if-id` – VLAN interface identifier, Range : 1 – 4094.
Usage	Use `no interface <if-id>` to remove the interface. You cannot remove the static interfaces (Ethernet).
Supported Releases	1.0.0 or later

Click command	`config portchannel add <portchannel_name> [--min-links <> --fallback <> --fast-rate [true|false] --on <>]` ▪ `config vlan add <vid>` ▪ `config loopback add <loopback_name>`

Example

```
sonic(config)# interface Ethernet 20
sonic(conf-if-Ethernet20)#

sonic(config)# interface Vlan 10
sonic(conf-if-Vlan10)# no interface Vlan 10
sonic(config)#

sonic(config)# interface PortChannel 10
sonic(conf-if-PortChannel10)# no interface PortChannel 10
sonic(config)#

sonic(config)# interface Loopback 2
sonic(conf-if-Loopback2)# no interface Loopback 2
sonic(config)#
sonic(config)# interface PortChannel 250 static
sonic(conf-if-PortChannel250)#
sonic(config)# interface PortChannel 201 min-links 2 fallback
sonic(conf-if-PortChannel201)#
sonic(config)#
sonic(config)# interface PortChannel 199 fast-lag
sonic(conf-if-PortChannel199)#
```

description

Configures the description for the interface.

Syntax	`description <string>`
Command mode	All interface modes
Parameters	▪ `string` – Description string. Accepts alpha numeric

characters and special characters (- and _).

Usage	Use `no description` to remove the description.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet0)# description "Ethernet 0"
sonic(conf-if-Ethernet0)# no description
sonic(conf-if-Ethernet0)#

sonic(conf-if-PortChannel1)# description PortChannel1
sonic(conf-if-PortChannel1)# no description
sonic(conf-if-PortChannel1)#
```

---

clear interface counters

Clears counters information of all the interfaces.

Syntax	`clear interface counters`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	`sonic-clear counters`

Example

```
sonic# clear interface counters
sonic#
```

---

show interface

Displays information for one or all Ethernet interface.

Syntax	`show interface [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – Interface identification number.
Usage	Use `show interface` to display all the interface information.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show interface Ethernet 0
Ethernet0 is up, line protocol is down
Hardware is Eth
Interface index is 1
Mode of IPV4 address assignment: not-set
Mode of IPV6 address assignment: not-set
IP MTU 9100 bytes
LineSpeed 1GB, Auto-negotiation Enabled
Input statistics:
        0 packets, 0 octets
        0 64 byte pkts, 0 65-127 byte pkts, 0 128-255 byte pkts
        0 256-511 byte pkts, 0 512-1023 byte pkts, 0 1024-1518 byte pkts
        0 Multicasts, 0 Broadcasts, 0 Unicasts
        0 pause, 0 oversize, 0 throttle
        0 fragment, 0 jabber, 0 undersize
        0 error, 0 discarded, 0 unknown-protocol
Output statistics:
        0 packets, 0 octets
        0 64 byte pkts, 0 65-127 byte pkts, 0 128-255 byte pkts
        0 256-511 byte pkts, 0 512-1023 byte pkts, 0 1024-1518 byte pkts
        0 Multicasts, 0 Broadcasts, 0 Unicasts
        0 pause, 0 oversize, 0 throttle
        0 error, 0 discarded
```

show interface status

Displays information of one or all interfaces.

Syntax	`show interface status [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – Range of interface identification numbers separated by comma or hyphen.
Usage	Use `show interface status` to display all the interface information.
Supported Releases	1.1.0 or later
Click command	`show interface status [Ethernet <if-id>]`

Example

```
sonic# show interface status Ethernet 1,2,3
------------------------------------------------------------------------
------------------------------------------------------------------------
-
Name                Description         Admin     Oper      Speed
MTU       FEC       LANES ALIAS            VLAN      TYPE
ASYM PFC
------------------------------------------------------------------------
------------------------------------------------------------------------
-
Ethernet1           -                   up        down      1GB
9100      DISABLED  25    Ethernet1/0/2    routed    N/A           N/A
Ethernet2           -                   up        down      1GB
9100      DISABLED  28    Ethernet1/0/3    routed    N/A           N/A
Ethernet3           -                   up        down      1GB
9100      DISABLED  27    Ethernet1/0/4    routed    N/A           N/A
```

show interface counters

Displays counters information of one or multiple interfaces.

Syntax	`show interface counters [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – Range of interface identification numbers separated by comma or hyphen.
Usage	Use `show interface counters` to display all the interface counters information.
Supported Releases	1.1.0 or later
Click command	`show interface counters`

Example

```
sonic# show interface counters Ethernet 8,16-24,40
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
---
Interface      State     RX_OK     RX_BPS(B/s) RX_UTIL(%) RX_ERR
RX_DRP    RX_OVR    TX_OK     TX_BPS(B/s) TX_UTIL(%) TX_ERR
TX_DRP    TX_OVR
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
---
Ethernet8      D         0         0.00        0.00       0
0         0         0         0.00        0.00       0
0         0
Ethernet16     D         0         0.00        0.00       0
0         0         0         0.00        0.00       0
0         0
Ethernet24     D         0         0.00        0.00       0
0         0         0         0.00        0.00       0
0         0
Ethernet40     D         0         0.00        0.00       0
0         0         0         0.00        0.00       0
0         0
```

show interface transceiver

eeprom

Displays transceiver eeprom information of one or all interfaces.

Syntax	`show interface transceiver eeprom [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – Interface identification number.
Usage	Use `show interface transceiver eeprom` to display all the interface transceiver eeprom information.
Supported Releases	1.1.0 or later
Click command	`show interfaces transceiver eeprom [Ethernet<if-id>]`

Example

```
Ethernet48: SFP EEPROM detected
        Application Advertisement: N/A
        Connector: LC
        Encoding: 64B/66B
        Extended Identifier: GBIC/SFP defined by two-wire interface ID
        Extended RateSelect Compliance: Unknown
        Identifier: SFP/SFP+/SFP28
        Length Length OM1(10m): 15.0
        Nominal Bit Rate(100Mbs): 103
        Specification compliance:
                10G Ethernet Compliance: Unknown
                ESCON Compliance: Unknown
                Ethernet Compliance: Unknown
                Fibre Channel Link Length: Medium (M)
                Fibre Channel Speed: Unknown
                Fibre Channel Transmission Media: Unknown
                Fibre Channel Transmitter Technology: Unknown
                Infiniband Compliance: Unknown
```

```
                SFP+CableTechnology: Unknown
                SONET Compliance Codes: Unknown
        Vendor Date Code(YYYY-MM-DD Lot): 2021-12-23
        Vendor Name: FS
        Vendor OUI: 00-00-00
        Vendor PN: SFP-10GSR-85
        Vendor Rev:
        Vendor SN: F2140099960
```

---

dom

Displays transceiver dom information of one or all interfaces.

Syntax	`show interface transceiver eeprom dom [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – Interface identification number.
Usage	Use `show interface transceiver eeprom dom` to display all the interface transceiver eeprom dom information.
Supported Releases	1.1.0 or later
Click command	`show interface transceiver eeprom -d [Ethernet<if-id>]`

Example

```
sonic# show interface transceiver eeprom dom Ethernet 48
Ethernet48: SFP EEPROM detected
Application Advertisement: N/A
        Connector: LC
        Encoding: 64B/66B
        Extended Identifier: GBIC/SFP defined by two-wire interface ID
        Extended RateSelect Compliance: Unknown
        Identifier: SFP/SFP+/SFP28
```

```
Length Length OM1(10m): 15.0
Nominal Bit Rate(100Mbs): 103
Specification compliance:
        10G Ethernet Compliance: Unknown
        ESCON Compliance: Unknown
        Ethernet Compliance: Unknown
        Fibre Channel Link Length: Medium (M)
        Fibre Channel Speed: Unknown
        Fibre Channel Transmission Media: Unknown
        Fibre Channel Transmitter Technology: Unknown
        Infiniband Compliance: Unknown
        SFP+CableTechnology: Unknown
        SONET Compliance Codes: Unknown
Vendor Date Code(YYYY-MM-DD Lot): 2021-12-23
Vendor Name: FS
Vendor OUI: 00-00-00
Vendor PN: SFP-10GSR-85
Vendor Rev:
Vendor SN: F2140099960
Monitor Data:
        RX1Power: 0.595dBm
        TX1Bias: 5.904mA
        TX1Power: 0.568dBm
        Temperature: 21.496C
        Vcc: 3.319Volts
Threshold Data:
        TempHighAlarm     : 80.0C
        TempHighWarning   : 70.0C
        TempLowAlarm      : -10.0C
        TempLowWarning    : 0.0C
        VccHighAlarm      : 3.63Volts
        VccHighWarning    : 3.465Volts
        VccLowAlarm       : 2.97Volts
        VccLowWarning     : 3.135Volts
        RxPowerHighAlarm  : 1.0dBm
        RxPowerHighWarning: -1.0dBm
        RxPowerLowAlarm   : -11.898dBm
        RxPowerLowWarning : -9.901dBm
        TxBiasHighAlarm   : 12.0mA
        TxBiasHighWarning : 10.5mA
        TxBiasLowAlarm    : 1.0mA
        TxBiasLowWarning  : 2.5mA
```

```
                TxPowerHighAlarm  : 1.0dBm
                TxPowerHighWarning: -1.0dBm
                TxPowerLowAlarm   : -9.3dBm
                TxPowerLowWarning : -7.3dBm
```

presence

Displays transceiver presence information of one or all interfaces.

Syntax	`show interface transceiver presence [Ethernet <if-d>]`
Command mode	EXEC
Parameters	▪ `if-id` – Interface identification number.
Usage	Use `show interface transceiver presence` to display all the interface transceiver presence information.
Supported Releases	1.1.0 or later
Click command	`show interfaces transceiver presence [Ethernet<if-id>]`

Example

```
sonic# show interface transceiver presence
Port           Presence
------------------------------
Ethernet0      Not Present
Ethernet1      Not Present
Ethernet2      Not Present
Ethernet3      Not Present
Ethernet4      Not Present
Ethernet5      Not Present
Ethernet6      Not Present
Ethernet7      Not Present
Ethernet8      Not Present
```

```
Ethernet9      Not Present
Ethernet10     Not Present
Ethernet11     Not Present
Ethernet12     Not Present
Ethernet13     Not Present
Ethernet14     Not Present
Ethernet15     Not Present
Ethernet16     Not Present
Ethernet17     Not Present
Ethernet18     Not Present
Ethernet19     Not Present
Ethernet20     Not Present
Ethernet21     Not Present
Ethernet22     Not Present
Ethernet23     Not Present
Ethernet24     Not Present
Ethernet25     Not Present
Ethernet26     Not Present
Ethernet27     Not Present
Ethernet28     Not Present
Ethernet29     Not Present
Ethernet30     Not Present
Ethernet31     Not Present
Ethernet32     Not Present
Ethernet33     Not Present
Ethernet34     Not Present
Ethernet35     Not Present
Ethernet36     Not Present
Ethernet37     Not Present
Ethernet38     Not Present
Ethernet39     Not Present
Ethernet40     Not Present
Ethernet41     Not Present
Ethernet42     Not Present
Ethernet43     Not Present
Ethernet44     Not Present
Ethernet45     Not Present
Ethernet46     Not Present
Ethernet47     Not Present
Ethernet48     Present
Ethernet49     Not Present
Ethernet50     Not Present
```

```
Ethernet51     Not Present
Ethernet52     Not Present
Ethernet53     Not Present
Ethernet54     Not Present
Ethernet55     Not Present
```

error-status

Displays transceiver error status information of one or all interfaces.

Syntax	`show interface transceiver error-status [Ethernet <if-d>]`
Command mode	EXEC
Parameters	▪ `if-id` – Interface identification number.
Usage	Use `show interface transceiver error-status` to display all the interface transceiver error-status information.
Supported Releases	1.1.0 or later
Click command	`show interfaces transceiver error-status [Ethernet<if-id>]`

Example

```
sonic# show interface transceiver error-status
Port           Error Status
------------------------------
Ethernet0      Unplugged
Ethernet1      Unplugged
Ethernet2      Unplugged
Ethernet3      Unplugged
Ethernet4      Unplugged
Ethernet5      Unplugged
Ethernet6      Unplugged
Ethernet7      Unplugged
```

```
Ethernet8      Unplugged
Ethernet9      Unplugged
Ethernet10     Unplugged
Ethernet11     Unplugged
Ethernet12     Unplugged
Ethernet13     Unplugged
Ethernet14     Unplugged
Ethernet15     Unplugged
Ethernet16     Unplugged
Ethernet17     Unplugged
Ethernet18     Unplugged
Ethernet19     Unplugged
Ethernet20     Unplugged
Ethernet21     Unplugged
Ethernet22     Unplugged
Ethernet23     Unplugged
Ethernet24     Unplugged
Ethernet25     Unplugged
Ethernet26     Unplugged
Ethernet27     Unplugged
Ethernet28     Unplugged
Ethernet29     Unplugged
Ethernet30     Unplugged
Ethernet31     Unplugged
Ethernet32     Unplugged
Ethernet33     Unplugged
Ethernet34     Unplugged
Ethernet35     Unplugged
Ethernet36     Unplugged
Ethernet37     Unplugged
Ethernet38     Unplugged
Ethernet39     Unplugged
Ethernet40     Unplugged
Ethernet41     Unplugged
Ethernet42     Unplugged
Ethernet43     Unplugged
Ethernet44     Unplugged
Ethernet45     Unplugged
Ethernet46     Unplugged
Ethernet47     Unplugged
Ethernet48     OK
Ethernet49     Unplugged
```

```
Ethernet50     Unplugged
Ethernet51     Unplugged
Ethernet52     Unplugged
Ethernet53     Unplugged
Ethernet54     Unplugged
Ethernet55     Unplugged
```

Breakout

config interface breakout

Configures breakout modes of an interface.

Syntax	`interface breakout Ethernet <if-id> <breakout_mode>`
Command mode	CONFIG
Parameters	▪ `if-id` – Interface identification number. ▪ `breakout_mode` – Breakout mode to be configured.
Usage	Use `no interface breakout <if-id>` to return interface to default breakout mode.
Supported Releases	1.1.0 or later
Click command	`config interface breakout Ethernet<if-id> <breakout_mode>`

Example

```
sonic(config)# interface breakout Ethernet 16
  <1x400G/2x100G/2x40G/4x100G/1x100G(4)/1x40G(4)/4x25G(4)/4x10G(4)>
Breakout mode
sonic(config)# interface breakout Ethernet 16 4x100G
Do you want to Breakout the port, continue? [y/N]: y
{}
```

```
Above Config cannot be verified, It may cause harm to system, continue?
[y/N]: y
sonic(config)#


sonic(config)# interface breakout Ethernet 8
1x100G(4) 1x400G    1x40G(4)  2x100G    2x40G     4x100G    4x10G(4)
4x25G(4)
sonic(config)# interface breakout Ethernet 8 4x100G
Do you want to Breakout the port, continue? [y/N]: y
{}
Above Config cannot be verified, It may cause harm to system, continue?
[y/N]: y
%Error: Dependencies Exist. No further action will be taken:
["/sonic-interface:sonic-interface/INTERFACE/
INTERFACE_LIST[name='Ethernet8']/name", "/sonic-interface:sonic-
interface/INTERFACE/INTERFACE_IPPREFIX_LIST[name='Ethernet8'][ip-
prefix='1.2.3.4/24']/name"]
sonic(config)#
```

show interface breakout

Displays breakout information of one or all interfaces.

Syntax	`show interface breakout [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – Interface identification number.
Usage	Use `show interface breakout` to display breakout information of all interfaces.
Supported Releases	1.1.0 or later
Click command	`show interface breakout`
Example	

```
sonic# show interface breakout Ethernet 8
Ethernet8:
        Breakout modes:
            1x100G(4): ['Eth2/1']
            1x400G: ['Eth2/1']
            1x40G(4): ['Eth2/1']
            2x100G: ['Eth2/1', 'Eth2/5']
            2x40G: ['Eth2/1', 'Eth2/5']
            4x100G: ['Eth2/1', 'Eth2/3', 'Eth2/5', 'Eth2/7']
            4x10G(4): ['Eth2/1', 'Eth2/2', 'Eth2/3', 'Eth2/4']
            4x25G(4): ['Eth2/1', 'Eth2/2', 'Eth2/3', 'Eth2/4']
        Child ports: Ethernet8
        Child port speed: 400G
        Current breakout mode: 1x400G
        Default breakout mode: 1x400G
        Autoneg: off
        Fec: rs
        Lanes: 41,42,43,44,45,46,47,48
        Index: 2,2,2,2,2,2,2,2
```

Ethernet Interface commands

shutdown

Disables the administrative status of the interface.

Syntax	`shutdown`
Command mode	Ethernet interface mode, PortChannel interface mode, VLAN interface mode
Parameters	None
Usage	Use `no shutdown` to enable the administrative status of the interface.
Supported Releases	1.0.0 or later

Click command	▪ `config interface shutdown <interface_name>` ▪ `config interface startup <interface_name>`

Example

```
sonic(config)# interface Ethernet 0
sonic(conf-if-Ethernet0)# shutdown
sonic(conf-if-Ethernet0)#
sonic(conf-if-Ethernet0)# no shutdown
sonic(conf-if-Ethernet0)#
```

mtu

Configures mtu for an interface.

Syntax	`mtu <mtu-bytes>`
Command mode	Ethernet interface mode, PortChannel interface mode
Parameters	▪ `mtu-bytes` – Maximum transmit unit in bytes, excluding Ethernet header and FCS length, Default: 9100.
Usage	Use `no mtu` to reset the interface MTU to default value.
Supported Releases	1.0.0 or later
Click command	`config interface mtu <interface_name> <interface_mtu>`

Example

```
sonic(config)# interface Ethernet 4
sonic(conf-if-Ethernet4)# mtu 6000
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# no mtu
sonic(conf-if-Ethernet4)#
```

tpid

Configures tpid for the interface.

Syntax	`tpid <tpid-val>`
Command mode	Ethernet interface mode
Parameters	▪ `pid-val` – TPID value <0x8100/0x88a8/0x9100/ 0x9200>, Default: 0x8100.
Usage	Use `no tpid` to reset the interface tpid to default value.
Supported Releases	1.0.0 or later
Click command	`config interface tpid <interface_name> <interface_tpid>`

Example

```
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# tpid 0x9100
sonic(conf-if-Ethernet8)#
sonic(conf-if-Ethernet8)# no tpid
sonic(conf-if-Ethernet8)#
```

channel-group

Configures an interface as a port channel member.

Syntax	`channel-group <po-id>`
Command mode	Ethernet interface mode
Parameters	▪ `po-id` – PortChannel identifier to which this interface needs to be bundled, Range 1 – 256.
Usage	Use `no channel-group` to remove the interface as a port

	channel member.
Supported Releases	1.0.0 or later
Click command	`config portchannel member add <portchannel_name> <port_name>`
Example	

```
sonic(config)# interface Ethernet 0
sonic(conf-if-Ethernet0)# channel-group 201
sonic(conf-if-Ethernet0)# no channel-group
sonic(conf-if-Ethernet0)#
```

wred queue

Applies a WRED profile to interface queues.

Syntax	`wred queue <queue-index> profile <profile-name>`
Command mode	Physical interface mode
Parameters	▪ `queue-index` – Individual queue index. Range: 0 – 7. ▪ `profile-name` – Profile name, alphanumeric string including - and _ (Maximum: 32 characters).
Usage	▪ Use `no wred queue <queue-index> profile` to remove the interface as a portchannel member. ▪ By default, no WRED drop profile is applied to an interface queue.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(conf-if-Ethernet1)# wred queue 1 profile test1
sonic(conf-if-Ethernet1)# wred queue 3 profile 12

sonic(conf-if-Ethernet1)# no wred queue 1 profile
sonic(conf-if-Ethernet1)# no wred queue 3 profile
```

---

advertise speeds

Configures advertised speeds on an interface.

Syntax	`advertise-speed <speed-value>`
Command mode	Physical interface mode
Parameters	▪ `speed-value` – A supported advertise speed value for the interface.
Usage	Use `no advertise-speed` to remove all the configured advertise speeds or use `no advertise-speed <speed-val>` to remove a particular configured advertised speed value from the interface.
Supported Releases	1.1.0 or later
Click command	`config interface advertised-speeds <Interface_name> <speed_value>`

Example

```
sonic(conf-if-Ethernet36)# advertise-speed 10
sonic(conf-if-Ethernet36)# advertise-speed 100
sonic(conf-if-Ethernet36)# no advertise-speed 10
sonic(conf-if-Ethernet36)# no advertise-speed
```

---

advertise type

Configures advertised type on an interface.

Syntax	`advertise-type <type-value>`
Command mode	Physical interface mode
Parameters	▪ `type-value` – A type value from XLAUI, SR2, SFI, XFI, XAUI, XGMII, LR, CR4, CAUI4, SR4, KR2, LR4, CAUI, KR, CR2, GMII, CR, SR, KR4 options.
Usage	Use `no advertise-type` to remove the all the configured advertise types or use `no advertise-type <type-val>` to remove a particular configured advertised type value from the interface.
Supported Releases	1.1.0 or later
Click command	`config interface advertised-type <Interface_name> <type_value>`

Example

```
sonic(conf-if-Ethernet36)# advertise-type CR
sonic(conf-if-Ethernet36)# advertise-type KR
sonic(conf-if-Ethernet36)# no advertise-type CR
sonic(conf-if-Ethernet36)# no advertise-type
```

type

Configures type on an interface.

Syntax	`type <type-value>`
Command mode	Physical interface mode
Parameters	▪ `type-value` – A type value from XLAUI, SR2, SFI, XFI,

	XAUI, XGMII, LR, CR4, CAUI4, SR4, KR2, LR4, CAUI, KR, CR2, GMII, CR, SR, KR4 options.
Usage	Use `no type` to remove the configured type on the interface.
Supported Releases	1.1.0 or later
Click command	`config interface type <Interface_name> <type_value>`

Example

```
sonic(conf-if-Ethernet36)# type CR
sonic(conf-if-Ethernet36)# no type
```

Layer 2

Layer 2 commands are organized and listed under the following sections.

VLAN

switchport access vlan

Configures the untagged VLAN membership for the port, VLAN.

Syntax	`switchport access vlan <vlan-id>`
Command mode	Ethernet and Port channel interface mode
Parameters	▪ `vlan-id` – VLAN identifier. Range 1 – 4094.
Usage	Use `no switchport access vlan` to remove the access VLAN configuration.
Supported Releases	1.0.0 or later
Click command	`config vlan member add --u <vid> port`

Example

```
sonic(conf-if-Ethernet0)# switchport access vlan 40
sonic(conf-if-Ethernet0)#
sonic(conf-if-Ethernet0)# no switchport access vlan
sonic(conf-if-Ethernet0)#
```

switchport trunk allowed vlan add

Configures the tagged VLAN membership for the port, VLAN.

Syntax	`switchport trunk allowed vlan add <vlan-id>`
Command mode	Ethernet and Port channel interface mode
Parameters	▪ `vlan-id` – VLAN identifier. Range 1 – 4094.
Usage	Use `no switchport trunk allowed vlan <vlan-id>` to remove the tagged vlan membership configuration.
Supported Releases	1.0.0 or later
Click command	`config vlan member add <vid> port`

Example

```
sonic(conf-if-Ethernet0)# switchport trunk allowed vlan add 40
sonic(conf-if-Ethernet0)#
sonic(conf-if-Ethernet0)# no switchport trunk allowed vlan 40
sonic(conf-if-Ethernet0)#
```

Show Commands

show vlan

Displays the configured VLAN information.

Syntax	`show vlan [vlan-id]`
Command mode	EXEC
Parameters	▪ `vlan-id` – VLAN identifier.
Usage	If optional VLAN identifier is not given, all the configured VLAN information will be displayed.

Supported Releases	1.0.0 or later
Click command	`show vlan brief`

Example

```
sonic# show vlan
------------------------------------------------------------
Name       Id         Members              Mode
------------------------------------------------------------
Vlan100    100        Ethernet0            tagged
------------------------------------------------------------
Vlan200    200
------------------------------------------------------------
sonic# show vlan 100
------------------------------------------------------------
Name       Id         Members              Mode
------------------------------------------------------------
Vlan100    100        Ethernet0            tagged
------------------------------------------------------------
sonic#
```

Port Channel

Show Commands

show portchannel summary

Displays the configured port channel information.

Syntax	`show portchannel summary [po-id]`
Command mode	EXEC
Parameters	▪ `po-id` – Port-channel identifier.
Usage	If optional port-channel identifier is not given, all the configured port-channel information will be displayed.

Supported Releases	1.0.0 or later
Click command	`show interfaces portchannel`

Example

```
sonic# show portchannel summary
-------------------------------------------------------------------------
--------
Name                 Group     State     Protocol  Members        Lag-
Status
-------------------------------------------------------------------------
--------
PortChannel100       100       DOWN      lacp      Ethernet4
Deselected
-------------------------------------------------------------------------
--------
PortChannel200       200       DOWN      lacp
-------------------------------------------------------------------------
--------
sonic# show portchannel summary 100
-------------------------------------------------------------------------
--------
Name                 Group     State     Protocol  Members        Lag-
Status
-------------------------------------------------------------------------
--------
PortChannel100       100       DOWN      lacp      Ethernet4
Deselected
-------------------------------------------------------------------------
--------
sonic#
```

LLDP

lldp enable

Configures to enable globally. LLDP is enabled globally by default.

Syntax	`lldp enable`
Command mode	CONFIG
Parameters	None
Usage	Use `no lldp enable` to disable the LLDP globally.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# lldp enable
sonic(config)#
sonic(config)# no lldp enable
sonic(config)#
sonic(config)#
```

lldp timer

Configures the interval at which the LLDP hello packets are sent to peers.

Syntax	`lldp timer <seconds>`
Command mode	CONFIG
Parameters	▪ `seconds` – Enter the interval in seconds from 5 to 254, Default: 30.
Usage	Use `no lldp timer` to configure the default value.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config)# lldp timer 20
sonic(config)# no lldp timer
sonic(config)#
```

lldp system-name

Configures the system-name entity of the 'system-name' TLV in the LLDP transmit packets.

Syntax	`lldp system-name <string>`
Command mode	CONFIG
Parameters	▪ `string` – LLDP system name string, Default: sonic.
Usage	Use `no lldp system-name` to configure the default value.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# lldp system-name Celestica-Device-5
sonic(config)#
sonic(config)# no lldp system-name
sonic(config)#
```

lldp system-description

Configures the system-description of the 'system-description' TLV in the LLDP transmit packets.

Syntax	`lldp system-description <string>`
Command mode	CONFIG

Parameters	▪ `string` – LLDP system description string.
Usage	Use `no lldp system-description` to configure the default value.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# lldp system-description TOR-Device-North-10
sonic(config)#

sonic(config)# no lldp system-description
sonic(config)#
```

lldp tlv-select

Configures to enable TLVs in the LLDP transmit packets.

Syntax	`lldp tlv-select {management-address | system-capabilities}`
Command mode	CONFIG
Parameters	▪ `management-address/system-capabilities` – TLVs to be enabled.
Usage	Use `no lldp tlv-select {management-address/ system-capabilities}` to disable the TLV.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# lldp tlv-select management-address
sonic(config)#
sonic(config)# lldp tlv-select system-capabilities
sonic(config)#
sonic(config)# no lldp tlv-select management-address
sonic(config)#
sonic(config)# no lldp tlv-select system-capabilities
sonic(config)#
```

---

interface lldp enable

Configures to enable LLDP on an interface. LLDP is enabled on all interfaces by default.

Syntax	`lldp enable`
Command mode	Ethernet interface mode
Parameters	None
Usage	Use `no lldp enable` to disable the LLDP on an interface.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet0)# lldp enable
sonic(conf-if-Ethernet0)#
sonic(conf-if-Ethernet0)# no lldp enable
sonic(conf-if-Ethernet0)#
```

Show Commands

show lldp table

Displays the discovered LLDP neighbor information in tabular format.

Syntax	`show lldp table`
Command mode	EXEC
Parameters	None
Usage	`show lldp table`
Supported Releases	1.0.0 or later
Click command	`show lldp table`

Example

```
sonic# show lldp table
-------------------------------------------------------------------------
-----------
LocalPort     RemoteDevice   RemotePortID   Capability
RemotePortDescr
-------------------------------------------------------------------------
-----------
Ethernet0     sonic          Ethernet0      BR              Ethernet1/0/
1
Ethernet1     sonic          Ethernet1      BR              Ethernet1/0/
2
Ethernet2     sonic          Ethernet2      BR              Ethernet1/0/
3
Ethernet3     sonic          Ethernet3      BR              Ethernet1/0/
4
Ethernet4     sonic          Ethernet4      BR              Ethernet1/0/
5
Ethernet5     sonic          Ethernet5      BR              Ethernet1/0/
6
Ethernet6     sonic          Ethernet6      BR              Ethernet1/0/
7
Ethernet7     sonic          Ethernet7      BR              Ethernet1/0/
8
eth0          ToR-A05-A06    Ethernet4      BR              Eth1/5
```

show lldp neighbor

Displays the LLDP MED configuration.

Syntax	`show lldp neighbor [interface_name]`
Command mode	EXEC
Parameters	▪ `interface_name` – Enter the interface name for which the discovered LLDP information is needed.
Usage	If interface keyword is not given, all the discovered LLDP neighbor information will be displayed.
Supported Releases	1.0.0 or later
Click command	`show lldp neighbors`

Example

```
sonic# show lldp neighbor
------------------------------------------------------------
LLDP Neighbors
------------------------------------------------------------
Interface:   Ethernet0,via: LLDP
  Chassis:
    ChassisID:    34:ad:61:f1:a3:a4
    SysName:      sonic
    SysDescr:     SONiC Software Version:
SONiC.prime_master.0-afbfa02b9 - HwSku: CELESTICA-BELGITE -
Distribution: Debian 11.6 - Kernel: 5.10.0-8-2-amd64
    Capability:   MAC_BRIDGE, ON
    Capability:   ROUTER, ON
  Port
    PortID:       Ethernet0
    PortDescr:    Ethernet1/0/1
------------------------------------------------------------
Interface:   Ethernet1,via: LLDP
  Chassis:
    ChassisID:    34:ad:61:f1:a3:a4
    SysName:      sonic
    SysDescr:     SONiC Software Version:
```

```
SONiC.prime_master.0-afbfa02b9 - HwSku: CELESTICA-BELGITE -
Distribution: Debian 11.6 - Kernel: 5.10.0-8-2-amd64
    Capability:   MAC_BRIDGE, ON
    Capability:   ROUTER, ON
  Port
    PortID:       Ethernet1
    PortDescr:    Ethernet1/0/2


sonic# show lldp neighbor Ethernet7
-------------------------------------------------------------
LLDP Neighbors
-------------------------------------------------------------
Interface:   Ethernet7,via: LLDP
  Chassis:
    ChassisID:    0c:48:c6:e1:e0:b5
    SysName:      sonic
    SysDescr:     SONiC Software Version:
SONiC.prime_master.0-e2773f7b9 - HwSku: CELESTICA-BELGITE -
Distribution: Debian 11.6 - Kernel: 5.10.0-8-2-amd64
    Capability:   MAC_BRIDGE, ON
    Capability:   ROUTER, ON
  Port
    PortID:       Ethernet7
    PortDescr:    Ethernet1/0/8
-------------------------------------------------------------
```

MCLAG

mclag domain

Configures MCLAG domain.

Syntax	`mclag domain <mlag-id>`
Command mode	CONFIG
Parameters	▪ `mlag-id` – MCLAG domain identifier.

Usage	Use `no mclag domain <mlag-id>` to delete the MCLAG domain.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# mclag domain 1
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no mclag domain 1
sonic(config)#
```

---

source-ip

Configures MCLAG domain source IP address.

Syntax	`source-ip <mlag-sip>`
Command mode	MCLAG domain mode
Parameters	▪ `mlag-sip` – Source IP for the MCLAG domain.
Usage	Use `no source-ip` to delete the configured source IP.
Supported Releases	1.0.0 or later
Click command	`config mclag add <domain_id> <source_ip_addr> <peer_ip_addr> <peer_ifname>`

Example

```
sonic(config-mclag-domain-1)# source-ip 10.208.140.125
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no source-ip
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)#
```

---

peer-ip

Configures MCLAG domain peer IP address.

Syntax	`peer-ip <mlag-peer-ip>`
Command mode	MCLAG domain mode
Parameters	▪ `mlag-peer-ip` – Peer IP for the MCLAG domain.
Usage	Use `no peer-ip` to delete the configured peer IP.
Supported Releases	1.0.0 or later
Click command	`config mclag add <domain_id> <source_ip_addr> <peer_ip_addr> <peer_ifname>`

Example

```
sonic(config-mclag-domain-1)# peer-ip 10.208.140.126
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no peer-ip
sonic(config-mclag-domain-1)#
```

keepalive

Configures MCLAG domain keepalive time interval.

Syntax	`keepalive <ka-sec>`
Command mode	MCLAG domain mode
Parameters	▪ `ka-sec` – Keep alive time interval of the MCLAG domain in seconds, Range: 1 – 60, Default: 1 second.
Usage	Use `no keepalive` to set the keepalive timer interval to default value.

Supported Releases	1.0.0 or later
Click command	`config mclag keepalive-interval <domain_id> <time_in_secs>`

Example

```
sonic(config-mclag-domain-1)# keepalive 3
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no keepalive
sonic(config-mclag-domain-1)#
```

session-timeout

Configures MCLAG domain session timeout period.

Syntax	`session-timeout <st-sec>`
Command mode	MCLAG domain mode
Parameters	▪ `st-sec` – Session timeout period of the MCLAG domain in seconds, Range: 3 – 3600, Default: 15 seconds.
Usage	Use `no session-timeout` to set the session timeout period to default value.
Supported Releases	1.0.0 or later
Click command	`config mclag session-timeout <domain_id> <time_in_secs>`

Example

```
sonic(config-mclag-domain-1)# session-timeout 40
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no session-timeout
sonic(config-mclag-domain-1)#
```

peer-link

Configures MCLAG domain peer-link interface.

Syntax	`peer-link {Ethernet <eth-if-id> | PortChannel <po-if-id>}`
Command mode	MCLAG domain mode
Parameters	▪ `eth-if-id` – Ethernet interface identifier. ▪ `po-if-id` – PortChannel identifier within the range of 1 – 256.
Usage	Use `no peer-link` to delete the configured peer-link interface.
Supported Releases	1.0.0 or later
Click command	`config mclag add <domain_id> <source_ip_addr> <peer_ip_addr> <peer_ifname>`

Example

```
sonic(config-mclag-domain-1)# peer-link PortChannel 100
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no peer-link
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# peer-link Ethernet 0
sonic(config-mclag-domain-1)#
sonic(config-mclag-domain-1)# no peer-link
sonic(config-mclag-domain-1)#
```

mclag interface

Configures MCLAG domain session timeout period.

Syntax	`mclag <mlag-id>`

Command mode	MCLAG domain mode
Parameters	▪ `mlag-id` – MCLAG domain identifier.
Usage	Use `no mclag` to delete the configured MCLAG member interface.
Supported Releases	1.0.0 or later
Click command	`config mclag member add <domain_id> <portchannel_names>`

Example

```
sonic(conf-if-PortChannel200)# mclag 1
sonic(conf-if-PortChannel200)#
sonic(conf-if-PortChannel200)# no mclag
sonic(conf-if-PortChannel200)#
```

Show Commands

show mclag brief

Displays the MCLAG domain information.

Syntax	`show mclag brief`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show mclag state 1`
Example	

```
sonic# show mclag brief

------------------------------------------------------------
Domain ID            : 1
Role                 : active
Session Status       : up
Mclag System Mac     :
Source Address       : 10.208.140.125
Peer Address         : 10.208.140.126
Peer Link            : PortChannel100
Keepalive Interval   : 1 secs
Session Timeout      : 15 secs
System Mac           : 34:ad:61:f1:a6:17

Number of MCLAG Interfaces:1
------------------------------------------------------------
MCLAG Interface      Local/Remote Status
------------------------------------------------------------
PortChannel200           up/up
sonic#
```

FDB

clear mac address-table dynamic

Displays the static and dynamic MAC address information in the device.

Syntax	`clear mac address-table dynamic [{vlan <vlan-id> | interface Ethernet <eth-if-id> | interface PortChannel <po-if-id>}]`
Command mode	EXEC
Parameters	▪ `vlan-id` – VLAN identifier. ▪ `eth-if-id` – Ethernet interface identifier. ▪ `po-if-id` – PortChannel identifier within the range of 1 – 256.

Usage	If the optional VLAN or interface keywords are not present, all the dynamic MAC addresses will be cleared.
Supported Releases	1.0.0 or later
Click command	`sonic-clear fdb`

Example

```
sonic# clear mac address-table dynamic
Success
sonic# clear mac address-table dynamic vlan 100
Success
sonic# clear mac address-table dynamic interface PortChannel 150
Success
sonic# clear mac address-table dynamic vlan 200 interface Ethernet 44
Success
```

---

show mac address-table

Displays the static and dynamic mac address information in the device.

Syntax	`show mac address-table [{vlan <vlan-id> | interface Ethernet <eth-if-id> | interface PortChannel <po-if-id>}]`
Command mode	EXEC
Parameters	▪ `vlan-id` – VLAN identifier. ▪ `eth-if-id` – Ethernet interface identifier. ▪ `po-if-id` – PortChannel identifier within the range of 1 – 256.
Usage	If the optional VLAN or interface keywords are not present, entire MAC address table info will be displayed.
Supported Releases	1.0.0 or later

Click command	show mac

Example

```
sonic# show mac address-table
-------------------------------------------------------------------------
------
MAC                 Vlan      Port                Type
-------------------------------------------------------------------------
------
00:00:00:00:00:0a   200       Ethernet45          dynamic
00:00:00:00:00:0c   200       Ethernet45          dynamic
00:00:00:00:00:0d   200       Ethernet45          dynamic
00:00:00:00:00:44   100       Ethernet44          static
00:00:00:00:00:45   100       PortChannel100      static
00:00:00:00:00:64   100       Ethernet44          static
00:00:00:00:0c:00   100       PortChannel100      static
-------------------------------------------------------------------------
------
Number of Macs displayed :7
-------------------------------------------------------------------------
------
sonic# show mac address-table Vlan 200
-------------------------------------------------------------------------
------
MAC                 Vlan      Port                Type
-------------------------------------------------------------------------
------
00:00:00:00:00:0a   200       Ethernet45          dynamic
00:00:00:00:00:0c   200       Ethernet45          dynamic
00:00:00:00:00:0d   200       Ethernet45          dynamic
-------------------------------------------------------------------------
------
Number of Macs displayed :3
-------------------------------------------------------------------------
------
sonic#


sonic# show mac address-table interface Ethernet 44
-------------------------------------------------------------------------
------
MAC                 Vlan      Port                Type
```

```
--------------------------------------------------------------------------
------
00:00:00:00:00:44   100       Ethernet44          static
00:00:00:00:00:64   100       Ethernet44          static
--------------------------------------------------------------------------
------
Number of Macs displayed :2
--------------------------------------------------------------------------
------
sonic#
sonic# show mac address-table interface PortChannel 100
--------------------------------------------------------------------------
------
MAC                 Vlan      Port                Type
--------------------------------------------------------------------------
------
00:00:00:00:00:45   100       PortChannel100      static
00:00:00:00:00:46   100       PortChannel100      static
--------------------------------------------------------------------------
------
Number of Macs displayed :2
--------------------------------------------------------------------------
------
```

Mirroring

Mirroring commands are organized and listed under the following sections.

- Mirror Config commands
- Mirror Show commands

Mirror Config commands

Mirror-session create and delete

Creates a new mirror session (if not present). Enters into `config-mirror-<sessionname>` mode.

Syntax	`mirror-session <session-name>`
Command mode	CONFIG
Parameters	• `session-name` – Name of the mirror session (Maximum size: 32).
Usage	• Use `no mirror-session <session-name>` to remove the mirror-session. • Use `no mirror-session all` to remove all mirror-sessions.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# mirror-session m1
sonic(config-mirror-m1)#

sonic(config)# no mirror-session m1
sonic(config)# no mirror-session all
```

SPAN session config

Adds, deletes mirror destination port, source port(s) and its direction into the SPAN session. To add multiple source interfaces into the session, source port alone should be different and other parameters should be same as the first source interface configuration.

Syntax	`destination Ethernet <interface-number> source {Ethernet <interface-number> | PortChannel <lag-id>} direction <direction-value>`
Command mode	Mirror session
Parameters	▪ `interface-number` – Mirror destination Ethernet interface number. ▪ `interface-number` – Mirror source Ethernet interface number. ▪ `lag-id` – Mirror source port-channel number. Range:1 – 256. ▪ `direction-value` – Direction of the source-interface's traffic to be mirrored. Valid values are rx|tx|both.
Usage	Use `no source {Ethernet <interface-number> | PortChannel <lag-id>}` to remove the source interface alone from the mirror session.
Supported Releases	1.0.0 or later
Click command	`config mirror_session span add <session_name> <dst_port> [src_port] [direction] [queue]`

Example

```
sonic(config)# mirror-session m1
sonic(config-mirror-m1)# destination Ethernet 0 source Ethernet 1
direction rx
sonic(config-mirror-m1)# destination Ethernet 0 source Ethernet 2
```

```
direction rx
sonic(config-mirror-m1)# destination Ethernet 0 source PortChannel 100
direction rx
sonic(config-mirror-m1)# no source Ethernet 2
```

Everflow SPAN session config

Adds only the destination port to make the mirror session as an everflow mirror session. ACL rules are used to match source port(s). Upon removal, ACL rules must be removed before the deletion of mirror session.

Syntax	`destination Ethernet <interface-number>`
Command mode	Mirror session
Parameters	▪ `interface-number` – Mirror destination Ethernet interface number.
Usage	Use `no mirror-session <session-name>` to delete flow-based mirror session.
Supported Releases	1.0.0 or later
Click command	`config mirror_session span add <session_name> <dst_port>`

Example

```
sonic(config)# mirror-session m1
sonic(config-mirror-m1)# span destination Ethernet 2
sonic(config)# no mirror-session m1
```

ERSPAN session config

Adds mirror session source interface(s) along with GRE tunnel mirror encap fields such as

destination IP, source IP, DSCP, GRE, TTL field values.

Syntax	`destination erspan dst-ip <destination-ip-address> src-ip <source-ip- address> dscp <dscp-value> gre <gre-value> ttl <ttl-value> source {Ethernet <interface-number> | PortChannel <lag-id>} direction <direction-value>`
Command mode	Mirror session
Parameters	• `destination-ip-address` – GRE tunnel header's Destination IPv4 host address. Mirror destination port is resolved based on this IP address. Format: A.B.C.D • `source-ip-address` – GRE tunnel header's source IPv4 address. Format: A.B.C.D • `dscp-value` – GRE tunnel header's DSCP value. Range: 0 – 63. • `gre-value` – GRE tunnel protocol value. It should be given as 2-byte hex value with 0x prefix. • `ttl-value` – GRE tunnel header's ttl value. Range: 0 – 63. • `interface-number` – Mirror source Ethernet interface number. • `lag-id` – Mirror source port-channel number. Range: 1 – 256. • `direction-value` – Direction of the source-interface's traffic to be mirrored. Valid values are rx/tx/both.
Usage	Use `no source {Ethernet <interface-number> | PortChannel <lag-id>}` to remove only the source interface from the mirror session.
Supported Releases	1.0.0 or later

Click command	`config mirror_session erspan add <session_name> <src_ip> <dst_ip> <dscp> <ttl> [gre_type] [queue] [src_port] [direction]`

Example

```
sonic(config)# mirror-session m1
sonic(config-mirror-m1)# erspan dst-ip 1.1.1.1 src-ip 2.2.2.2 dscp 0
gre 0x1234 ttl 63 source Ethernet 0 direction rx
sonic(config-mirror-m1)# erspan dst-ip 1.1.1.1 src-ip 2.2.2.2 dscp 0
gre 0x1234 ttl 63 source Ethernet 1 direction rx
sonic(config-mirror-m1)# no source Ethernet 0
```

Everflow ERSPAN session config

Except the mirror session source interface, GRE tunnel mirror encap fields such as destination IP, source IP, DSCP, GRE, TTL field values have to be given to make the mirror session as an everflow mirror session. ACL rules are used to match source port(s). Upon removal, ACL rules must be removed before the deletion of mirror session.

Syntax	`destination Ethernet <interface-number>`
Command mode	Mirror session
Parameters	▪ `interface-number` – Mirror source Ethernet interface number.
Usage	Use `no mirror-session <session-name>` to delete flow-based mirror session.
Supported Releases	1.0.0 or later
Click command	`config mirror_session [erspan] add <session_name> <src_ip> <dst_ip> <dscp> <ttl> [gre_type] [queue]`

Example

```
sonic(config)# mirror-session m1
sonic(config-mirror-m1)# erspan dst-ip 1.1.1.1 src-ip 2.2.2.2 dscp 0
gre 0x1234 ttl 63
sonic(config)# no mirror-session m1
```

Mirror Show commands

Displays both SPAN and ERSPAN mirror sessions' configurations and their status.

Syntax	`show mirror-session [session-name]`
Command mode	EXEC
Parameters	▪ `session-name` – Name of the mirror session (Maximum size: 32).
Usage	If session-name is not given, all the configured mirror-sessions will be displayed.
Supported Releases	1.0.0 or later
Click command	`show mirror_session [SESSION_NAME]`

Example

```
sonic# show mirror-session
ERSPAN Sessions
------------------------------------------------------------------------
------------------------------------------------------------------------
---------
Name             Status     SRC-IP           DST-IP           GRE
DSCP   TTL    Queue    Policer    Monitor Port     Direction  SRC-Port
------------------------------------------------------------------------
------------------------------------------------------------------------
---------
m1               active     1.1.1.1          2.2.2.2          0x4d2
0      63                         Ethernet1
```

```
SPAN Sessions
------------------------------------------------------------------------------
-------------------------------------
Name             Status     DST-Port         Direction  Queue
Policer    SRC-Port
------------------------------------------------------------------------------
-------------------------------------
m2               active     Ethernet2
BOTH                           ['Ethernet3']
m3               active     Ethernet5
RX                             ['PortChannel100']
sonic# show mirror-session m2
SPAN Sessions
------------------------------------------------------------------------------
-------------------------------------
Name             Status     DST-Port         Direction  Queue
Policer    SRC-Port
------------------------------------------------------------------------------
-------------------------------------
m2               active     Ethernet2
BOTH                           ['Ethernet3']
sonic# show mirror-session m1
ERSPAN Sessions
------------------------------------------------------------------------------
------------------------------------------------------------------------------
---------
Name             Status     SRC-IP           DST-IP           GRE
DSCP   TTL    Queue    Policer    Monitor Port     Direction  SRC-Port
------------------------------------------------------------------------------
------------------------------------------------------------------------------
---------
m1               active     1.1.1.1          2.2.2.2          0x4d2
0      63                        Ethernet1
sonic#
```

SFLOW

SFLOW Config commands

Sflow feature has to be enabled by using the `config feature state sflow enabled` CLICK command before configuring the sflow related global and interface level commands. This command is used to instantiate the Sflow container.

SFLOW Global Config Commands

SFLOW enable

Enables sflow globally.

Syntax	`sflow enable`
Command mode	CONFIG
Parameters	None
Usage	Use `no sflow enable` to disable sflow feature globally.
Supported Releases	1.0.0 or later
Click command	`config sflow enable`

Example

```
sonic(config)# sflow enable
```

SFLOW polling-interval

Configures polling-interval for all interfaces. Based on this value, counter samples will be collected from all of the interfaces. Default value is 20 seconds.

Syntax	`sflow polling-interval <pol-interval-value>`
Command mode	CONFIG
Parameters	▪ `pol-interval-value` – Polling interval value in secs. Range: 0 – 300.
Usage	▪ Use `sflow polling-interval 0` to disable polling-interval on all interfaces and counter samples collection will be stopped. ▪ Use `no sflow polling-interval` to change polling-interval to default value.
Supported Releases	1.0.0 or later
Click command	`config sflow polling-interval <polling_interval>`

Example

```
sonic(config)# sflow polling-interval 100
```

SFLOW agent-id

Configures the interface name whose IPv4 or IPv6 address will be used as the agent-id in sFlow datagrams. Upon removal, default agent-id will be elected based on the election process.

Syntax	`sflow agent-id {Ethernet <intf-num> | Loopback <lo-intf-num> | Vlan <vlan-id>}`
Command mode	CONFIG
Parameters	▪ `intf-num` – Ethernet interface number. ▪ `lo-intf-num` – Loopback interface number. Range: 0 – 16383. ▪ `vlan-id` – VLAN ID. Range: 1 – 4094.

Usage	Use `no sflow agent-id` to remove agent-id config.
Supported Releases	1.0.0 or later
Click command	`config sflow agent-id add <interface_name>`

Example

```
sonic(config)# sflow agent-id Ethernet 7
```

SFLOW collector

Configures the sflow collector IP and port. Maximum two collectors are allowed to configure.

Syntax	`sflow collector <collector-ip> [collector-port]`
Command mode	CONFIG
Parameters	▪ `collector-ip` – Collector IP address. Format: A.B.C.D or A:B:C:D:E:F:G:H ▪ `collector-port` – Collector port number. Range: 0 – 65535 (Default: 6343).
Usage	Use `no sflow collector <collector-ip> [collector-port]` to remove collector config.
Supported Releases	1.0.0 or later
Click command	`config sflow collector add <collector_name> <IPv4|IPv6_address>`

Example

```
sonic(config)# sflow collector 1.1.1.1 65535
```

SFLOW interface disable

Enables/Disables sflow on all interfaces globally. By default, sflow is enabled on all interfaces at the interface level.

Use no form of this command to enable sflow on all interfaces.

Syntax	`sflow interface disable all`
Command mode	CONFIG
Parameters	None
Usage	Use `sflow interface disable all` to disable sflow on all interfaces.
Supported Releases	1.0.0 or later
Click command	`config sflow interface disable all`

Example

```
sonic(config)# sflow interface disable all
```

SFLOW Interface level Config Commands

SFLOW interface enable

Enables/disables sflow at an interface level. By default, sflow is enabled on all interfaces at the interface level. Use this command to explicitly disable sFlow for a specific interface. An interface is sampled if sflow is enabled globally as well as at the interface level. Note that this configuration deals only with sFlow flow samples and not counter samples.

Syntax	`sflow enable`
Command mode	Ethernet interface
Parameters	None

Usage	Use `no sflow enable` to disable sFlow on this interface.
Supported Releases	1.0.0 or later
Click command	`config sflow interface enable <interface_name>`

Example

```
sonic(config)#interface Ethernet 1
sonic(conf-if-Ethernet1)#sflow enable
sonic(conf-if-Ethernet1)# exit
sonic(config)#
```

SFLOW interface sampling-rate

Configures the sample-rate for a specific interface. The default sample rate based on interface speed is:

- 1-in-1000 for a 1G link
- 1-in-10,000 for a 10G link
- 1-in-40,000 for a 40G link
- 1-in-100,000 for a 100G link

It is recommended not to change the defaults. This command is to be used only in case of exceptions (to set the sample-rate to the nearest power-of-2, if there are hardware restrictions in using the defaults).

Syntax	`sflow sampling-rate <sample-rate-value>`
Command mode	Ethernet interface
Parameters	• `sample-rate-value` – Sampling rate. Range: 256 – 8388608.
Usage	Use `no sflow sampling-rate` to change it to default value.
Supported Releases	1.0.0 or later

Click command	`config sflow interface sample-rate <interface_name> <sample_rate>`

Example

```
sonic(config)#interface Ethernet 1
sonic(conf-if-Ethernet1)# sflow sampling-rate 300
sonic(conf-if-Ethernet1)# exit
sonic(config)#
```

SFLOW Show commands

SFLOW show

Displays the global sFlow configuration that includes the admin state, collectors, the Agent ID and counter polling interval.

Syntax	`show sflow`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show sflow`

Example

```
sonic# show sflow
------------------------------------------------------------
Global sFlow Information
------------------------------------------------------------
     admin state:            up
     polling-interval:       100
     agent-id:               Ethernet7
```

```
     configured collectors:  1
      1.1.1.1             65535        default
sonic#
```

SFLOW show interfaces

Displays the per-interface sflow admin status and the sampling rate.

Syntax	`show sflow interface`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show sflow interface`

Example

```
sonic# show sflow interface
-------------------------------------------------------------
sFlow interface configurations
Interface              Admin State             Sampling Rate
       Ethernet0             up                      1000
       Ethernet1             up                      300
sonic#configure terminal
sonic(config)# no sflow interface disable all
sonic(config)# exit
sonic# show sflow interface
-------------------------------------------------------------
sFlow interface configurations
Interface              Admin State             Sampling Rate
       Ethernet0             up                      1000
       Ethernet1             up                      300
       Ethernet2             up                      1000
```

```
Ethernet3             up                    1000
Ethernet4             up                    1000
Ethernet5             up                    1000
Ethernet6             up                    1000
Ethernet7             up                    1000
Ethernet8             up                    1000
Ethernet9             up                    1000
Ethernet10            up                    1000
Ethernet11            up                    1000
Ethernet12            up                    1000
Ethernet13            up                    1000
Ethernet14            up                    1000
Ethernet15            up                    1000
Ethernet16            up                    1000
Ethernet17            up                    1000
Ethernet18            up                    1000
Ethernet19            up                    1000
Ethernet20            up                    1000
Ethernet21            up                    1000
Ethernet22            up                    1000
Ethernet23            up                    1000
Ethernet24            up                    1000
Ethernet25            up                    1000
Ethernet26            up                    1000
Ethernet27            up                    1000
Ethernet28            up                    1000
Ethernet29            up                    1000
Ethernet30            up                    1000
Ethernet31            up                    1000
Ethernet32            up                    1000
Ethernet33            up                    1000
Ethernet34            up                    1000
Ethernet35            up                    1000
Ethernet36            up                    1000
Ethernet37            up                    1000
Ethernet38            up                    1000
Ethernet39            up                    1000
Ethernet40            up                    1000
Ethernet41            up                    1000
Ethernet42            up                    1000
Ethernet43            up                    1000
Ethernet44            up                    1000
```

```
       Ethernet45            up                    1000
       Ethernet46            up                    1000
       Ethernet47            up                    1000
       Ethernet48            up                    10000
       Ethernet49            up                    10000
       Ethernet50            up                    10000
       Ethernet51            up                    10000
       Ethernet52            up                    10000
       Ethernet53            up                    10000
       Ethernet54            up                    10000
       Ethernet55            up                    10000
sonic#
```

Port Security

Port Security commands are organized and listed under the following sections.

BUM Storm Control

Config Commands

Configures the storm-control rate for BUM traffic.

Syntax	`storm-control type <broadcast|unknown-unicast|unknown-multicast> rate <0-100000000>`
Command mode	Ethernet interface
Parameters	• `broadcast|unknown-unicast|unknown-multicast` – Type of traffic on which storm-control to be applied. • `0-100000000` – Rate of traffic in kbps (kilobits per second) to be admitted into the system. Traffic that exceeds the configured rate will be dropped.
Usage	Use `no storm-control type <broadcast|unknown-unicast|unknown-multicast>` to disable.
Supported Releases	1.0.0 or later
Click command	`config interface storm-control add <Ethernet-Interface-name> <broadcast|unknown-unicast|unknown-multicast> <0-100000000>`
Example	

```
sonic(conf-if-Ethernet0)# storm-control type broadcast rate 3000
sonic(conf-if-Ethernet0)# no storm-control type broadcast
sonic(conf-if-Ethernet0)#
```

Show Commands

Displays the storm-control setting on the interface.

Syntax	`show storm-control [interface <interface_name>]`
Command mode	EXEC
Parameters	▪ `interface_name` – Enter the interface name on which storm-control settings are to be shown.
Usage	If interface keyword is not given, all the interfaces' storm-control settings will be displayed.
Supported Releases	1.0.0 or later
Click command	`show storm-control [interface <interface_name>]`

Example

```
sonic# show storm-control
-------------------------------------------------
Interface Name      Storm-type          Rate (kbps)
-------------------------------------------------
Ethernet0           broadcast           10000
Ethernet0           unknown-unicast     11000
Ethernet0           unknown-multicast   12000
Ethernet60          broadcast           60000
sonic#

sonic# show storm-control interface Ethernet 0
```

```
-----------------------------------------------------
Interface Name      Storm-type          Rate (kbps)
-----------------------------------------------------
Ethernet0           broadcast           10000
Ethernet0           unknown-unicast     11000
Ethernet0           unknown-multicast   12000
sonic#
```

AAA

show aaa

Displays the active configuration of AAA.

Syntax	`show aaa`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show aaa`

Example

```
sonic# show aaa
AAA authentication login local,radius
AAA authentication failthrough True
AAA authorization tacacs+
AAA accounting local
```

AAA Authentication

Configures authentication login method and failthrough status.

Syntax	`aaa authentication login <method> failthrough <status>`
Command mode	CONFIG
Parameters	▪ `method` – Authentication login method. Accepts maximum 2 arguments and minimum 1 argument.

	Allowed combinations are:
	`<local | local tacacs+ | local radius | radius | tacacs+ | radius local | tacacs+ local>`
	▪ `status` – Failthrough status. Options are:
	`<enable | disable>`

Usage	▪ Use `no aaa authentication login` to reset the login method of authentication to default. ▪ Default login method is `<local>`. ▪ Use `no aaa authentication failthrough` to reset the failthrough status to default. ▪ Default failthrough status is `<disabled>`. ▪ Both failthrough and login can be configured in a single command or as separate commands.
Supported Releases	1.0.0 or later

Click command	`config aaa authentication login`
	▪ `<login_method>`
	`config aaa authentication failthrough`
	▪ `<status>`

Example

```
sonic(config)# aaa authentication
failthrough login
sonic(config)# aaa authentication login
local   radius  tacacs+
sonic(config)# aaa authentication login local radius

sonic(config)# aaa authentication failthrough
disable enable
sonic(config)# aaa authentication failthrough enable

sonic(config)# aaa authentication login local radius failthrough disable
```

AAA Authorization

Configures authorization method of system.

Syntax	`aaa authorization <method>`
Command mode	CONFIG
Parameters	▪ `method` – Authorization method. Accepts maximum one input. Select between `<local | tacacs+>`
Usage	▪ `no aaa authorization` resets the authorization method to default. ▪ Default authorization method is `<local>`.
Supported Releases	1.0.0 or later
Click command	`config aaa authorization <method>`

Example

```
sonic(config)# aaa authorization
local   tacacs+
sonic(config)# aaa authorization tacacs+
```

AAA Accounting

Configures accounting method of system.

Syntax	`aaa accounting <method>`
Command mode	CONFIG
Parameters	▪ `method` – Accounting method. Accepts maximum one input. Select between `<local | tacacs+>`

Usage	`no aaa accounting` removes the AAA Accounting configuration.
Supported Releases	1.0.0 or later
Click command	`config aaa accounting <method>`

Example

```
sonic(config)# aaa accounting
local   tacacs+
sonic(config)# aaa accounting local
```

SNMP

SNMP Contact

Configures SNMP contact information.

Syntax	`snmp-server contact <contact_detail>`
Command mode	CONFIG
Parameters	▪ `contact_detail` – SNMP Contact detail (Maximum: 255 characters).
Usage	Use `no snmp-server contact` to remove the SNMP contact information.
Supported Releases	1.0.0 or later
Click command	`config snmp contact add [OPTIONS] <contact_name> <contact_email>`

Example

```
sonic(config)# snmp-server contact Celestica
sonic(config)# no snmp-server contact
```

SNMP Location

Configures SNMP location information.

Syntax	`snmp-server location <location>`
Command mode	CONFIG
Parameters	▪ `location` – SNMP Location detail (Maximum: 255 characters).

Usage	Use `no snmp-server location` to remove the SNMP location information.
Supported Releases	1.0.0 or later
Click command	`config snmp location add [OPTIONS] <location>`

Example

```
sonic(config)# snmp-server location CLS_US
sonic(config)# no snmp-server location
```

SNMP Community

Configures SNMP community.

Syntax	`snmp-server community <name> <RO/RW>`
Command mode	CONFIG
Parameters	▪ `name` – SNMP community name (4 – 32 chars: no space, comma, @ allowed). ▪ `RO/RW` – Read-only or Read-write permission.
Usage	Use `no snmp-server community <string>` to remove the SNMP community.
Supported Releases	1.0.0 or later
Click command	`config snmp community add [OPTIONS] <snmp_community> <RO|RW>`

Example

```
sonic(config)# snmp-server community private RW
sonic(config)# no snmp-server community private
```

SNMP User

Configures SNMP User.

Syntax	`snmp-server user <username> <noAuthNoPriv|AuthNoPriv|Priv> <MD5|SHA|HMAC-SHA-2> auth-password <auth_password> [encrypted] <DES|AES> encrypt-password <encrypt_password> [encrypted] <RO/RW>`
Command mode	CONFIG
Parameters	▪ `username` – SNMP username (Maximum: 32 characters). ▪ `<noAuthNoPriv|AuthNoPriv|Priv>` – User type. ▪ `<MD5|SHA|HMAC-SHA-2>` – Authentication method. ▪ `auth_password` – Authentication password (Minimum length: 8, Maximum length: 64, '@', ':' not allowed). ▪ `<DES|AES>` – Encryption method. ▪ `encrypt_password` – Encryption password (Minimum length: 8, Maximum length: 64, '@' , ':' not allowed). ▪ `encrypted` – This optional flag is to identify whether the password entered is plaintext or encrypted text. ▪ `RO/RW` – Read-only or Read-write permission.
Usage	Use `no snmp-server user <username>` to remove the SNMP user.
Supported Releases	1.0.0 or later
Click command	`config snmp user add [OPTIONS] <snmp_user> <noAuthNoPriv|AuthNoPriv|Priv> <RO|RW> <MD5|SHA|HMAC-SHA-2> <auth_password> <DES|AES> <encrypt_password>`
Example	

```
sonic(config)# snmp-server user testuser1 noAuthNoPriv RO
sonic(config)# snmp-server user testuser2 AuthNoPriv MD5 auth-password
testpassword RW
sonic(config)# snmp-server user testuser3 Priv MD5 auth-password
testpassword DES encrypt-password testpassword RW
sonic(config)# no snmp-server user testuser1
sonic(config)# snmp-server user test3 Priv MD5 auth-password
U2FsdGVkX1+sd7irRVoxtsl5jCscDv1nbF0KdWIve1U= DES encrypt-password
U2FsdGVkX1+sd7irRVoxtsl5jCscDv1nbF0KdWIve1U= encrypted RW
```

SNMP Host

Configures SNMP Host to send Trap messages.

Syntax	`snmp-server host <host_address> version <1/2/3> [community <community_name>] [port <port_num>] [vrf <vrf_name>]`
Command mode	CONFIG
Parameters	▪ `host_address` – Host IP address to receive Trap messages, One host IP address is allowed per SNMP version. ▪ `<1 | 2 | 3>` – SNMP version. ▪ `community_name` – Community name (4 – 32 chars: no space, comma, @ allowed), Default value is "public". ▪ `port_num` – UDP port number (Range: 1024 – 65535, Default: 162). ▪ `vrf_name` – VRF name, Default value is "None".
Usage	Use `no snmp-server host <host_address> version <1/2/3>` to remove the SNMP Host.
Supported Releases	1.0.0 or later

Click command	`config snmptrap modify [OPTIONS] <SNMP Version> <SNMP TRAP SERVER IP Address>`

Example

```
sonic(config)# snmp-server host 1.1.1.1 version 2 community private
sonic(config)# no snmp-server host 1.1.1.1 version 2
```

SNMP Agent Address

Configures SNMP Agent address.

Syntax	`snmp-server agent-address <ip_address> [port <port_num>] [vrf <vrf_name>]`
Command mode	CONFIG
Parameters	▪ `port_num` – UDP port number (Range: 1024 – 65535, Default: 162). ▪ `vrf_name` – VRF name.
Usage	Use `no snmp-server agent-address <ip_address>` to remove the SNMP Agent address.
Supported Releases	1.0.0 or later
Click command	`config snmpagentaddress add [OPTIONS] <SNMP AGENT LISTENING IP Address>`

Example

```
sonic(config)# snmp-server agent-address 1.1.1.1
sonic(config)# no snmp-server agent-address 1.1.1.1
```

Show SNMP contact and location

Displays SNMP contact and location details.

Syntax	`show snmp-server`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show snmp-server
               SNMP Global Configurations
------------------------------------------------------------
SNMP Contact            : Celestica
SNMP Location           : CLS_India
```

Show SNMP community

Displays SNMP community details.

Syntax	`show snmp-server community`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show snmp-server community
---------------------------------------------------------------------
Community Name                              Community Type
---------------------------------------------------------------------
    private                                      RW
    test_comm                                    RO
```

Show SNMP user

Displays SNMP user details.

Syntax	`show snmp-server user`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show snmp-server user
-------------------------------------------------------------------------
-----------
User Name                     User Type            Auth
Privacy    Permission
-------------------------------------------------------------------------
-----------
testuser                      no-auth-no-priv
None                  RO
testuser2                     auth-no-priv         MD5
None       RW
testuser3                     auth-priv            MD5
DES        RW
```

```
sonic#
```

Show SNMP host

Displays SNMP host details.

Syntax	`show snmp-server host`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show snmp-server host
-------------------------------------------------------------------------
-----------
Target Address         Version   UDP Port  Community
VRF
-------------------------------------------------------------------------
-----------
1.1.1.1                V2C       162        public
None
```

Show SNMP Agent Address

Displays SNMP agent-address details.

Syntax	`show snmp-server agent-address`

Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show snmpagentaddress`

Example

```
sonic(config)# do show snmp-server agent-address
------------------------------------------------------------------------
-----------
Agent Address                  UDP Port   VRF
------------------------------------------------------------------------
-----------
172.23.126.113                 None       default
```

DHCP Relay

DHCPv4 Relay Configuration

Configures DHCPv4 Relay address in VLAN.

Syntax	`ip helper-address <relay_address> [<relay_address>] [<relay_address>] [<relay_address>]`
Command mode	Interface mode (VLAN)
Parameters	▪ `relay_address` – DHCPv4 Relay address (Maximum: 4).
Usage	Use `no ip helper-address <relay_address>` to remove the DHCPv4 Relay information.
Supported Releases	1.0.0 or later
Click command	`config vlan dhcp_relay add [OPTIONS] <vid> DHCP_RELAY_DESTINATION_IPS...`

Example

```
sonic(conf-if-Vlan100)# ip helper-address 1.1.1.1
sonic(conf-if-Vlan100)# no ip helper-address 1.1.1.1
```

Show DHCPv4 relay address

Displays DHCPv4 relay address details.

Syntax	`show ip dhcp-relay brief [vlan <id>]`
Command mode	EXEC

Parameters	▪ `id` – VLAN ID (Range: 1 – 4094).
Usage	None
Supported Releases	1.0.0 or later
Click command	`show vlan brief`

Example

```
sonic# show ip dhcp-relay brief Vlan 200
------------------------------------------------
Interface Name    DHCP Helper Address
------------------------------------------------
Vlan200           21.1.1.1
                  21.1.1.3
                  21.1.1.4
```

DHCPv6 Relay Configuration

Configures DHCPv6 Relay address in VLAN.

Syntax	`ipv6 helper-address <relay_address> [<relay_address>] [<relay_address>] [<relay_address>]`
Command mode	Interface mode (VLAN)
Parameters	▪ `relay_address` – DHCPv6 Relay address (Maximum: 4).
Usage	Use `no ipv6 helper-address <relay_address>` to remove the DHCPv6 Relay information.
Supported Releases	1.0.0 or later
Click command	`config vlan dhcp_relay add [OPTIONS] <vid> DHCP_RELAY_DESTINATION_IPS...`

Example

```
sonic(conf-if-Vlan100)# ipv6 helper-address 1::1
sonic(conf-if-Vlan100)# no ipv6 helper-address 1::1
```

Show DHCPv6 relay address

Displays DHCPv6 relay address details.

Syntax	`show ipv6 dhcp-relay brief [vlan <id>]`
Command mode	EXEC
Parameters	▪ `id` – VLAN ID (Range: 1 – 4094).
Usage	None
Supported Releases	1.0.0 or later
Click command	`show dhcprelay_helper ipv6`

Example

```
sonic# show ipv6 dhcp-relay brief
------------------------------------------------
Interface Name    DHCPv6 Helper Address
------------------------------------------------
Vlan100           21::1
                  21::5
                  21::4
Vlan200           21::9
                  43::2
```

Show DHCPv6 relay counters

Displays DHCPv6 relay counter details.

Syntax	`show ipv6 helper-address counters [vlan <id>]`
Command mode	EXEC
Parameters	▪ `id` – VLAN ID (Range: 1 – 4094).
Usage	None
Supported Releases	1.0.0 or later
Click command	`show dhcp6relay_counters counts`

Example

```
sonic# show ipv6 dhcp-relay counters
-----------------------------------------------
       Message Type   Vlan100
-----------------------------------------------
            Unknown   0
            Solicit   24
          Advertise   0
            Request   0
            Confirm   0
              Renew   0
             Rebind   0
              Reply   0
            Release   0
            Decline   0
        Reconfigure   0
Information-Request   0
      Relay-Forward   72
        Relay-Reply   0
          Malformed   0
```

Clear DHCPv6 relay counters

Clears DHCPv6 relay counters.

Syntax	`clear ipv6 dhcp-relay counters [vlan <id>]`

Command mode	EXEC
Parameters	▪ `id` – VLAN ID (Range: 1 – 4094).
Usage	None
Supported Releases	1.0.0 or later
Click command	`sonic-clear dhcp6relay_counters`

Example

```
sonic# clear ipv6 dhcp-relay counters Vlan 100
sonic#
```

CRM

CRM polling interval

Configures CRM polling interval.

Syntax	`crm polling-interval <value>`
Command mode	CONFIG
Parameters	▪ `value` – Polling interval value (in seconds), Default value is 300 seconds.
Usage	Use `no crm polling-interval` to reset the polling interval value to 300 seconds.
Supported Releases	1.0.0 or later
Click command	`crm config polling interval [OPTIONS] INTERVAL`

Example

```
sonic(config)# crm polling-interval 600
sonic(config)#
sonic(config)# no crm polling-interval
sonic(config)#
```

CRM threshold resource

Configures threshold values for CRM resources.

Syntax	`crm threshold resource <resource_name> high-threshold <high-threshold- value> low-threshold <low-threshold-value> threshold-type <threshold-type-value>`

Command mode	CONFIG
Parameters	▪ `resource_name` – Choose the required resource from the list, for which the threshold value is to be configured, below is the list of available resources: ▪ `acl_group_counter` ▪ `acl_group_entry` ▪ `acl_group_table fdb` ▪ `ipv4_neighbor` ▪ `ipv4_nexthop` ▪ `ipv4_route` ▪ `ipv6_neighbor` ▪ `ipv6_nexthop` ▪ `ipv6_route` ▪ `nexthop_group_object` ▪ `nexthop_group_member` ▪ `high-threshold-value` – Configures higher threshold value for the resource, Default value is 85%. ▪ `low-threshold-value` – Configures lower threshold value for the resource, Default value is 70%. ▪ `threshold-type` – Configures threshold type from <percentage/used/free> options, percentage is the default config.
Usage	Use `no crm threshold resource <resource_name>` to reset the configured threshold values to default values.
Supported Releases	1.0.0 or later
Click command	`crm config thresholds acl group counter` ▪ `high <value>` `crm config thresholds acl group counter` ▪ `low <value>`
Example	

```
sonic(config)# `crm threshold resource acl_group_counter high-threshold
90 low-threshold 60 threshold-type used`
sonic(config)# `no crm threshold resource acl_group_counter'
```

show crm summary

Displays the polling interval configured values.

Syntax	`show crm summary`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`crm show summary`

Example

```
sonic# show crm summary
Polling Interval:300 second(s)
sonic#
```

show crm threshold

Displays the configured and default threshold values of the CRM resources.

Syntax	`show crm threshold [<resource_name> | all ]`
Command mode	EXEC
Parameters	▪ `resource_name` – Choose the required resource from

the list, for which the threshold value is to be displayed, below is the list of available resources:

- `acl_group_counter`
- `acl_group_entry`
- `acl_group_table fdb`
- `ipv4_neighbor`
- `ipv4_nexthop`
- `ipv4_route`
- `ipv6_neighbor`
- `ipv6_nexthop`
- `ipv6_route`
- `nexthop_group_object`
- `nexthop_group_member`

- `all` – Displays threshold values of all the resources.

Usage	None
Supported Releases	1.0.0 or later
Click command	`crm show threshold [<resource_name> | all]`

Example

```
sonic# show crm threshold all
Resource Name             Threshold type  Low-threshold High-threshold
---------------------------------------------------------------------------
-------------------------
acl_group                 percentage      70             85
acl_group_counter         used            60             90
acl_group_entry           percentage      70             85
acl_group_table           percentage      70             85
fdb                       percentage      70             85
ipv4_neighbor             percentage      70             85
ipv4_nexthop              percentage      70             85
ipv4_route                percentage      70             85
ipv6_neighbor             percentage      70             85
ipv6_nexthop              percentage      70             85
ipv6_route                percentage      70             85
```

```
nexthop_group_member      percentage      70              85
nexthop_group_object      percentage      70              85
```

show crm resource

Displays the used and available count of the CRM resources.

Syntax	`show crm resource [<resource_name> | all ]`
Command mode	EXEC
Parameters	▪ `resource_name` – Choose the required resource from the list, for which the used and available values are to be displayed, below is the list of available resources: ▪ `acl_group_counter` ▪ `acl_group_entry` ▪ `acl_group_table fdb` ▪ `ipv4_neighbor` ▪ `ipv4_nexthop` ▪ `ipv4_route` ▪ `ipv6_neighbor` ▪ `ipv6_nexthop` ▪ `ipv6_route` ▪ `nexthop_group_object` ▪ `nexthop_group_member` ▪ `all` – Displays threshold values of all the resources.
Usage	None
Supported Releases	1.0.0 or later
Click command	`crm show resources [<resource_name> | all]`
Example	

```
sonic# show crm resource all

Resource Name           Used Count    Available Count
--------------------  ------------  -----------------
ipv4_route                       1               6139
ipv6_route                       3               1536
ipv4_nexthop                     0              32766
ipv6_nexthop                     0              32766
ipv4_neighbor                    0              32765
ipv6_neighbor                    0              16383
nexthop_group_member             0              32768
nexthop_group                    0                512
fdb_entry                        0              65535
ipmc_entry                       0              16384
snat_entry                       0                  0
dnat_entry                       0                  0


Stage    Bind Point    Resource Name      Used Count    Available Count
-------  ------------  ---------------  ------------  -----------------
INGRESS  PORT          acl_group                   0                256
INGRESS  PORT          acl_table                   0                  5
INGRESS  LAG           acl_group                   0                256
INGRESS  LAG           acl_table                   0                  5
INGRESS  VLAN          acl_group                   0                256
INGRESS  VLAN          acl_table                   0                 16
INGRESS  RIF           acl_group                   0                256
INGRESS  RIF           acl_table                   0                 16
INGRESS  SWITCH        acl_group                   0                256
INGRESS  SWITCH        acl_table                   0                 16
EGRESS   PORT          acl_group                   0                256
EGRESS   PORT          acl_table                   0                  2
EGRESS   LAG           acl_group                   0                256
EGRESS   LAG           acl_table                   0                  2
EGRESS   VLAN          acl_group                   0                256
EGRESS   VLAN          acl_table                   0                  2
EGRESS   RIF           acl_group                   0                256
EGRESS   RIF           acl_table                   0                  2
EGRESS   SWITCH        acl_group                   0                256
EGRESS   SWITCH        acl_table                   0                  2
```

Feature

Config Feature

Configures status, auto-restart, fallback and owner of system features.

Syntax	`feature <feature_name> state <state> auto-restart <autorestart_state> owner <owner> fallback <fallback>`
Command mode	CONFIG
Parameters	▪ `feature_name` – Name of the feature to configure. Accepts string of maximum 32 characters. ▪ `state` – State of the feature. Select between <enabled | disabled>. ▪ `autorestart_state` – State of auto-restart of the feature. Select between <enabled | disabled>. ▪ `owner` – Owner of the feature. Select between <local | kube>. ▪ `fallback` – Fallback of the feature. Select between <off | on>.
Usage	Use this command to enable/disable the feature, auto-start, owner and fallback.
Supported Releases	1.0.0 or later
Click command	▪ `config feature state <Enable|disable>` `config feature autorestart` ▪ `<Enable|disable>` ▪ `config feature fallback <off|on>` ▪ `config feature owner <kube|local>`
Example	

```
sonic(config)# feature snmp fallback on state enabled auto-restart
disabled owner local
sonic(config)#
```

Show Feature

Displays the status, owner, fallback and auto-restart information of system features.

Syntax	`show feature status [feature_name]`
Command mode	EXEC
Parameters	▪ `feature_name` – Name of the feature for which the information is to be fetched. Accepts string of maximum 32 characters.
Usage	▪ `<feature_name>` is optional. ▪ If `<feature_name>` is not given, all the feature information is retrieved.
Supported Releases	1.0.0 or later
Click command	`show feature <status | autorestart | config>`

Example

```
sonic# show feature status
-------------------------------------------------------------------------
----------
NAME                 STATE                AUTORESTART          OWNER
-------------------------------------------------------------------------
----------
bgp                  enabled                                   local
database             always_enabled       always_enabled       local
dhcp_relay           disabled             enabled              local
gbsyncd              enabled              enabled              local
iccpd                disabled             enabled              local
```

```
lldp                 enabled              enabled              local
macsec               disabled             enabled              local
mgmt-framework       enabled              enabled              local
mux                  always_disabled      enabled              local
nat                  disabled             enabled              local
pmon                 enabled              enabled              local
radv                 enabled              enabled              local
sflow                disabled             enabled              local
snmp                 enabled              enabled              local
swss                 enabled              enabled              local
syncd                enabled              enabled              local
teamd                enabled              enabled              local
telemetry            enabled              enabled              local


sonic# show feature status mgmt-framework
------------------------------------------------------------------------
----------
NAME                 STATE                AUTORESTART          OWNER
------------------------------------------------------------------------
----------
mgmt-framework       enabled              enabled              local
```

System Management

System Management commands are organized and listed under the following sections.

Image Management

Image install

Installs new SONiC image.

Syntax	`image install <image-path> [skip-package-migration] [skip-migration]`
Command mode	EXEC
Parameters	▪ `image-path` – Local file (local://) or Remote file (http:// or https://). ▪ `skip-package-migration` – Option to skip package migration while installing image. ▪ `skip-migration` – Option to skip migration while installing image.
Usage	▪ Use this command to install new image. New image will be set as next boot image after successful installation. ▪ Use `show image status` to retrieve image installation status.
Supported Releases	1.0.0 or later
Click command	`sonic-installer install <image-path> [--skip-package-migration] [--skip_migration]`
Example	

```
sonic# image install local:///tmp/sonic-broadcom.bin
%Info: Use 'show image status' for image install progress.
sonic#

sonic# image install http://10.208.29.3:8080/sonic-broadcom.bin
%Info: Use 'show image status' for image install progress.
sonic#

sonic# image install local:///tmp/sonic-broadcom.bin skip-package-
migration skip-migration
%Info: Use 'show image status' for image install progress.
sonic#
sonic# image install local:///cls-sonic-broadcom-k179.bin skip-platform-
check skip-secure-check
New image will be installed, continue? [y/N]: y
sonic# image install local:///tmp/sonic-broadcom.bin skip-setup-swap
New image will be installed, continue? [y/N]: y
%Info: Use 'show image status' for image install progress.
sonic# image install local:///cls-sonic-broadcom-k179.bin swap-mem-size
10 available-mem-threshold 20
New image will be installed, continue? [y/N]: y
%Info: Use 'show image status' for image install progress.
sonic# image install local:///cls-sonic-broadcom-k179.bin swap-mem-size
10 available-mem-threshold 20 total-mem-threshold 15
New image will be installed, continue? [y/N]: y
%Info: Use 'show image status' for image install progress.
sonic#
```

Image remove

Removes installed image.

Syntax	`image remove {all | <image-name>}`
Command mode	EXEC
Parameters	▪ `image-name` – Name of installed image.
Usage	▪ Use this command to remove installed image.

	▪ `all` option removes all images which are not current or next.
Supported Releases	1.0.0 or later
Click command	▪ `sonic-installer remove <image-name>` ▪ `sonic-installer cleanup`

Example

```
sonic# image remove SONiC-OS-staging_202205.0-dirty-20230124.120342
Success
sonic#
```

Set default image

Sets the default image that gets activated on all reloads.

Syntax	`image set-default <image-name>`
Command mode	EXEC
Parameters	▪ `image-name` – Name of installed image.
Usage	Use this command to select the image that gets activated on all reloads.
Supported Releases	1.0.0 or later
Click command	`sonic-installer set-default <image-name>`

Example

```
sonic# image set-default SONiC-OS-prime_master.0-dirty-20230224.135957
Success
sonic#
```

---

show image status

Displays the status of recent image install operation.

Syntax	`show image status`
Command mode	EXEC
Parameters	None
Usage	Use this command to retrieve the status of recent image install operation.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show image status
------------------------------------------------------------
Global operation status  : install
------------------------------------------------------------
File operation status    : success
File size(bytes)         : 0
Transfer start time      : 2023-03-13 15:11:40
Transfer end time        : 2023-03-13 15:11:40
------------------------------------------------------------
Install operation status : success
Install start time       : 2023-03-13 15:11:41
Install end time         : 2023-03-13 15:12:25
sonic#
```

show image list

Displays the list of installed images and their boot setting.

Syntax	`show image list`
Command mode	EXEC

Parameters	None
Usage	Use this command to retrieve the list of installed images.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show image list
Current: SONiC-OS-prime_master.0-dirty-20230224.135957
Next: SONiC-OS-staging_202205.0-dirty-20230124.120342
Available:
SONiC-OS-staging_202205.0-dirty-20230124.120342
SONiC-OS-prime_master.0-dirty-20230224.135957
sonic#
```

Process and Memory Statistics

show system memory

Displays the current memory usage statistics.

Syntax	`show system memory`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	`show system-memory`
Example	

```
sonic# show system memory
-------------------------------------------------------
Attribute            Value/State
-------------------------------------------------------
Total               :7893
Used                :2122
sonic#
```

---

show system processes

Displays the statistics of current processes in the system.

Syntax	`show system processes [pid <pid-value>]`
Command mode	EXEC
Parameters	▪ `pid-value` – Process identifier.
Usage	If the <pid-value> is not passed, CPU utilization of all processes will be displayed.
Supported Releases	1.0.0 or later
Click command	`show processes {cpu | memory | summary}`

Example

```
sonic# show system processes
-------------------------------------------------------------------------
--
PID       %CPU      %MEMORY   MEM-USAGE(Bytes)      NAME
-------------------------------------------------------------------------
--
0          0           0          0
1          0           0          0           /sbin/init
10         0           0          0           [rcu_tasks_rude_]
1096       0           0          0           /usr/bin/containerd-shim-
runc-v2
```

```
11          0           0           0           [rcu_tasks_trace]
110         0           0           0           [hv_vmbus_con]
111         0           0           0           [ata_sff]
112         0           0           0           [hv_pri_chan]
11233       0           0           0           /usr/bin/python3
1128        0           0           0           /usr/bin/python3
113         0           0           0           [scsi_eh_0]
114         0           0           0           [hv_sub_chan]
1167        0           0           0           /bin/bash
1168        0           0           0           python3
117         0           0           0           [scsi_tmf_0]
119         0           0           0           [scsi_eh_1]
12          0           0           0           [ksoftirqd/0]
120         0           0           0           [scsi_tmf_1]
1212        0           0           0           /usr/bin/containerd-shim-
runc-v2
1231        0           0           0           /usr/bin/python3
12389       0           0           0           /usr/bin/containerd-shim-
runc-v2
--more--

sonic# show system processes pid 10
-------------------------------------------------------------
Attribute            Value/State
-------------------------------------------------------------
Pid                 :10
Name                :[rcu_tasks_rude_]
Args                :None
Start Time          :0
Uptime              :0
Cpu Usage User      :0
Cpu Usage System    :0
Cpu Utilization     :0
Memory Usage        :0
Memory Utilization  :0
sonic#
```

ZTP

ZTP Enable

Enables ZTP feature.

Syntax	`ztp enable`
Command mode	EXEC
Parameters	None
Usage	Use `ztp enable` to enable the ZTP feature.
Supported Releases	1.1.0 or later
Click command	`config ztp enable`

Example

```
sonic# ztp enable
sonic#
```

ZTP Disable

Disables ZTP feature.

Syntax	`ztp disable`
Command mode	EXEC
Parameters	None
Usage	Use `ztp disable` to disable/stop the ZTP feature.
Supported Releases	1.1.0 or later

Click command	`config ztp disable`

Example

```
sonic# ztp disable
sonic#
```

ZTP Run

Starts ZTP process.

Syntax	`ztp run`
Command mode	EXEC
Parameters	None
Usage	Use `ztp run` to start the ztp process.
Supported Releases	1.1.0 or later
Click command	`config ztp run`

Example

```
sonic# ztp run
sonic#
```

Show ZTP status

Displays status of ZTP process.

Syntax	`show ztp status`
Command mode	EXEC

Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	`show ztp status`

Example

```
sonic# show ztp status
ZTP Admin Mode : True
ZTP Service    : Inactive
ZTP Status     : FAILED
ZTP Source     : local-fs (/host/ztp/ztp_data_local.json)
Runtime        : 04m 49s
Timestamp      : 2023-03-02 06:51:50 UTC
ZTP Service is not running
04-download: FAILED
06-snmp: SUCCESS
sonic#
```

Show ZTP status detail

Displays detailed status of ZTP process.

Syntax	`show ztp status detail`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	`show ztp status --verbose`

Example

```
sonic# show ztp status detail
=======================================
                ZTP
=======================================
ZTP Admin Mode      : True
ZTP Service         : Processing
ZTP Status          : IN-PROGRESS
ZTP Source          : local-fs (/host/ztp/ztp_data_local.json)
ZTP Runtime         : 02m 50s
ZTP Timestamp       : 2023-04-11 12:55:26 UTC
ZTP JSON Version    : 1.0
(01m 20s) Downloading plugin 'tftp://188.188.36.36/chg_mac.sh' for
configuration section 05-provisioning-script
-----------------------------------------------
03-connectivity-check
-----------------------------------------------
Status              : SUCCESS
Runtime             : 05s
Timestamp           : 2023-04-11 12:56:53 UTC
Ignore Result       : False
-----------------------------------------------
05-provisioning-script
-----------------------------------------------
Status              : IN-PROGRESS
Runtime             :
Timestamp           : 2023-04-11 12:56:56 UTC
Ignore Result       : False
-----------------------------------------------
06-snmp
-----------------------------------------------
Status              : Not Started
Runtime             :
Timestamp           : 2023-04-11 12:55:26 UTC
Ignore Result       : False
```

ARP and NDP Commands

show arp

Displays the IPv4 ARP neighbor cache. If the L3 interface that the ARP entry is learnt is on a VLAN, it also displays the Egress L2 port through which the neighbor MAC is reachable, if not a "-". If the neighbor is not reachable or invalid, the MAC is displayed as "-".

Syntax	`show arp [ vrf <vrfname>] [ <interfacename> | <ipv4address> ]`
Command mode	EXEC
Parameters	▪ `vrfname` – Name of the VRF. Accepts a string of maximum 32 characters. ▪ `interfacename` – Name of the L3 Interface, such as Ethernet0, PortChannel10, Loopback2, Vlan100 or Management0. ▪ `ipv4address` – IPv4 Neighbor Address.
Usage	▪ <vrfname> is optional. If <vrfname> is not given, all the VRFs Neighbor Cache is retrieved. ▪ <interfacename> is optional. If <interfacename> is not given, all Neighbor Cache entries learnt on L3 Interfaces is retrieved. ▪ <ipv4address> is optional. By default, all Neighbors are retrieved if not specified.
Supported Releases	1.1.0 or later
Click command	`show arp -if <interface> [<ipv4address>]`

Example

```
sonic# show arp vrf Vrf-101
Address         MacAddress         Iface      Vlan  Status
--------------  -----------------  -------  ------  --------
```

```
101.101.101.8   00:00:23:88:87:33  -           101  STALE
101.101.101.11  00:00:23:88:87:36  -           101  STALE
101.101.101.10  00:00:23:88:87:35  -           101  STALE
101.101.101.12  00:00:23:88:87:37  -           101  STALE
101.101.101.3   00:00:23:88:87:2e  -           101  STALE
101.101.101.2   00:00:00:0f:d5:29  -           101  STALE
101.101.101.5   00:00:23:88:87:30  -           101  STALE
101.101.101.4   00:00:23:88:87:2f  -           101  STALE
101.101.101.7   00:00:23:88:87:32  -           101  STALE
101.101.101.6   00:00:23:88:87:31  -           101  STALE
101.101.101.9   00:00:23:88:87:34  -           101  STALE
Total number of entries 11

sonic# show arp
Address         MacAddress         Iface        Vlan    Status
--------------  -----------------  -----------  ------  ---------
101.101.101.8   00:00:23:88:87:33  -            101     STALE
101.101.101.11  00:00:23:88:87:36  -            101     STALE
101.101.101.10  00:00:23:88:87:35  -            101     STALE
10.208.81.253   74:86:e2:51:b4:27  Management0  -       STALE
10.208.81.254   74:86:e2:51:2c:27  Management0  -       STALE
101.101.101.12  00:00:23:88:87:37  -            101     STALE
10.208.81.1     00:00:5e:00:01:02  Management0  -       REACHABLE
101.101.101.3   00:00:23:88:87:2e  -            101     STALE
101.101.101.2   00:00:00:0f:d5:29  -            101     STALE
3.1.1.1         -                  Ethernet5    -       FAILED
101.101.101.5   00:00:23:88:87:30  -            101     STALE
101.101.101.4   00:00:23:88:87:2f  -            101     STALE
101.101.101.7   00:00:23:88:87:32  -            101     STALE
101.101.101.6   00:00:23:88:87:31  -            101     STALE
101.101.101.9   00:00:23:88:87:34  -            101     STALE
Total number of entries 15
sonic#
sonic# show arp Management0
Address        MacAddress         Iface        Vlan    Status
-------------  -----------------  -----------  ------  ---------
10.208.81.253  74:86:e2:51:b4:27  Management0  -       STALE
10.208.81.254  74:86:e2:51:2c:27  Management0  -       STALE
10.208.81.1    00:00:5e:00:01:02  Management0  -       REACHABLE
Total number of entries 3
sonic#
sonic# show arp 3.1.1.1
```

```
Address    MacAddress    Iface      Vlan    Status
---------  ------------  ---------  ------  --------
3.1.1.1    -             Ethernet5  -       FAILED
Total number of entries 1
```

---

show ndp

Displays the IPv6 neighbor cache. If the L3 interface that the neighbor entry is learnt is on a VLAN, it also displays the Egress L2 port through which the neighbor MAC is reachable, if not a "-". If the neighbor is not reachable or invalid, the MAC is displayed as "-".

Syntax	`show ndp [ vrf <vrfname>] [ <interfacename> | <ipv6address> ]`
Command mode	EXEC
Parameters	▪ `vrfname` – Name of the VRF. Accepts a string of maximum 32 characters. ▪ `interfacename` – Name of the L3 Interface, such as Ethernet0, PortChannel10, Loopback2, Vlan100 or Management0. ▪ `ipv6address` – IPv6 Neighbor Address.
Usage	▪ <vrfname> is optional. If <vrfname> is not given, all the VRFs Neighbor Cache is retrieved. ▪ <interfacename> is optional. If <interfacename> is not given, all Neighbor Cache entries learnt on L3 Interfaces is retrieved. ▪ <ipv6address> is optional. By default, all Neighbors are retrieved if not specified.
Supported Releases	1.1.0 or later
Click command	`show ndp -if <interface> [<ipv6address>]`

Example

```
sonic# show ndp vrf Vrf-101
Address                   MacAddress         Iface      Vlan  Status
------------------------  -----------------  -------  ------  --------
2023::b:2                 -                  -           101  FAILED
2023::6:2                 00:00:23:88:87:47  -           101  STALE
2023::1:2                 00:00:23:88:87:42  -           101  STALE
2023::8:2                 00:00:23:88:87:49  -           101  STALE
fe80::200:23ff:fe88:8738  00:00:23:88:87:38  -           101  STALE
2023::3:2                 00:00:23:88:87:44  -           101  STALE
2023::a:2                 00:00:23:88:87:4b  -           101  STALE
2023::5:2                 00:00:23:88:87:46  -           101  STALE
2023::7:2                 00:00:23:88:87:48  -           101  STALE
2023::2:2                 00:00:23:88:87:43  -           101  STALE
2023::9:2                 00:00:23:88:87:4a  -           101  STALE
2023::4:2                 00:00:23:88:87:45  -           101  STALE
Total number of entries 12

sonic# show ndp
Address                    MacAddress         Iface        Vlan
Status
-------------------------  -----------------  -----------  ------
---------
fe80::e48:c6ff:fe85:ef5a   0c:48:c6:85:ef:5a  Management0  -       STALE
2023::b:2                  -                  -            101
FAILED
2023::6:2                  00:00:23:88:87:47  -            101     STALE
fe80::eab5:d0ff:fe82:894   e8:b5:d0:82:08:94  Management0  -       STALE
2023::1:2                  00:00:23:88:87:42  -            101     STALE
fe80::36ad:61ff:fef1:a4fa  34:ad:61:f1:a4:fa  Management0  -       STALE
2023::8:2                  00:00:23:88:87:49  -            101     STALE
fe80::200:23ff:fe88:8738   00:00:23:88:87:38  -            101     STALE
2023::3:2                  00:00:23:88:87:44  -            101     STALE
fe80::eab5:d0ff:fe81:ec94  e8:b5:d0:81:ec:94  Management0  -
REACHABLE
2010::2                    -                  Ethernet5    -
FAILED
fe80::eab5:d0ff:fe81:b694  e8:b5:d0:81:b6:94  Management0  -
REACHABLE
2023::a:2                  00:00:23:88:87:4b  -            101     STALE
2023::5:2                  00:00:23:88:87:46  -            101     STALE
2023::7:2                  00:00:23:88:87:48  -            101     STALE
```

```
2023::2:2                 00:00:23:88:87:43  -           101     STALE
2023::9:2                 00:00:23:88:87:4a  -           101     STALE
fe80::36ad:61ff:fef1:a56c 34:ad:61:f1:a5:6c Ethernet5   -       STALE
2023::4:2                 00:00:23:88:87:45  -           101     STALE
fe80::eab5:d0ff:fe81:f794 e8:b5:d0:81:f7:94 Management0 -       STALE
Total number of entries 20
sonic#
sonic# show ndp Management0
Address                   MacAddress         Iface        Vlan
Status
------------------------  -----------------  -----------  ------
---------
fe80::e48:c6ff:fe85:ef5a  0c:48:c6:85:ef:5a  Management0  -       STALE
fe80::eab5:d0ff:fe82:894  e8:b5:d0:82:08:94  Management0  -       STALE
fe80::36ad:61ff:fef1:a4fa 34:ad:61:f1:a4:fa Management0  -       STALE
fe80::eab5:d0ff:fe81:ec94 e8:b5:d0:81:ec:94 Management0  -
REACHABLE
fe80::eab5:d0ff:fe81:b694 e8:b5:d0:81:b6:94 Management0  -
REACHABLE
fe80::eab5:d0ff:fe81:f794 e8:b5:d0:81:f7:94 Management0  -       STALE
Total number of entries 6
sonic#
sonic# show ndp 2023::a:2
Address    MacAddress         Iface      Vlan  Status
---------  -----------------  -------  ------  --------
2023::a:2  00:00:23:88:87:4b  -          101  STALE
Total number of entries 1
```

clear arp

Clears the IPv4 ARP neighbor cache by Neighbour IPv4 Address or L3 Interface or VRF.

Syntax	`clear arp [ vrf <vrfname>] [ <interfacename> | <ipv4address> ]`
Command mode	EXEC
Parameters	▪ `vrfname` – Name of the VRF. Accepts a string of maximum 32 characters.

	▪ `interfacename` – Name of the L3 Interface, such as Ethernet0, PortChannel10, Loopback2, Vlan100 or Management0. ▪ `ipv4address` – IPv4 Neighbor Address.
Usage	▪ <vrfname> is optional. If <vrfname> is not given, all the VRFs Neighbor Cache is retrieved. ▪ <interfacename> is optional. If <interfacename> is not given, all Neighbor Cache entries learnt on L3 Interfaces is retrieved. ▪ <ipv4address> is optional. By default, all Neighbors are retrieved if not specified.
Supported Releases	1.1.0 or later
Click command	`sonic-clear arp [<ipv4address>]`

Example

```
sonic# show arp vrf Vrf-101
Address         MacAddress         Iface      Vlan  Status
--------------  -----------------  -------  ------  --------
101.101.101.8   00:00:23:88:87:33  -            101  STALE
101.101.101.11  00:00:23:88:87:36  -            101  STALE
101.101.101.10  00:00:23:88:87:35  -            101  STALE
101.101.101.12  00:00:23:88:87:37  -            101  STALE
101.101.101.3   00:00:23:88:87:2e  -            101  STALE
101.101.101.2   00:00:00:0f:d5:29  -            101  STALE
101.101.101.5   00:00:23:88:87:30  -            101  STALE
101.101.101.4   00:00:23:88:87:2f  -            101  STALE
101.101.101.7   00:00:23:88:87:32  -            101  STALE
101.101.101.6   00:00:23:88:87:31  -            101  STALE
101.101.101.9   00:00:23:88:87:34  -            101  STALE
Total number of entries 11
sonic# clear arp vrf Vrf-101
sonic# show arp vrf Vrf-101
Address    MacAddress    Iface    Vlan    Status
---------  ------------  -------  ------  --------
Total number of entries 0
sonic#
```

clear ndp

Clears the IPv6 ND neighbor cache by Neighbour IPv6 Address or L3 Interface or VRF.

Syntax	`clear ndp [ vrf <vrfname>] [ <interfacename> | <ipv6address> ]`
Command mode	EXEC
Parameters	▪ `vrfname` – Name of the VRF. Accepts a string of maximum 32 characters. ▪ `interfacename` – Name of the L3 Interface, such as Ethernet0, PortChannel10, Loopback2, Vlan100 or Management0. ▪ `ipv6address` – IPv6 Neighbor Address.
Usage	▪ <vrfname> is optional. If <vrfname> is not given, all the VRFs Neighbor Cache is retrieved. ▪ <interfacename> is optional. If <interfacename> is not given, all Neighbor Cache entries learnt on L3 Interfaces is retrieved. ▪ <ipv6address> is optional. By default, all Neighbors are retrieved if not specified.
Supported Releases	1.1.0 or later
Click command	`sonic-clear ndp [<ipv6address>]`

Example

```
sonic# show ndp vrf Vrf-101
Address                   MacAddress         Iface      Vlan  Status
------------------------  -----------------  -------  ------  --------
2023::b:2                 -                  -           101  FAILED
2023::6:2                 00:00:23:88:87:47  -           101  STALE
2023::1:2                 00:00:23:88:87:42  -           101  STALE
2023::8:2                 00:00:23:88:87:49  -           101  STALE
fe80::200:23ff:fe88:8738  00:00:23:88:87:38  -           101  STALE
2023::3:2                 00:00:23:88:87:44  -           101  STALE
```

```
2023::a:2                 00:00:23:88:87:4b  -           101  STALE
2023::5:2                 00:00:23:88:87:46  -           101  STALE
2023::7:2                 00:00:23:88:87:48  -           101  STALE
2023::2:2                 00:00:23:88:87:43  -           101  STALE
2023::9:2                 00:00:23:88:87:4a  -           101  STALE
2023::4:2                 00:00:23:88:87:45  -           101  STALE
Total number of entries 12
sonic# clear ndp vrf Vrf-101
sonic# show ndp vrf Vrf-101
Address    MacAddress    Iface    Vlan    Status
---------  ------------  -------  ------  --------
Total number of entries 0
sonic#
```

Miscellaneous Show Commands

show vrf

Displays the list of configured VRFs and the bound L3 Interfaces in that VRF.

Syntax	`show vrf [<vrfname>]`
Command mode	EXEC
Parameters	▪ `vrfname` – Name of the VRF that needs to be fetched. Accepts a string of maximum 32 characters.
Usage	▪ <vrfname> is optional. ▪ If <vrfname> is not given, all the VRFs are retrieved.
Supported Releases	1.1.0 or later
Click command	`show vrf [<vrfname>]`

Example

```
sonic# show vrf
VRF      Interfaces
-------  ------------
Vrf-1    Ethernet0
Vrf-101  Vlan101
Vrf-2    Ethernet1

sonic# show vrf Vrf-1
VRF    Interfaces
-----  ------------
Vrf-1  Ethernet0
```

show management_interface address

Displays the IPv4/IPv6 Address configured on the Management Interface.

Syntax	`show managment_interface address`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	`show management_interface address`

Example

```
sonic# show management_interface address
Management IP address = 10.208.81.122/24
Management Network Default Gateway = 10.208.81.1
```

show mgmt-vrf

Displays the Management VRF bound interfaces and its routes.

Syntax	`show mgmt-vrf [routes]`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	`show mgmt-vrf [routes]`

Example

```
sonic# show mgmt-vrf
```

```
ManagementVRF : Enabled

Management VRF interfaces in Linux:
170: mgmt: <NOARP,MASTER,UP,LOWER_UP> mtu 65575 qdisc noqueue state UP
mode DEFAULT group default qlen 1000
    link/ether 4a:b0:a0:33:c8:66 brd ff:ff:ff:ff:ff:ff promiscuity 0
minmtu 1280 maxmtu 65575
    vrf table 5000 addrgenmode eui64 numtxqueues 1 numrxqueues 1
gso_max_size 65536 gso_max_segs 65535

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq master
mgmt state UP mode DEFAULT group default qlen 1000
    link/ether 34:ad:61:f1:a2:87 brd ff:ff:ff:ff:ff:ff
171: lo-m: <BROADCAST,NOARP,UP,LOWER_UP> mtu 1500 qdisc noqueue master
mgmt state UNKNOWN mode DEFAULT group default qlen 1000
    link/ether 76:f1:c4:b7:9e:52 brd ff:ff:ff:ff:ff:ff

sonic# show mgmt-vrf routes

Routes in Management VRF Routing Table:
default via 10.208.81.1 dev eth0 metric 201
unreachable default metric 4278198272
broadcast 10.208.81.0 dev eth0 proto kernel scope link src 10.208.81.122
10.208.81.0/24 dev eth0 proto kernel scope link src 10.208.81.122
local 10.208.81.122 dev eth0 proto kernel scope host src 10.208.81.122
broadcast 10.208.81.255 dev eth0 proto kernel scope link src
10.208.81.122
broadcast 127.0.0.0 dev lo-m proto kernel scope link src 127.0.0.1
127.0.0.0/16 dev lo-m proto kernel scope link src 127.0.0.1
local 127.0.0.1 dev lo-m proto kernel scope host src 127.0.0.1
broadcast 127.0.255.255 dev lo-m proto kernel scope link src 127.0.0.1
```

show ip interfaces

Displays the IPv4 address configured on an L3 Interface and its bound VRF (if any configured).

Syntax	`show ip interfaces [<intrfacename>]`
Command mode	EXEC

Parameters	▪ `interfacename` – Name of the L3 Interface, such as Ethernet0, PortChannel1, Vlan100, Loopback10 or Management0.
Usage	To find the IPv4 addresses configured on an L3 Interface, also the VRF to which it is bound to (if any).
Supported Releases	1.1.0 or later
Click command	`show ip interfaces`

Example

```
sonic# show ip interfaces
Interface     Master    Address            Admin/Oper
------------  --------  -----------------  ------------
Ethernet1     Vrf-2     4.4.4.1/24         UP/UP
Ethernet5               3.1.1.2/24         UP/UP
Loopback0               111.11.1.1/32      UP/UP
PortChannel1            5.5.5.1/24         UP/DOWN
Vlan101       Vrf-101   101.101.101.1/24   UP/UP
Management0   mgmt      10.208.81.122/24   UP/UP

sonic# show ip interfaces Management0
Interface    Master    Address            Admin/Oper
-----------  --------  -----------------  ------------
Management0  mgmt      10.208.81.122/24   UP/UP
sonic#
sonic# show ip interfaces Vlan101
Interface    Master    Address            Admin/Oper
-----------  --------  -----------------  ------------
Vlan101      Vrf-101   101.101.101.1/24   UP/UP
```

---

show ipv6 interfaces

Displays the IPv6 address configured on an L3 Interface and its bound VRF (if any configured). It also displays the auto-configured Link-local IPv6, by the Kernel.

Syntax	`show ipv6 interfaces [<intrfacename>]`

Command mode	EXEC
Parameters	▪ `interfacename` – Name of the L3 Interface, such as Ethernet0, PortChannel1, Vlan100, Loopback10 or Management0.
Usage	To find the IPv6 addresses configured on an L3 Interface, also the VRF to which it is bound to (if any).
Supported Releases	1.1.0 or later
Click command	`show ipv6 interfaces`

Example

```
sonic# show ipv6 interfaces
Interface       Master    Address                          Admin/Oper
--------------  --------  -------------------------------  ------------
Ethernet0       Vrf-1     fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet1       Vrf-2     fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet2                 fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet3                 fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet4                 fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet5                 2010::1/64                    UP/UP
                          fe80::36ad:61ff:fef1:a287/64
Ethernet6                 fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet7                 fe80::36ad:61ff:fef1:a287/64  UP/UP
Ethernet47                fe80::36ad:61ff:fef1:a287/64  UP/DOWN
Loopback0                 fe80::70ba:7dff:fe90:792b/64  UP/UP
Loopback1                 fe80::14cb:54ff:fe95:32c7/64  UP/UP
PortChannel256            2011::1/64                    UP/DOWN
Vlan101         Vrf-101   2023::1:1/64                  UP/UP
                          fe80::36ad:61ff:fef1:a287/64
Management0     mgmt      fe80::36ad:61ff:fef1:a287/64  UP/UP

sonic# show ipv6 interfaces Management0
Interface    Master    Address                          Admin/Oper
-----------  --------  -------------------------------  ------------
Management0  mgmt      fe80::36ad:61ff:fef1:a287/64  UP/UP
sonic#
sonic# show ipv6 interfaces PortChannel256
Interface       Master    Address     Admin/Oper
```

```
--------------  --------  ----------  ------------
PortChannel256            2011::1/64  UP/DOWN
sonic#
sonic# show ipv6 interfaces Ethernet5
Interface    Master    Address                        Admin/Oper
-----------  --------  -----------------------------  ------------
Ethernet5              2010::1/64                     UP/UP
                       fe80::36ad:61ff:fef1:a287/64
sonic#
```

Quality of Service

QoS manages network resources and prioritizes traffic to balance system resources.

Congestion Avoidance (Weighted Early Random Detection)

qos wred-profile

Configures a WRED profile.

Syntax	`qos wred-profile <name>`
Command mode	CONFIG
Parameters	▪ `name` – Alphanumeric string including - and _ (Maximum: 32 characters).
Usage	Use `no qos wred-profile <name>` to remove a WRED profile.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos wred-profile test1
sonic(config-wred-test1)#

sonic(config)# no qos wred-profile test1
```

random-detect color

Configures WRED threshold parameters for different colors in WRED CONFIGURATION mode.

Syntax	`random-detect color <color-name> min-threshold <min-th-value> max-threshold <max-th-value> drop-probability <drop-rate>`
Command mode	WRED CONFIGURATION
Parameters	▪ `color-name` – Enter the color of drop precedence for the WRED profile. Available options are green, yellow, and red. ▪ `min-th-value` – Enter the minimum threshold value for the specified color, from 1 to 67108608. ▪ `max-th-value` – Enter the maximum threshold value for the specified color, from 1 to 67108608. ▪ `drop-rate` – Enter the rate of drop precedence in percentage, from 0 to 100.
Usage	Use `no random-detect color <color-name>` to restore the default settings of a WRED drop profile. By default, the parameters are not configured.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-wred-test1)# random-detect color green min-threshold 100
max-threshold 300 drop-probability 100
sonic(config-wred-test1)# random-detect color yellow min-threshold 256
max-threshold 2560 drop-probability 50
sonic(config-wred-test1)#

sonic(config-wred-test1)# no random-detect color green
sonic(config-wred-test1)# no random-detect color yellow
```

random-detect ecn

Enables explicit congestion notification (ECN) for different colors of a WRED profile.

Syntax	`random-detect ecn <value>`
Command mode	WRED CONFIGURATION
Parameters	▪ `ecn_green` – Enable ECN marking for green color. Yellow and red are disabled. ▪ `ecn_yellow` – Enable ECN marking for yellow color. Green and red are disabled. ▪ `ecn_red` – Enable ECN marking for red color. Green and yellow are disabled. ▪ `ecn_green_yellow` – Enable ECN marking for green and yellow colors. Red is disabled. ▪ `ecn_green_red` – Enable ECN marking for green and red colors. Yellow is disabled. ▪ `ecn_yellow_red` – Enable ECN marking for yellow and red colors. Green is disabled. ▪ `ecn_all` – Enable ECN marking for all colors.
Usage	▪ Use `no random-detect ecn` to restore the default settings `none` for ECN. ▪ By default, ECN marking for all colors is disabled.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-wred-test1)# random-detect ecn ecn_green
sonic(config-wred-test1)# random-detect ecn ecn_red

sonic(config-wred-test1)# random-detect ecn ecn_yellow_red

sonic(config-wred-test1)# no random-detect ecn
```

show qos wred-profile

Displays the details of WRED profile configuration.

Syntax	`show qos wred-profile [wred-profile-name]`
Command mode	EXEC
Parameters	▪ `wred-profile-name` – (Optional) Alphanumeric string including - and _ (Maximum: 32 characters).
Usage	If `wred-profile-name` is not given, all the WRED profile settings will be displayed.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos wred-profile
                  |               Green           |
Yellow          |               Red             |            |
Profile Name      |-------------------------------
|-------------------------------|-------------------------------
|            |
                  |       MIN        MAX DROP-RATE|       MIN
MAX DROP-RATE|       MIN        MAX DROP-RATE|         ECN|
                  |     Bytes      Bytes         %|     Bytes
Bytes         %|     Bytes      Bytes         %|            |
------------------|-------------------------------
|-------------------------------|-------------------------------
|------------|
12                |                                |       256
2560        50|                                |        none|
------------------|-------------------------------
|-------------------------------|-------------------------------
|------------|
test1             |       100        300       100|       256
2560        50|                                |       green|
------------------|-------------------------------
|-------------------------------|-------------------------------
|------------|
sonic#
```

```
sonic# show qos wred-profile test1
                  |               Green           |
Yellow          |               Red             |            |
Profile Name      |-------------------------------
|-------------------------------|-------------------------------
|            |
                  |       MIN        MAX DROP-RATE|       MIN
MAX DROP-RATE|       MIN        MAX DROP-RATE|         ECN|
                  |     Bytes      Bytes         %|     Bytes
Bytes         %|     Bytes      Bytes         %|            |
-----------------|-------------------------------
|-------------------------------|-------------------------------
|------------|
test1             |       100        300       100|       256
2560        50|                                 |       green|
-----------------|-------------------------------
|-------------------------------|-------------------------------
|------------|
sonic#
```

---

show qos wred interface

Displays the WRED configuration applied to a specific interface queue.

Syntax	`show qos wred interface Ethernet {all | <if-id> [queue <qindex-id>]}`
Command mode	EXEC
Parameters	▪ `if-id` – Ethernet interface identifier. ▪ `qindex-id` – Individual queue index. Valid value: 0 – 7.
Usage	▪ If `all` is selected, displays the WRED configuration applied to all interface queues. ▪ If `qindex-id` is not given, displays the WRED configuration applied to all queues of an interface.
Supported Releases	1.0.0 or later

Click command	None

Example

```
sonic# show qos wred interface Ethernet all

Ethernet1
 queue:   1
     wred_profile:  test1
 queue:   3
     wred_profile:  12
 queue:   5
     wred_profile:  12

Ethernet46
 queue:   2
     wred_profile:  test1
 queue:   4
     wred_profile:  test1
sonic#
sonic# show qos wred interface Ethernet 1

Ethernet1
 queue:   1
     wred_profile:  test1
 queue:   3
     wred_profile:  12
 queue:   5
     wred_profile:  12
sonic#
sonic# show qos wred interface Ethernet 1 queue 1

Ethernet1
 queue:   1
     wred_profile:  test1
sonic#
sonic# show qos wred interface Ethernet 1 queue 5

Ethernet1
 queue:   5
     wred_profile:  12
sonic#
```

Qos Maps

Create Dot1p to Traffic Class map

Dot1p-to-tc mapping assigns an 802.1p priority to the internal traffic class on the device. This command creates a mapping with default assignments, that is, dot1p priority 0 to internal traffic class 0, dot1p priority 1 to internal traffic class 0, dot1p priority 2 to internal traffic class 0, and so on.

Syntax	`qos map dot1p-tc <qos-map-name>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32 characters).
Usage	Use `no qos map dot1p-tc <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos map dot1p-tc MAP1
sonic(config)# no qos map dot1p-tc MAP1
```

Configure Dot1p to Traffic Class map entries

Configures the dot1p priority to traffic class map entries.

Syntax	`dot1p <dot1p-values> traffic-class <traffic-class>`
Command mode	QoS Map Configuration

Parameters	▪ `dot1p-values` – Enter the dot1p values as a range or/ and comma separated list, that is, (-) or (,) separated individual dot1p and range of dot1p. Example: 0,2-7.
Usage	Use `no dot1p <dot1p-values>` to unconfigure a qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-dot1p-tc-MAP1)# dot1p 0-2,7 traffic-class 0
sonic(config-dot1p-tc-MAP1)# no dot1p 0-2,7
```

Create DSCP to Traffic Class map

Dscp-to-tc mapping assigns a DSCP to the internal traffic class on the device. This command creates a mapping with default assignments, that is, DSCP 0 to internal traffic class 0, DSCP 1 to internal traffic class 0, and so on.

Syntax	`qos map dscp-tc <qos-map-name>dot1p <dot1p-values> traffic-class <traffic-class>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32 characters).
Usage	Use `no qos map dscp-tc <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos map dscp-tc MAP1
sonic(config)# no qos map dscp-tc MAP1
```

Configure DSCP to Traffic Class map entries

Configures the DSCP to traffic class map entries.

Syntax	`dscp <dscp-values> traffic-class <traffic-class>`
Command mode	QoS Map Configuration
Parameters	▪ `dscp-values` – Enter the DSCP values as a range or/ and comma separated list, that is,. (-) or (,) separated individual DSCP and range of DSCP. Example: 5,18,22-37. ▪ `traffic-class` – Enter the traffic class value to be mapped to the dot1p(s).
Usage	Use `no dscp <dscp-values>` to unconfigure a qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-dscp-tc-MAP1)# dscp 10-22,37 traffic-class 0
sonic(config-dscp-tc-MAP1)# no dscp 12
```

Create Traffic Class to Dot1p map

Tc-to-dot1p mapping assigns internal traffic class to 802.1p priority for remarking on outgoing

packets. This command creates a mapping with default assignments, that is, internal traffic class 0 to dot1p 0, internal traffic class 1 to dot1p 0, and so on.

Syntax	`qos map tc-dot1p <qos-map-name>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32 characters).
Usage	Use `no qos map tc-dot1p <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos map tc-dot1p MAP1
sonic(config)# no qos map tc-dot1p MAP1
```

Configure Traffic Class to Dot1p map entries

Configures the DSCP to traffic class map entries.

Syntax	`traffic-class <tc-values> dot1p <dot1p>`
Command mode	QoS Map Configuration
Parameters	▪ `tc-values` – Enter the traffic class values as a range or/and comma separated list, that is, (-) or (,) separated individual tc and range of tc. Example: 0,2-7. ▪ `dot1p` – Enter the dot1p value to be mapped to the traffic class(es).
Usage	Use `no traffic-class <tc-values>` to unconfigure a

	qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-tc-dot1p-MAP1)# traffic-class 2-4 dot1p 3
sonic(config-tc-dot1p-MAP1)# no traffic-class 2-4
```

Create Traffic Class to DSCP map

Tc-to-dscp mapping assigns internal traffic class to DSCP for remarking on outgoing packets. This command creates a mapping with default assignments, that is, internal traffic class 0 to dscp 0, internal traffic class 1 to dscp 0, and so on.

Syntax	`qos map tc-dscp <qos-map-name>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32 characters).
Usage	Use `no qos map tc-dscp <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos map tc-dscp MAP1
sonic(config)# no qos map tc-dscp MAP1
```

Configure Traffic Class to DSCP map entries

Configures the traffic class to dscp map entries.

Syntax	`traffic-class <tc-values> dscp <dscp>`
Command mode	QoS Map Configuration
Parameters	▪ `tc-values` – Enter the traffic class values as a range or/and comma separated list, that is, (-) or (,) separated individual tc and range of tc. Example: 0,2-7. ▪ `dscp` – Enter the DSCP value to be mapped to the traffic class(es).
Usage	Use `no traffic-class <tc-values>` to unconfigure a qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-tc-dscp-MAP1)# traffic-class 2-4 dscp 3
sonic(config-tc-dscp-MAP1)# no traffic-class 5
```

Create Traffic Class to Queue map

Tc-to-queue mapping assigns traffic class to a queue. This command creates a mapping with default assignments, that is, internal traffic class 0 to queue 0, internal traffic class 1 to queue 0, and so on. Note that this has to be applied on the ingress interface.

Syntax	`qos map tc-queue <qos-map-name>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32

	characters).
Usage	Use `no qos map tc-queue <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config)# qos map tc-queue MAP1
sonic(config)# no qos map tc-queue MAP1
```

Configure Traffic Class to Queue map entries

Configures the traffic class to queue map entries.

Syntax	`traffic-class <tc-values> queue <queue>`
Command mode	QoS Map Configuration
Parameters	▪ `tc-values` – Enter the traffic class values as a range or/and comma separated list, that is, (-) or (,) separated individual tc and range of tc. Example: 0,2-7. ▪ `queue` – Enter the queue value to be mapped to the traffic class(es).
Usage	Use `no traffic-class <tc-values>` to unconfigure a qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config-tc-queue-MAP1)# traffic-class 2-4 queue 3
sonic(config-tc-queue-MAP1)# no traffic-class 3
```

Create Traffic Class to Priority Group map

Tc-to-priority-group mapping assigns traffic class to a priority group. This command creates a mapping with default assignments, that is, internal traffic class 0 to queue 0, internal traffic class 1 to queue 0, and so on.

Syntax	`qos map tc-pg <qos-map-name>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32 characters).
Usage	Use `no qos map tc-pg <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos map tc-pg MAP1
sonic(config)# no qos map tc-pg MAP1
```

Configure Traffic Class to Priority Group map entries

Configures the traffic class to priority-group map entries.

Syntax	`traffic-class <tc-values> priority-group <priority-group>`
Command mode	QoS Map Configuration
Parameters	▪ `tc-values` – Enter the traffic class values as a range or/and comma separated list, that is, (-) or (,) separated individual tc and range of tc. Example: 0,2-7. ▪ `priority-group` – Enter the priority group value to be mapped to the traffic class(es).
Usage	Use `no traffic-class <tc-values>` to unconfigure a qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-tc-pg-MAP1)# traffic-class 2-4 priority-group 3
sonic(config-tc-pg-MAP1)# no traffic-class 3
```

Create PFC Priority to Queue map

Pfc-to-priority-queue mapping assigns PFC packet priority to a queue. This command creates a mapping with default assignments, that is, pfc 0 to queue 0, pfc 1 to queue 0, and so on.

Syntax	`qos map pfc-priority-queue <qos-map-name>`
Command mode	CONFIG
Parameters	▪ `qos-map-name` – Enter the name of the qos map (Alphanumeric string including - and _ up to 32 characters).
Usage	Use

	`no qos map pfc-priority-queue <qos-map-name>` to unconfigure a qos map.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config)# qos map pfc-priority-queue MAP1
sonic(config)# no qos map pfc-priority-queue MAP1
```

Configure PFC Priority to Queue map entries

Configures the pfc priority to queue map entries.

Syntax	`pfc-priority <pfc-priority> queue <queue-index>`
Command mode	QoS Map Configuration
Parameters	▪ `pfc-priority` – Enter the PFC priority values as a range or/and comma separated list, that is, (-) or (,) separated individual pfc priority and range of pfc priority. Example: 0,2-7. ▪ `queue-index` – Enter the queue value to be mapped to the pfc priority.
Usage	Use `no pfc-priority <pfc-priority>` to unconfigure a qos mapping and reset it to default mapping.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config-pfc-priority-queue-MAP1)# pfc-priority 2-4 queue 3
sonic(config-pfc-priority-queue-MAP1)# no pfc-priority 3
```

Show qos maps

Displays the QoS maps configured by the user.

Syntax	`show qos maps {dot1p-tc|dscp-tc|pfc-priority-queue|tc-dot1p|tc-dscp|tc-pg|tc-queue} [qos-map-name]`
Command mode	EXEC
Parameters	▪ `qos-map-name` – Enter the name of the QoS map to be displayed.
Usage	If qos map name is not specified, all QoS maps of the specified type will be displayed.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos map
  dot1p-tc             Display Dot1p to Traffic Class QoS Maps
  dscp-tc              Display DSCP to Traffic Class QoS Maps
  pfc-priority-queue   Display PFC priority to Queue QoS Maps
  tc-dot1p             Display Traffic Class to Dot1p QoS Maps
  tc-dscp              Display Traffic Class to DSCP QoS Maps
  tc-pg                Display Traffic Class to Priority Group QoS Maps
  tc-queue             Display Traffic Class to Queue QoS Maps

sonic# show qos map dot1p-tc
DOT1P-TC-MAP: dot1p-tc01
-------------------------------------------------------
```

```
  DOT1P   |    TC
----------------------------------------------------------
    0     |    7
    1     |    6
    2     |    5
    3     |    4
    4     |    3
    5     |    2
    6     |    1
    7     |    0
----------------------------------------------------------
DOT1P-TC-MAP: dot1p-tc02
----------------------------------------------------------
  DOT1P   |    TC
----------------------------------------------------------
    0     |    0
    1     |    1
    2     |    2
    3     |    3
    4     |    4
    5     |    5
    6     |    6
    7     |    7
```

Attach qos map to interface

Binds a configured QoS map to an interface.

Syntax	`qos-map {dot1p-tc|dscp-tc|pfc-priority-queue|tc-dot1p|tc-dscp|tc-pg|tc-queue} [<qos-map-name>]`
Command mode	Ethernet Interface Configuration
Parameters	▪ `qos-map-name` – Enter the name of the QoS map.
Usage	Use `no qos-map {dot1p-tc|dscp-tc|pfc-priority-queue|tc-dot1p|tc-dscp|tc-pg|tc-queue}`

	to unbind a qos map from the interface.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet0)# qos-map dot1p-tc MAP1
sonic(conf-if-Ethernet0)# no qos-map dot1p-tc
```

Show qos maps attached to interface

Displays the QoS maps bound to interface.

Syntax	`show qos interface {Ethernet <Ethernet-id>|all}`
Command mode	EXEC
Parameters	▪ `Ethernet-id` – Enter the ID of the Ethernet interface.
Usage	Specify keyword `all` to display QoS maps configured on all interfaces.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos interface Ethernet 16
Interface : Ethernet16
  pfc-priority-queue-map : pfc-priority-queue02
  tc-priority-group-map  : tc-pg01
  tc-queue-map           : tc-queue01
  pfc-asymmetric :
  pfc-priority   :
```

```
  PFC Watchdog
    Action            :
    Detection Time    :
    Restoration Time  :

sonic# show qos interface Ethernet all
            |
|
|               Priority-Flow-Control
            | Scheduler|                          Interface
Maps                         |asym               --------- WATCHDOG
------------
Interface   |    Policy| dot1p-tc  dscp-tc  pfc-p2q tc-dot1p  tc-
dscp    tc-pg tc-queue |mode      priority     action    detect
restore
------------+----------+--------- -------- -------- -------- --------
-------- ---------+---- ------------- ---------- --------- ----------
Ethernet0   |          | dot1p-tc dscp-tc0 pfc-prio tc-dot1p tc-dscp0
tc-pg01 tc-queue |
Ethernet12  |          | dot1p-tc                             tc-
dscp0                   |
Ethernet16  |          |                   pfc-prio
tc-pg01 tc-queue |
Ethernet4   |          | dot1p-tc dscp-tc0 pfc-prio tc-dot1p tc-dscp0
tc-pg01 tc-queue |
Ethernet8   |          | dot1p-tc dscp-tc0 pfc-prio tc-dot1p tc-dscp0
tc-pg02 tc-queue |
sonic#
```

Scheduler

Enter scheduler configuration mode

Enters scheduler configuration mode.

Syntax	`qos scheduler-policy <scheduler-policy-name>`
Command mode	CONFIG

Parameters	▪ `scheduler-policy-name` – Enter the name of the scheduler policy.
Usage	Use `no qos scheduler-policy <scheduler-policy-name>` to delete a scheduler policy.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config)# qos scheduler-policy POL1
sonic(config)# no qos scheduler-policy POL1
```

Configure scheduler policy per queue

Enters scheduler configuration mode for queue and configures default parameters. By default, Weighted Round Robin (WRR) with weight 1 is configured on the queue.

Syntax	`queue <queue-index>`
Command mode	Scheduler Configuration
Parameters	▪ `queue-index` – Enter the queue index.
Usage	Use `no queue <queue-index>` to delete queue's scheduler policy.
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic(config-scheduler-POL1)# queue 0
sonic(config-scheduler-POL1)# no queue 0
```

Configure scheduler algorithm

Configures scheduler algorithm and weight for the queue.

Syntax	`type {wrr|dwrr|strict}`
Command mode	Scheduler Queue Configuration
Parameters	None
Usage	Use `no type` to reset the scheduler algorithm.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-scheduler-S1-queue-0)# type wrr
sonic(config-scheduler-S1-queue-0)# no type
```

Configure weight for queue scheduling

Configures the weight for the queue.

Syntax	`weight <weight>`
Command mode	Scheduler Queue Configuration
Parameters	▪ `weight` – Enter the weight of the queue for WRR and DWRR.

Usage	Use `no weight` to reset the weight of the queue to 1.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-scheduler-S1-queue-0)# weight 10
sonic(config-scheduler-S1-queue-0)# no weight
```

Attach scheduler policy to interface

Attaches a configured scheduler policy to the interface.

Syntax	`scheduler-policy <scheduler-policy-name>`
Command mode	Ethernet Interface Configuration
Parameters	▪ `scheduler-policy-name` – Name of the configured scheduler policy.
Usage	Use `no scheduler-policy` to detach scheduler policy from interface.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# scheduler-policy S1
sonic(conf-if-Ethernet8)# no scheduler-policy
```

Show scheduler policy

Displays the specified scheduler's configuration.

Syntax	`show qos scheduler-policy [<scheduler-policy-name>]`
Command mode	EXEC
Parameters	▪ `scheduler-policy-name` – (Optional) Alphanumeric string including - and _ (Maximum: 32 characters).
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos scheduler-policy
Scheduler Policy: test1
  queue: 1
         type   : STRICT
         weight : 10
  queue: 2
         type   : WRR
         weight : 20
  queue: 3
         type   : DWRR
         weight : 30

Scheduler Policy: test2
  queue: 2
         type   : DWRR
         weight : 22

sonic# show qos scheduler-policy test2
Scheduler Policy: test2
  queue: 2
         type   : DWRR
         weight : 22
```

Show scheduler policy interface

Displays the scheduler's configuration on interface.

Syntax	`show qos scheduler-policy interface Ethernet {all | <if-id>}`
Command mode	EXEC
Parameters	▪ `if-id` – Ethernet interface identifier.
Usage	If `all` is selected, displays the scheduler configuration applied to all interface.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos scheduler-policy interface Ethernet all
Interface : Ethernet0
  Scheduler Policy: test4

Interface : Ethernet1
  Scheduler Policy: test1

Interface : Ethernet12
  Scheduler Policy: test3

sonic# show qos scheduler-policy interface Ethernet 1
Interface : Ethernet1
  Scheduler Policy: test1
```

Buffer Management

Enable Buffer management

Init the buffer management feature.

Syntax	`qos buffer-mgmt {enable|disable}`
Command mode	CONFIG
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# qos buffer-mgmt enable
```

Create Buffer profile

Creates the buffer profile.

Syntax	`buffer-profile ingress profile-name <buffer-profile-name> buffer-pool- name <buffer-pool> {dynamic-threshold <threshold-value>|static-threshold<threshold-value>} [xon <xon-value> | headroom <hdrm-value> | size <size>]`
Command mode	CONFIG
Parameters	▪ `buffer-profile-name` – Buffer profile name (Maximum: 64 characters). ▪ `buffer-pool-name` – Valid ingress buffer pool name. ▪ `threshold-value` – Static or Dynamic threshold. ▪ `xon-value` – Resume threshold. ▪ `hdrm-value` – Maximum headroom value for this buffer profile that can use from global headroom buffer. ▪ `size` – Dedicated size.

Usage	Use `no buffer-profile profile-name <buffer-profile-name>` to remove buffer profile.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# buffer-profile ingress profile-name
ingress_lossless_profile  buffer-pool-name ingress_lossy_pool dynamic-
threshold 3 headroom 2560 xon 25600
sonic(config)# no qos buffer-profile profile-name
ingress_lossless_profile
```

Configure the Egress buffer Profile

Configures the Egress buffer profile.

Syntax	`buffer-profile egress profile-name <buffer-profile-name> buffer-pool-name <buffer-pool> {dynamic-threshold <threshold-value>|static-threshold<threshold-value>} [size <size>]`
Command mode	CONFIG
Parameters	▪ `buffer-profile-name` – Buffer profile name (Maximum: 64 characters). ▪ `buffer-pool-name` – Valid ingress buffer pool name. ▪ `threshold-value` – Static or Dynamic threshold.
Usage	Use `no buffer-profile profile-name <buffer-profile-name>` to remove buffer profile.

Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# buffer-profile egress profile-name
egress_lossless_profile  pool-name egress_lossless_pool static-
threshold 25600
```

Attach Buffer profile to priority group

Attaches buffer profile to a priority group.

Syntax	`[no] buffer-pg-profile name <ingress-buffer-prof-name> priority-group <pg-range>`
Command mode	Ethernet Interface
Parameters	▪ `ingress-buffer-prof-name` – Ingress buffer profile name. ▪ `pg-range` – Priority group range.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet48)# buffer-pg-profile name
ingress_lossless_profile priority-group 2-5
sonic(conf-if-Ethernet48)# no buffer-pg-profile name
ingress_lossless_profile priority-group 2
```

Attach Buffer profile to queue

Attaches buffer profile to a queue.

Syntax	`[no] buffer-queue-profile name <egress-buffer-prof-name> queue-id <qid-range>`
Command mode	Ethernet Interface
Parameters	▪ `egress-buffer-prof-name` – Egress buffer profile name. ▪ `qid-range` – QID range.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet48)# buffer-queue-profile name
egress_lossless_profile queue-id 2
sonic(conf-if-Ethernet48)# no buffer-queue-profile name
egress_lossless_profile queue-id 2
```

Enable Pfc

Enables/disables the priority flow control mode on priority group.

Syntax	`priority-flow-control mode {enable|disbale} <pg-id>`
Command mode	Ethernet Interface
Parameters	▪ `enable` – Enable symmetric PFC on pg. ▪ `disable` – Disable PFC on pg.

Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet48)# priority-flow-control mode enable 3
sonic(conf-if-Ethernet48)# priority-flow-control mode disable 3
```

Show Buffer pool

Displays the buffer pool configuration.

Syntax	`show qos buffer-pool`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# do show qos buffer-pool
-------------------------------------------------------------------------
------------------
BufferName                                Type           Mode
Size
-------------------------------------------------------------------------
------------------
egress_lossless_pool                   Egress         dynamic
15982720
egress_lossy_pool                      Egress         dynamic
```

```
9243812
ingress_lossless_pool                   Ingress         dynamic
21881408
ingress_lossy_pool                      Ingress         dynamic
10000
```

Show Buffer profile

Displays the buffer profile configuration.

Syntax	`show qos buffer-profile`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config)# do show qos buffer-profile
BufferProfile : test
BufferPool    : ingress_lossy_pool
Dynamic Threshold : 3
Pause Threshold : 55120
Resume Threshold : 18432
Size : 56368
```

Show interface Priority group

Displays the interface priority group configuration.

Syntax	`show qos buffer-interface Ethernet {all|<interface-id>} {priority-group|queue}`
Command mode	EXEC
Parameters	▪ `interface_id` – Enter the interface number on which buffer profile settings to be shown.
Usage	If interface ID is not given, all the interfaces' configured buffer profile will be displayed.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos buffer-interface Ethernet 48 priority-group
------------------------------------------------------------------------
------------------
Interface                     Buffer-Profile                Priority-
Group
------------------------------------------------------------------------
------------------
Ethernet48                          tst                          4

sonic# show qos buffer-interface Ethernet all priority-group
------------------------------------------------------------------------
------------------
Interface                     Buffer-Profile                Priority-
Group
------------------------------------------------------------------------
------------------
Ethernet48                          tst                          4
```

Show interface Queue Profile

Displays the interface queue profile configuration.

Syntax	`show qos buffer-interface Ethernet {all|<interface-id>} {priority-group|queue}`
Command mode	EXEC
Parameters	▪ `interface_id` – Enter the interface number on which buffer profile settings to be shown.
Usage	If interface ID is not given, all the interfaces' configured buffer profile will be displayed.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show qos buffer-interface Ethernet all queue
------------------------------------------------------------------------
------------------
Interface                       Buffer-Profile
Queue-Id
------------------------------------------------------------------------
------------------
Ethernet48
egress_lossless_profile                          4
```

show PFC interface status

Displays the PFC interface status.

Syntax	`show qos pfc interface Ethernet {all | <if-id>}`
Command mode	EXEC
Parameters	▪ `if-id` – Ethernet interface identifier.
Usage	If interface name is not given, all interfaces' pfc status will be

	displayed.
Supported Releases	1.1.0 or later
Click command	`show pfc priority [<interface_name>]`

Example

```
sonic# show qos pfc interface Ethernet 2
Interface    Priority
-----------  ----------------
Ethernet1    2


sonic# show qos pfc interface Ethernet all
Interface    Priority
-----------  ----------------
Ethernet1    1
Ethernet2    2
```

Queue

show queue counters

Displays packet and byte counters for queues.

Syntax	`show queue counters [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – (Optional) Ethernet interface identifier.
Usage	If interface name is not given, all interfaces' queue counters will be displayed.
Supported Releases	1.1.0 or later
Click command	`show queue counters [<interface_name>]`

Example

```
sonic# show queue counters Ethernet 47
      Port    TxQ    Counter/pkts    Counter/bytes    Drop/pkts    Drop/
bytes
----------  -----  --------------  ---------------  -----------
------------
Ethernet47   UC0             174            43542
0             0
Ethernet47   UC1             100            10000
0             0
Ethernet47   UC2             200            20000
0             0
Ethernet47   UC3             300            30000
0             0
Ethernet47   UC4             400            40000
0             0
Ethernet47   UC5             100            10000
0             0
Ethernet47   UC6             600            60000
0             0
Ethernet47   UC7             700            70000
0             0
Ethernet47   MC8             100            10000
0             0
Ethernet47   MC9             200            20000
0             0
Ethernet47  MC10             300            30000
0             0
Ethernet47  MC11           25529          2552900
0             0
Ethernet47  MC12             400            40000
0             0
Ethernet47  MC13             500            50000
0             0
Ethernet47  MC14             600            60000
0             0
Ethernet47  MC15             700            70000
0             0

sonic# show queue counters
      Port    TxQ    Counter/pkts    Counter/bytes    Drop/pkts    Drop/
bytes
```

```
----------  -----  --------------  ---------------  -----------
------------
Ethernet0    UC0              223            55451
0             0
Ethernet0    UC1                0                0
0             0
Ethernet0    UC2                0                0
0             0
Ethernet0    UC3                0                0
0             0
Ethernet0    UC4                0                0
0             0
Ethernet0    UC5                0                0
0             0
Ethernet0    UC6                0                0
0             0
Ethernet0    UC7                0                0
0             0
Ethernet0    MC8                0                0
0             0
Ethernet0    MC9                0                0
0             0
Ethernet0   MC10                0                0
0             0
Ethernet0   MC11                0                0
0             0
Ethernet0   MC12                0                0
0             0
Ethernet0   MC13                0                0
0             0
Ethernet0   MC14                0                0
0             0
Ethernet0   MC15                0                0
0             0

Ethernet1    UC0              223            55451
0             0
Ethernet1    UC1                0                0
0             0
Ethernet1    UC2                0                0
0             0
Ethernet1    UC3                0                0
```

```
0             0
Ethernet1    UC4              0                0
0             0
Ethernet1    UC5              0                0
0             0
Ethernet1    UC6              0                0
0             0
Ethernet1    UC7              0                0
0             0
Ethernet1    MC8              0                0
0             0
Ethernet1    MC9              0                0
0             0
Ethernet1   MC10              0                0
0             0
Ethernet1   MC11              0                0
0             0
Ethernet1   MC12              0                0
0             0
Ethernet1   MC13              0                0
0             0
Ethernet1   MC14              0                0
0             0
Ethernet1   MC15              0                0
0             0
...
```

---

show queue watermark

Displays queue watermark.

Syntax	`show queue {watermark | persistent-watermark} {all | unicast | multicast} [Ethernet <if-id>]`
Command mode	EXEC
Parameters	▪ `if-id` – (Optional) Ethernet interface identifier.

Usage	▪ If `persistent-watermark` is selected, displays the watermark from switch boot or last clear of persistent watermark. ▪ If `all` is selected, displays both unicast and multicast queue watermarks. ▪ If interface name is not given, all interfaces' queue watermarks will be displayed.
Supported Releases	1.1.0 or later
Click command	`show queue {watermark | persistent-watermark} {all | unicast | multicast}`

Example

```
sonic# show queue watermark unicast Ethernet 10
Egress queue watermark per unicast queue:
      Port      UC0      UC1      UC2      UC3      UC4      UC5
UC6      UC7
---------- -------- -------- -------- -------- -------- --------
-------- --------
Ethernet10      512        0        0        0        0        0
0        0

sonic# show queue watermark multicast Ethernet 10
Egress queue watermark per multicast queue:
      Port      MC8      MC9     MC10     MC11     MC12     MC13
MC14     MC15
---------- -------- -------- -------- -------- -------- --------
-------- --------
Ethernet10      256        0        0        0        0        0
0        0

sonic# show queue watermark all Ethernet 10
Egress queue watermark per all queue:
      Port      UC0      UC1      UC2      UC3      UC4      UC5
UC6      UC7      MC8      MC9     MC10     MC11     MC12     MC13
MC14     MC15
---------- -------- -------- -------- -------- -------- --------
-------- -------- -------- -------- -------- -------- -------- --------
-------- --------
```

```
Ethernet10      512         0         0         0         0         0
0         0      256         0         0         0         0         0
0         0



sonic# show queue watermark all
Egress queue watermark per all queue:
      Port      UC0      UC1      UC2      UC3      UC4      UC5
UC6      UC7      MC8      MC9     MC10     MC11     MC12     MC13
MC14     MC15
---------- -------- -------- -------- -------- -------- --------
-------- -------- -------- -------- -------- -------- -------- --------
-------- --------
Ethernet0          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet1          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet2          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet3          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet4          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet5          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet6          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet7          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet8          0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet9          0         0         0         0         0         0
```

```
0         0         0         0         0         0         0         0
0         0
Ethernet10      512         0         0         0         0         0
0         0       256         0         0         0         0         0
0         0
Ethernet11      512         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet12      512         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet13      512         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet14      512         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet15      512         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet16        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet17        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet18        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet19        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet20        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet21        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet22        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet23        0         0         0         0         0         0
```

```
0         0         0         0         0         0         0         0
0         0
Ethernet24        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet25        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet26        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet27        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet28        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet29        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet30        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet31        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet32        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet33        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet34        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet35        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet36        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet37        0         0         0         0         0         0
```

```
0         0         0         0         0         0         0         0
0         0
Ethernet38        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet39        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet40        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet41        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet42        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet43        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet44        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet45        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet46        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet47        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet48        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet49        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet50        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet51        0         0         0         0         0         0
```

```
0         0         0         0         0         0         0         0
0         0
Ethernet52        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet53        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet54        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
Ethernet55        0         0         0         0         0         0
0         0         0         0         0         0         0         0
0         0
```

Telemetry

Telemetry mode

Enters into telemetry to access telemetry related configurations.

Syntax	`telemetry`
Command mode	CONFIG
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config)# telemetry
sonic(conf-telemetry)#
```

Server port

Configures the server port.

Syntax	`server port <value>`
Command mode	Telemetry Config
Parameters	▪ `value` – Server port number.
Usage	▪ By default, GNMI server runs on 8080 port. ▪ Telemetry service will be restarted to apply the configuration; wait for telemetry container to be up prior

	to applying the subsequent configuration. ▪ Use `no server port` for the default port number to be applied.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry)# server port 9090
sonic(conf-telemetry)# no server port
sonic(conf-telemetry)#
```

Server certificate

Configures absolute path of server certificate and key files.

Syntax	`server certificate file <cert-path> <key-path>`
Command mode	Telemetry Config
Parameters	▪ `cert-file` – Specify the absolute path of server certificate file. ▪ `key-file` – Specify the absolute path of key file.
Usage	▪ Transfer or copy the certificate and key files into telemetry container prior to executing this command. ▪ Telemetry service will be restarted to apply the configuration; wait for telemetry container to be up prior to applying the subsequent configuration. ▪ Use `no server certificate` to remove server certificate configuration.
Supported Releases	1.1.0 or later

Click command	None

Example

```
sonic(conf-telemetry)# server certificate file /etc/certs/server.cer
/etc/certs/server.key
sonic(conf-telemetry)# no server certificate
sonic(conf-telemetry)#
```

Authentication type

Configures the server side authentication type of to be used.

Syntax	`authentication {password | jwt | certificate}`
Command mode	Telemetry Config
Parameters	None
Usage	▪ Telemetry service will be restarted to apply the configuration; wait for telemetry container to be up prior to applying the subsequent configuration. ▪ Multiple authentication modes are allowed to be configured. ▪ Use `no authentication [password | jwt | certificate]` to remove specific authentication mode or all modes.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry)# authentication password
sonic(conf-telemetry)# authentication jwt
```

```
sonic(conf-telemetry)# authentication certificate
sonic(conf-telemetry)# no authentication jwt
sonic(conf-telemetry)# no authentication
sonic(conf-telemetry)#
```

CA certificate

Configures absolute path of CA certificate file for the certificate authentication mode.

Syntax	`ca-certificate file <path>`
Command mode	Telemetry Config
Parameters	▪ `path` – Specify the absolute path of certificate file location in the telemetry container.
Usage	▪ Transfer or copy the certificate file into telemetry container prior to executing this command. ▪ Telemetry service will be restarted to apply the configuration; wait for telemetry container to be up prior to applying the subsequent configuration. ▪ Use `no ca-certificate` to remove client certificate configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry)# ca-certificate file /etc/certs/ca-certificate.cer
sonic(conf-telemetry)# no ca-certificate
sonic(conf-telemetry)#
```

Retry interval

Configures retry interval in seconds.

Syntax	`retry-interval <value>`
Command mode	Telemetry Config
Parameters	▪ `value` – Specify the retry interval value.
Usage	Use `no retry-interval` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic (conf-telemetry)#retry-interval
  <0..65535>  Value in seconds
sonic (conf-telemetry)#no retry-interval
```

Destination group

Configures telemetry destination group and enters into destination group config mode.

Syntax	`destination-group <name>`
Command mode	Telemetry Config
Parameters	▪ `name` – Specify the destination group name.
Usage	Use `no destination group <name>` to remove the destination group.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry)# destination-group test
sonic(conf-telemetry-dst-group-test)# exit
sonic(conf-telemetry)# no destination-group test
sonic(conf-telemetry)#
```

Destination address

Creates or deletes destination address and port number for the destination group.

Syntax	`destination <ip_address> <port_num>`
Command mode	Telemetry Destination Group Config
Parameters	▪ `ip_address` – IPv4 address. ▪ `port_num` – Port number.
Usage	Use `no destination` to remove the destination configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry-dst-group-test)# destination 1.1.1.1 1
sonic(conf-telemetry-dst-group-test)# destination 2.2.2.2 2
sonic(conf-telemetry-dst-group-test)# no destination 2.2.2.2 2
sonic(conf-telemetry-dst-group-test)# no destination 1.1.1.1 1
sonic(conf-telemetry-dst-group-test)#
```

Subscription group

Configures subscription group and enters into subscription group config mode.

Syntax	`subscription-group <name>`
Command mode	Telemetry Config
Parameters	▪ `name` – Specify the subscription group name.
Usage	Use `no subscription-group <name>` to remove the subscription group.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-telemetry)# subscription-group HS_RDMA
sonic(conf-telemetry-sub-group-HS_RDMA)# exit
sonic(conf-telemetry)# no subscription-group HS_RDMA
sonic(conf-telemetry)#
```

Target DB

Configures the target DB from which the data path to be fetched.

Syntax	`target <target-val>`
Command mode	Subscription Group Config
Parameters	▪ `target-val` – Specify target DB name.
Usage	None
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-telemetry-sub-group-test)# target CONFIG_DB
sonic(conf-telemetry-sub-group-test)# target COUNTERS_DB
sonic(conf-telemetry-sub-group-test)# target STATE_DB
sonic(conf-telemetry-sub-group-test)#
```

Collection paths

Configures data path to fetch information.

Syntax	`path <path-val>`
Command mode	Subscription Group Config
Parameters	▪ `path-val` – Specify the data path.
Usage	Use `no path [<path-val>]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry-sub-group-test)# path COUNTERS/Ethernet0
sonic(conf-telemetry-sub-group-test)# path COUNTERS_PORT_NAME_MAP
sonic(conf-telemetry-sub-group-test)#
```

Report type

Configures reporting type of telemetry data.

Syntax	`type {periodic | stream}`
Command mode	Subscription Group Config

Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry-sub-group-test)# type periodic
sonic(conf-telemetry-sub-group-test)# type stream
sonic(conf-telemetry-sub-group-test)#
```

Report interval

Configures report interval value in milliseconds.

Syntax	`report-interval <value>`
Command mode	Telemetry Subscription Group Config
Parameters	▪ `value` – Specify the value in milliseconds, Default: 5000.
Usage	Use `no report-interval` to remove the configured value and set the default value.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry-sub-group-test)# report-interval 2000
sonic(conf-telemetry-sub-group-test)# no report-interval
sonic(conf-telemetry-sub-group-test)#
```

Associate destination group

Configures the destination group name to be used by the subscription group.

Syntax	`destination-group <name>`
Command mode	Subscription Group Config
Parameters	▪ `name` – Destination group name.
Usage	Use `no destination-group` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-telemetry-sub-group-test)# destination-group d1
sonic(conf-telemetry-sub-group-test)# no destination-group
sonic(conf-telemetry-sub-group-test)#
```

Show telemetry server

Displays the telemetry global configuration.

Syntax	`show telemetry server`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show telemetry server
Server port : 9098
Server certificate file : /etc/certs/server.cer
Server key file : /etc/certs/server.key
CA certificate file : /etc/certs/client.cer
Authentication modes : certificate,jwt,password
Retry interval : 20
sonic#
```

Show destination-group

Displays the destination group information.

Syntax	`show telemetry destination-group [<name>]`
Command mode	EXEC
Parameters	▪ `name` – Destination group name.
Usage	All groups' details will be displayed, if the group name is not entered.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show telemetry destination-group
------------------------------------------------------------
Destination Group    Destination address  Destination port
------------------------------------------------------------
d1                   1.1.1.1              1
                     1.1.1.1              2
                     1.1.1.1              3
                     1.1.1.1              4
```

```
d2                    2.2.2.2              1
                      2.2.2.2              2
                      2.2.2.2              3
d3                    NA                   NA
sonic# show telemetry destination-group d1
------------------------------------------------------------
Destination Group    Destination address  Destination port
------------------------------------------------------------
d1                    1.1.1.1              1
                      1.1.1.1              2
                      1.1.1.1              3
                      1.1.1.1              4
sonic#
```

Show subscription-group

Displays the subscription group information.

Syntax	`show telemetry subscription-group [<name>]`
Command mode	EXEC
Parameters	▪ `name` – Subscription group name.
Usage	All groups' details will be displayed, if the group name is not entered.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show telemetry subscription-group
------------------------------------------------------------------------
------------------
Subscription Group   Destination Group    Type       Interval
Target          Path(s)
```

```
------------------------------------------------------------------------
------------------
s1                    d1                    periodic   10
CONFIG_DB       PORT

        VLAN

        PORTCHANNEL

        PORTCHANNEL
s2                    d2                    stream     30
COUNTERS_DB     PORT/Ethernet0

        VLAN/Vlan10

        PORTCHANNEL/PortChannel20

        PORTCHANNEL/PortChannel20
s3                    d3                    NA         NA
NA              NA
sonic# show telemetry subscription-group s1
------------------------------------------------------------------------
------------------
Subscription Group   Destination Group    Type       Interval
Target          Path(s)
------------------------------------------------------------------------
------------------
s1                    d1                    periodic   10
CONFIG_DB       PORT

        VLAN

        PORTCHANNEL

        PORTCHANNEL
sonic#
```

VxLAN

VxLAN Config Commands

VxLAN Global Config Commands

Vxlan-profile enable

Configures to load VxLAN specific Broadcom config variables and init the Broadcom NPU based on the variables present in **-vxlan.config.bcm* file.

This is applicable only for Broadcom chipset based platforms. In Vxlan enabled platforms, **-vxlan.config.bcm* file is loaded by default even if the config is not present. This configuration takes effect only after the save and reboot.

Syntax	`vxlan-profile enable`
Command mode	CONFIG
Parameters	None
Usage	Use `no vxlan-profile enable` to load generic **.config.bcm* file which gives max vlan scale.
Supported Releases	1.1.0 or later
Click command	`config vxlan_profile enable`

Example

```
sonic(config)# vxlan-profile enable
```

Vxlan interface create and delete

Creates a new vxlan interface (if not present), which acts as a virtual tunnel end point (VTEP). Enters into `config-if-vxlan-<vtepname>` mode. Only one VTEP can exist in a switch.

Syntax	`interface vxlan <vtep-name>`
Command mode	CONFIG
Parameters	▪ `vtep-name` – Name of the vxlan interface/VTEP (Maximum 10 characters, prefixed by 'vtep').
Usage	Use `no vxlan interface <vtep-name>` to remove the VTEP.
Supported Releases	1.1.0 or later
Click command	`config vxlan add/del <vtep-name> <src-ip>`

Example

```
sonic(config)# interface vxlan vtep1
sonic(config-if-vxlan-vtep1)#

sonic(config)# no interface vxlan vtep1
```

VxLAN Interface Level Config Commands

Source-vtep-ip

Adds or deletes source VTEP's IPv4 address which is used to form the tunnel between peer VTEP. The VTEP's source address should be assigned to a loopback interface with /32 mask. EVPN nvo config entry will be added/deleted internally, if the source-ip config addition/deletion is success.

Syntax	`source-ip <vtep-sip>`
Command mode	VTEP
Parameters	▪ `vtep-sip` – Source IP for the VTEP in (A.B.C.D) format.
Usage	Use `no source-ip` to delete the configured source-ip.

Supported Releases	1.1.0 or later
Click command	`config vxlan add/del <vtep-name> <src-ip>`

Example

```
sonic(config-if-vxlan-vtep1)# source-ip 1.1.1.1
sonic(config-if-vxlan-vtep1)# no source-ip
```

Map-vni-vlan

Adds or deletes vlan vni one-to-one mappings to/from a VTEP. It will throw error if the given vlan interface does not exist. Map count can also be given along with this command to configure more than vlan-vni mappings. If the count range is exceeded than 4095, it will throw error.

Syntax	`map vni <1..16777215> vlan <1..4094> [count <1..4094>]`
Command mode	VTEP
Parameters	▪ `1..16777215` – VNI range. ▪ `1..4094` – VLAN ID range. ▪ `1..4094` – Map count range and it should not exceed 4094.
Usage	Use `no map vni <1..16777215> vlan <1..4094> count <1..4094>` to unconfigure the vlan-vni maps fully or partially. It should throw error if the given parameters are invalid.
Supported Releases	1.1.0 or later
Click command	`config vxlan map add <vxlan_name> <vlan_id> <vni> config vxlan map_range <vxlan_name> <vlan_start> <vlan_end> <vni_start>`

Example

```
sonic(config-if-vxlan-vtep1)# map vni 100010 vlan 10 count 3
sonic(config-if-vxlan-vtep1)# map vni 100015 vlan 15
sonic(config-if-vxlan-vtep1)# no map vni 100010 vlan 10
sonic(config-if-vxlan-vtep1)# no map vni 100011 vlan 11 count 2
```

VxLAN Show Commands

Show vxlan interface

Displays VTEP specific configurations such as source interface, IP, nvo and so on.

Syntax	`show vxlan interface`
Command mode	EXEC
Parameters	None
Usage	Use this command to retrieve the vxlan interface/VTEP specific configurations.
Supported Releases	1.1.0 or later
Click command	`show vxlan interface`

Example

```
sonic# show vxlan interface
VTEP Name             : vtep1
VTEP Source IP        : 1.1.1.1
EVPN NVO Name         : nvo1
Source Interface      : Loopback0
sonic#
```

Show vxlan vlanvnimap

Displays VLAN VNI Mapping information in the local VTEP.

Syntax	`show vxlan vlanvnimap [count]`
Command mode	EXEC
Parameters	None
Usage	Use this command to retrieve the local VTEP's vlan vni map configurations.
Supported Releases	1.1.0 or later
Click command	`show vxlan vlanvnimap [count]`

Example

```
sonic# show vxlan vlanvnimap
   VLAN       VNI
   ====       ===
  Vlan10    100010
  Vlan11    100011
  Vlan12    100012
  Vlan15    100015
Total count :   4
sonic#
sonic# show vxlan vlanvnimap count
Total count :   4
sonic#
```

Show vxlan tunnel

Displays EVPN VxLAN tunnel(s) information such as tunnel-name, source-ip, destination-ip, tunnel-type, oper-status.

Syntax	`show vxlan tunnel`
Command mode	EXEC
Parameters	None

Usage	Use this command to retrieve the vxlan tunnel information and its status.
Supported Releases	1.1.0 or later
Click command	`show vxlan tunnel`

Example

```
sonic# show vxlan tunnel
        Name                 SIP                 DIP           source
operstatus
        ====                 ===                 ===           ======
==========
    EVPN_2.2.2.2          1.1.1.1             2.2.2.2
EVPN       oper_up
    EVPN_3.3.3.3          1.1.1.1             3.3.3.3
EVPN       oper_up
sonic#
```

Show vxlan counters

Displays VxLAN tunnel(s)' counters information such as rx_packets, tx_packets count, rate, and so on. Tunnel flex-counters need to be enabled by using the `counterpoll tunnel enable` CLICK command before executing this command.

Syntax	`show vxlan counters [<tunnel-name>]`
Command mode	EXEC
Parameters	▪ `tunnel-name` – VLAN tunnel name in string format.
Usage	Use this command to retrieve the vxlan tunnel(s) counters information. It is recommended to change its default polling-interval of 10 seconds to 1 second (1000ms) by using the `counterpoll tunnel interval 1000` CLICK command, to get the most recent polled tunnel counters.
Supported Releases	1.1.0 or later

Click command	`show vxlan counters [TUNNEL]`

Example

```
sonic# show vxlan counters
Polling Rate : 1 seconds
Interface       RX_PKTS      RX_PPS(P/s)    RX_BYTES      RX_BPS(B/
s)    TX_PKTS      TX_PPS(P/s)    TX_BYTES      TX_BPS(B/s)
-------------------------------------------------------------------------
-----------------------------------------------------
EVPN_2.2.2.2    21343830     899337.84      2433196760
102524513.74   0            0.0            0             0.0
EVPN_3.3.3.3    0            0.0            0
0.0            0            0.0            0             0.0
vtep1           0            0.0            0
0.0            0            0.0            0             0.0
sonic#
```

Show vxlan remote mac

Displays mac entries that are learned from a remote VTEP through EVPN type-2 route advertisements.

Syntax	`show vxlan remote mac [<rem-vtep-ip] [count]`
Command mode	EXEC
Parameters	▪ `rem-vtep-ip` – Remote VTEP's IPv4 address in (A.B.C.D) format.
Usage	Use this command to retrieve the mac entries learned from all remote VTEPs or the specified remote VTEP.
Supported Releases	1.1.0 or later
Click command	`show vxlan remotemac REMOTE_VTEP_IP [COUNT]`
Example	

```
sonic# show vxlan remote mac
   Vlan           Mac             RemoteVTEP      VNI       Type
 ------------------------------------------------------------------------
  Vlan10   00:00:01:10:01:01       2.2.2.2       100010   DYNAMIC
  Vlan10   00:00:01:10:01:02       2.2.2.2       100010   DYNAMIC
  Vlan10   00:00:03:10:01:01       3.3.3.3       100010   DYNAMIC
  Vlan10   00:00:03:10:01:02       3.3.3.3       100010   DYNAMIC
Total count :   4
sonic# show vxlan remote mac 2.2.2.2
   Vlan           Mac             RemoteVTEP      VNI       Type
 ------------------------------------------------------------------------
  Vlan10   00:00:01:10:01:01       2.2.2.2       100010   DYNAMIC
  Vlan10   00:00:01:10:01:02       2.2.2.2       100010   DYNAMIC
Total count :   2
sonic# show vxlan remote mac 3.3.3.3
   Vlan           Mac             RemoteVTEP      VNI       Type
 ------------------------------------------------------------------------
  Vlan10   00:00:03:10:01:01       3.3.3.3       100010   DYNAMIC
  Vlan10   00:00:03:10:01:02       3.3.3.3       100010   DYNAMIC
Total count :   2
sonic# show vxlan remote mac count
Total count :   4
sonic# show vxlan remote mac count 2.2.2.2
Total count :   2
sonic#

When no macs are learned
sonic# show vxlan remote mac
Total count :   0
sonic#
```

Show vxlan remote vni

Displays VNIs mapped to VLANs in all remote VTEPs or the specified remote VTEP IP.

Syntax	`show vxlan remote vni [<rem-vtep-ip>] [count]`
Command mode	EXEC

Parameters	▪ `rem-vtep-ip` – Remote VTEP's IPv4 address in (A.B.C.D) format.
Usage	Use this command to retrieve the list of VNIs mapped to VLANs from all remote VTEPs or the specified remote VTEP.
Supported Releases	1.1.0 or later
Click command	`show vxlan remotevni REMOTE_VTEP_IP [COUNT]`

Example

```
sonic# show vxlan remote vni
   Vlan      RemoteVTEP      VNI
   ====      ==========      ===
  Vlan10      2.2.2.2       100010
  Vlan11      2.2.2.2       100011
  Vlan10      3.3.3.3       100010
  Vlan13      3.3.3.3       100013
  Vlan15      3.3.3.3       100015
Total count :   5
sonic# show vxlan remote vni 3.3.3.3
   Vlan      RemoteVTEP      VNI
   ====      ==========      ===
  Vlan10      3.3.3.3       100010
  Vlan13      3.3.3.3       100013
  Vlan15      3.3.3.3       100015
Total count :   3
sonic# show vxlan remote vni count 3.3.3.3
Total count :   3
sonic# show vxlan remote vni count
Total count :   5
```

VxLAN Clear Commands

Clear vxlan counters

Clears VxLAN tunnels' counters information. Tunnel flex-counters need to be enabled by using the `counterpoll tunnel enable` CLICK command.

Syntax	`clear vxlan counters`
Command mode	EXEC
Parameters	None
Usage	Use this command to clear all vxlan tunnels' counters information.
Supported Releases	1.1.0 or later
Click command	`sonic-clear tunnelcounters`

Example

```
sonic# clear vxlan counters
```

Layer 3

Layer 3 commands are organized and listed under the following sections.

- IP
- FRR

IP

IP Config Commands

ip address

Configures IPv4 address with mask.

Syntax	`ip address <A.B.C.D/mask>`
Command mode	• Configure-if-view • Configure-lag-view • Configure-vlan-view • Configure-mgmt-view
Parameters	• `A.B.C.D/mask` – IPv4 address with mask.
Usage	Use `no ip address <A.B.C.D/mask>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 address

Configures IPv6 address with mask.

Syntax	`ipv6 address <A::B/mask>`

Command mode	▪ Configure-if-view ▪ Configure-lag-view ▪ Configure-vlan-view ▪ Configure-mgmt-view
Parameters	▪ `A::B/mask` – IPv6 address with mask.
Usage	Use `no ipv6 address <A::B/mask>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ip address - mgmt intf

Configures IPv4 address with mask and gateway address.

Syntax	`ip address <A.B.C.D/mask> [gateway <A.B.C.D>]`
Command mode	Configure-mgmt-view
Parameters	▪ `A.B.C.D/mask` – IPv4 address with mask. ▪ `A.B.C.D` – IP address of the gateway.
Usage	Use `ip address <A.B.C.D/mask> [gateway <A.B.C.D>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 address - mgmt intf

Configures IPv6 address with mask and gateway address.

Syntax	`ipv6 address <A::B/mask> [gateway <A::B>]`
Command mode	Configure-mgmt-view
Parameters	▪ `A::B/mask` – IPv6 address with mask. ▪ `A::B` – IPv6 address of the gateway.
Usage	Use `ipv6 address <A::B/mask> [gateway <A::B>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 use-link-local-only

Enables IPv6 link local address on interface.

Syntax	`ipv6 use-link-local-only`
Command mode	▪ Configure-if-view ▪ Configure-lag-view ▪ Configure-vlan-view
Parameters	None
Usage	Use `no ipv6 use-link-local-only` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

IP Show Commands

show management_interface

Displays the Management interface information.

Syntax	`show management_interface address`
Command mode	Enable-view
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

FRR

OSPF Config Commands

router ospf

Enables a OSPF protocol process.

Syntax	`router ospf [ <instance-id> [vrf <vrfname>] | vrf <vrfname> ]`
Command mode	CONFIG
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf.
Usage	Use `no router ospf [ <instance-id> [vrf <vrfname>] | vrf <vrfname> ]` to remove the configuration.
Supported Releases	1.1.0 or later

Click command	None

Example

```
sonic(config)# router ospf
  <1..65535>  Instance ID
  vrf         Specify the VRF
  <cr>
sonic(config)# router ospf 1
  vrf   Specify the VRF
  <cr>
sonic(config)# router ospf 1 vrf Vrf-1
sonic(config)# router ospf vrf Vrf-1
sonic(config)# no router ospf
  <1..65535>  Instance ID
  vrf         Specify the VRF
  <cr>
sonic(config)# no router ospf 1
  vrf   Specify the VRF
  <cr>
sonic(config)# no router ospf 1 vrf Vrf-1
sonic(config)# no router ospf vrf Vrf-1
```

Area Commands

authentication

Configures OSPF Area authentication.

Syntax	`area <A.B.C.D|area-id> authentication`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no area <A.B.C.D|area-id> authentication` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 authentication
sonic(config-router)# area 1 authentication message-digest
sonic(config-router)# no area 1 authentication
sonic(config-router)# no area 1 authentication message-digest
sonic(config-router)#
sonic(config-router)# area 10.1.1.1 authentication
sonic(config-router)# area 10.1.1.1 authentication message-digest
sonic(config-router)# no area 10.1.1.1 authentication
sonic(config-router)# no area 10.1.1.1 authentication message-digest
```

---

default-cost

Sets the summary-default cost of a NSSA or stub area.

Syntax	`area <A.B.C.D|area-id> default-cost <cost-id>`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295. ▪ `cost-id` – Stub's advertised default summary cost. Range: 0 – 16777215.
Usage	Use `no area <A.B.C.D|area-id> default-cost <cost-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 default-cost 5
sonic(config-router)# no area 1 default-cost 5
sonic(config-router)#
sonic(config-router)# area 10.1.1.1 default-cost 5
sonic(config-router)# no area 10.1.1.1 default-cost 5
```

export-list

Sets the filter for networks announced to other areas.

Syntax	`area <A.B.C.D|area-id> export-list <NAME>`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295. ▪ `NAME` – Name of the access-list.
Usage	Use `no area <A.B.C.D|area-id> export-list <NAME>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 export-list explist
sonic(config-router)# no area 1 export-list explist
sonic(config-router)#
sonic(config-router)# area 10.1.1.1 export-list explist
sonic(config-router)# no area 10.1.1.1 export-list explist
```

filter-list

Filters networks between OSPF areas.

Syntax	`area <A.B.C.D|area-id> filter-list prefix <NAME> in|out`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295. ▪ `NAME` – Name of an IP prefix-list.
Usage	Use `no area <A.B.C.D|area-id> filter-list prefix <NAME> in|out` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 filter-list prefix prflist in
sonic(config-router)# area 1 filter-list prefix prflist out
sonic(config-router)# no area 1 filter-list prefix prflist in
sonic(config-router)# no area 1 filter-list prefix prflist out
sonic(config-router)#
sonic(config-router)# area 10.1.1.1 filter-list prefix prflist in
sonic(config-router)# area 10.1.1.1 filter-list prefix prflist out
sonic(config-router)# no area 10.1.1.1 filter-list prefix prflist in
sonic(config-router)# no area 10.1.1.1 filter-list prefix prflist out
```

import-list

Sets the filter for networks from other areas announced to the specified one.

Syntax	`area <A.B.C.D|area-id> import-list <NAME>`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295. ▪ `NAME` – Name of the access-list.
Usage	Use `no area <A.B.C.D|area-id> import-list <NAME>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 import-list implist
sonic(config-router)# no area 1 import-list implist
sonic(config-router)#
sonic(config-router)# area 10.1.1.1 import-list implist
sonic(config-router)# no area 10.1.1.1 import-list implist
```

nssa

Configures OSPF area as nssa.

Syntax	`area <A.B.C.D|area-id> nssa translate-candidate|translate-never|translate-always|no-summary`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 –

4294967295.

Usage	Use `no area <A.B.C.D|area-id> nssa translate-candidate|translate-never|translate-always|no-summary` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 nssa
sonic(config-router)# area 1 nssa no-summary
sonic(config-router)# area 1 nssa translate-never
sonic(config-router)# area 1 nssa translate-always
sonic(config-router)# area 1 nssa translate-candidate
sonic(config-router)# no area 1 nssa no-summary
sonic(config-router)# no area 1 nssa translate-never
sonic(config-router)# no area 1 nssa translate-always
sonic(config-router)# no area 1 nssa translate-candidate
sonic(config-router)# no area 1 nssa
sonic(config-router)#
sonic(config-router)# area 10.1.1.1 nssa
sonic(config-router)# area 10.1.1.1 nssa no-summary
sonic(config-router)# area 10.1.1.1 nssa translate-never
sonic(config-router)# area 10.1.1.1 nssa translate-always
sonic(config-router)# area 10.1.1.1 nssa translate-candidate
sonic(config-router)# no area 10.1.1.1 nssa no-summary
sonic(config-router)# no area 10.1.1.1 nssa translate-never
sonic(config-router)# no area 10.1.1.1 nssa translate-always
sonic(config-router)# no area 10.1.1.1 nssa translate-candidate
sonic(config-router)# no area 10.1.1.1 nssa
```

---

address range

Summarizes routes matching address/mask (border routers only).

Syntax	`area <A.B.C.D|area-id> range [advertise [cost <cost-id>]|cost <cost-id>|not-advertise|substitute <A.B.C.D/M>]`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295. ▪ `cost-id` – Advertised metric for this range. Range: 0 – 16777215. ▪ `A.B.C.D/M` – Network prefix to be announced instead of range.
Usage	Use `no area <A.B.C.D|area-id> range [advertise [cost <cost-id>]|cost <cost-id>|not-advertise|substitute <A.B.C.D/M>]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 range 10.1.1.2/24
sonic(config-router)# area 1 range 10.1.1.2/24 advertise
sonic(config-router)# area 1 range 10.1.1.2/24 advertise cost 1
sonic(config-router)# area 1 range 10.1.1.2/24 cost 5
sonic(config-router)# area 1 range 10.1.1.2/24 not-advertise
sonic(config-router)# area 1 range 10.1.1.2/24 substitute
sonic(config-router)# area 1 range 10.1.1.2/24 substitute 11.1.1.1/24
sonic(config-router)# no area 1 range 10.1.1.2/24 advertise
sonic(config-router)# no area 1 range 10.1.1.2/24 advertise cost 1
sonic(config-router)# no area 1 range 10.1.1.2/24 cost 5
sonic(config-router)# no area 1 range 10.1.1.2/24 not-advertise
sonic(config-router)# no area 1 range 10.1.1.2/24 substitute
sonic(config-router)# no area 1 range 10.1.1.2/24 substitute 11.1.1.1/24
sonic(config-router)# no area 1 range 10.1.1.2/24
```

```
sonic(config-router)#
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24 advertise
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24 advertise cost
1
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24 cost 5
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24 not-advertise
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24 substitute
sonic(config-router)# area 10.1.1.1/24 range 10.1.1.2/24 substitute
11.1.1.1/24
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24 advertise
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24 advertise
cost 1
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24 cost 5
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24 not-
advertise
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24 substitute
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24 substitute
11.1.1.1/24
sonic(config-router)# no area 10.1.1.1/24 range 10.1.1.2/24
```

shortcut

Configures the area's shortcutting mode.

Syntax	`area <A.B.C.D|area-id> shortcut default|enable|disable`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no area <A.B.C.D|area-id> shortcut default|enable|disable` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 shortcut default
sonic(config-router)# area 1 shortcut disable
sonic(config-router)# area 1 shortcut enable
sonic(config-router)# no area 1 shortcut default
sonic(config-router)# no area 1 shortcut disable
sonic(config-router)# no area 1 shortcut enable
sonic(config-router)#
sonic(config-router)# area 10.1.1.1/24 shortcut default
sonic(config-router)# area 10.1.1.1/24 shortcut disable
sonic(config-router)# area 10.1.1.1/24 shortcut enable
sonic(config-router)# no area 10.1.1.1/24 shortcut default
sonic(config-router)# no area 10.1.1.1/24 shortcut disable
sonic(config-router)# no area 10.1.1.1/24 shortcut enable
```

---

stub

Configures OSPF area as stub.

Syntax	`area <A.B.C.D|area-id> stub [no-summary]`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no area <A.B.C.D|area-id> stub [no-summary]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 stub
sonic(config-router)# area 1 stub no-summary
sonic(config-router)# no area 1 stub no-summary
sonic(config-router)# no area 1 stub
sonic(config-router)#
sonic(config-router)# area 10.1.1.1/24 stub
sonic(config-router)# area 10.1.1.1/24 stub no-summary
sonic(config-router)# no area 10.1.1.1/24 stub no-summary
sonic(config-router)# no area 10.1.1.1/24 stub
```

virtual-link

Configures a virtual link.

Syntax	`area <A.B.C.D|area-id> virtual-link <A.B.C.D> [authentication [<message-digest|null>]|message-digest-key <key-id> md5 <KEY>|authentication-key <KEY>|hello-interval (1-65535)|retransmit-interval (1-65535)|transmit-delay (1-65535)|dead-interval (1-65535)]`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295. ▪ `key-id` – Message digest key ID. Range: 1 – 255. ▪ `KEY` – The OSPF password (key). ▪ `hinterval` – Hello interval in seconds. Range: 1 – 65535. ▪ `dinterval` – Dead interval in seconds. Range: 1 – 65535. ▪ `rtinterval` – Retransmit interval in seconds. Range: 1 – 65535.

- `transdelay` – Transmit delay in seconds. Range: 1 – 65535.

Usage	Use `no area <A.B.C.D|area-id> virtual-link <A.B.C.D> [authentication [<message-digest|null>]|message-digest-key <key-id> md5 <KEY>|authentication-key <AUTH_KEY>|hello-interval (1-65535)|retransmit-interval (1-65535)|transmit-delay (1-65535)|dead-interval (1-65535)]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# area 1 virtual-link 1.1.1.1 authentication
sonic(config-router)# area 1 virtual-link 1.1.1.1 authentication null
sonic(config-router)# area 1 virtual-link 1.1.1.1 authentication
message-digest
sonic(config-router)# area 1 virtual-link 1.1.1.1 authentication-key
key1
sonic(config-router)# area 1 virtual-link 1.1.1.1 message-digest-key 1
md5 key2
sonic(config-router)# area 1 virtual-link 1.1.1.1 dead-interval 2
sonic(config-router)# area 1 virtual-link 1.1.1.1 hello-interval 1
sonic(config-router)# area 1 virtual-link 1.1.1.1 retransmit-interval 3
sonic(config-router)# area 1 virtual-link 1.1.1.1 transmit-delay 1
sonic(config-router)#
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1
authentication
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1
authentication null
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1
authentication message-digest
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1
authentication-key key1
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1 message-
```

```
digest-key 1 md5 key2
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1 dead-
interval 2
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1 hello-
interval 1
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1 retransmit-
interval 3
sonic(config-router)# area 10.1.1.1/24 virtual-link 1.1.1.1 transmit-
delay 1
```

auto-cost

Calculates OSPF interface cost according to bandwidth.

Syntax	`auto-cost reference-bandwidth <bandwidth>`
Command mode	Router OSPF
Parameters	▪ `bandwidth` – Reference bandwidth in terms of Mbits per second. Range: 1 – 4294967.
Usage	Use `no auto-cost reference-bandwidth <bandwidth>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# auto-cost reference-bandwidth 4
sonic(config-router)# no auto-cost reference-bandwidth 4
```

capability

Enables OSPF capability opaque.

Syntax	`capability opaque`
Command mode	Router OSPF
Parameters	None
Usage	Use `no capability opaque` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# capability opaque
sonic(config-router)# no capability opaque
```

compatible

Enables OSPF compatibility list.

Syntax	`compatible rfc1583`
Command mode	Router OSPF
Parameters	None
Usage	Use `no compatible rfc1583` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# compatible rfc1583
```

```
sonic(config-router)# no compatible rfc1583
```

default-information

Controls distribution of default information.

Syntax	`default-information originate [{always|metric <metric>|metric-type <type>|route-map <rmap>}]`
Command mode	Router OSPF
Parameters	▪ `metric` – OSPF metric. Range: 0 – 16777214. ▪ `type` – Set OSPF External Type 1/2 metrics (1-2). ▪ `rmap` – Pointer to route-map entries.
Usage	Use `no default-information originate [{always|metric <metric>|metric-type <type>|route-map <rmap>}]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# default-information originate
sonic(config-router)# default-information originate always metric 1
metric-type 2 route-map rmap1
sonic(config-router)# no default-information originate always metric 1
metric-type 2 route-map rmap1
sonic(config-router)# no default-information originate
```

default-metric

Sets metric of redistributed routes.

Syntax	`default-metric <metric>`
Command mode	Router OSPF
Parameters	• `metric` – Default metric. Range: 0 – 16777214.
Usage	Use `no default-metric <metric>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# default-metric 10
sonic(config-router)# no default-metric 10
```

Distance Commands

distance

Sets administrative distance.

Syntax	`distance <dist>`
Command mode	Router OSPF
Parameters	• `dist` – OSPF Administrative distance. Range: 1 – 255.
Usage	Use `no distance <dist>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# distance 1
sonic(config-router)# no distance 1
```

distance ospf

Sets administrative distance for intra-area, inter-area and external routes.

Syntax	`distance ospf {intra-area <intra>|inter-area <inter>)|external <ext>}`
Command mode	Router OSPF
Parameters	▪ `intra` – Distance for intra-area routes. Range: 1 – 255. ▪ `inter` – Distance for inter-area routes. Range: 1 – 255. ▪ `ext` – Distance for external routes. Range: 1 – 255.
Usage	Use `no distance ospf {intra-area <intra>|inter-area <inter>)|external <ext>}` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# distance ospf external 1 inter-area 2 intra-area 3
sonic(config-router)# no distance ospf external 1 inter-area 2 intra-
area 3
```

distribute-list

Filters networks in routing updates.

Syntax	`distribute-list <NAME> out kernel|connected|static|rip|isis|bgp|eigrp|nhrp|table|vnc|babel|sharp|openfabric`
Command mode	Router OSPF
Parameters	▪ `NAME` – Access-list name.
Usage	Use `no distribute-list <NAME> out kernel|connected|static|rip|isis|bgp|eigrp|nhrp|table|vnc|babel|sharp|openfabric` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# distribute-list dlist out babel
sonic(config-router)# distribute-list dlist out bgp
sonic(config-router)# distribute-list dlist out connected
sonic(config-router)# distribute-list dlist out eigrp
sonic(config-router)# distribute-list dlist out isis
sonic(config-router)# distribute-list dlist out kernel
sonic(config-router)# distribute-list dlist out nhrp
sonic(config-router)# distribute-list dlist out openfabric
sonic(config-router)# distribute-list dlist out rip
sonic(config-router)# distribute-list dlist out sharp
sonic(config-router)# distribute-list dlist out static
sonic(config-router)# distribute-list dlist out table
sonic(config-router)# distribute-list dlist out vnc
```

log-adjacency changes

Logs changes in adjacency state.

Syntax	`log-adjacency-changes [detail]`

Command mode	Router OSPF
Parameters	None
Usage	Use `no log-adjacency-changes [detail]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# log-adjacency-changes
sonic(config-router)# log-adjacency-changes detail
sonic(config-router)# no log-adjacency-changes detail
sonic(config-router)# no log-adjacency-changes
```

---

max-metric

Sets OSPF maximum / infinite-distance metric.

Syntax	`max-metric router-lsa administrative|on-shutdown <shutdown-time>|on-startup <startup-time>`
Command mode	Router OSPF
Parameters	▪ `shutdown-time` – Time (in seconds) to wait till full shutdown. Range: 5 – 100. ▪ `startup-time` – Time (in seconds) to advertise self as stub-router. Range: 5 – 86400.
Usage	Use `no max-metric router-lsa administrative|on-shutdown <shutdown-time>|on-startup <startup-time>` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# max-metric router-lsa administrative
sonic(config-router)# max-metric router-lsa on-startup 5
sonic(config-router)# max-metric router-lsa on-shutdown 5
sonic(config-router)# no max-metric router-lsa administrative
sonic(config-router)# no max-metric router-lsa on-startup 5
sonic(config-router)# no max-metric router-lsa on-shutdown 5
```

neighbor

Specifies neighbor router.

Syntax	`neighbor A.B.C.D [{priority <priority>|poll-interval <poll-interval>}]`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D` – Neighbor IP address. ▪ `priority` – Neighbor Priority. Range: 0 – 255. ▪ `poll-interval` – Dead Neighbor Polling interval in seconds. Range: 1 – 65535.
Usage	Use `no neighbor A.B.C.D [{priority <priority>|poll-interval <poll-interval>}]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# neighbor 5.5.5.5
sonic(config-router)# neighbor 5.5.5.5 poll-interval 2 priority 2
sonic(config-router)# no neighbor 5.5.5.5 poll-interval 2 priority 2
sonic(config-router)# no neighbor 5.5.5.5
```

network

Enables routing on an IP network.

Syntax	`network A.B.C.D/M area <A.B.C.D|area-id>`
Command mode	Router OSPF
Parameters	▪ `A.B.C.D/M` – OSPF network prefix. ▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no network A.B.C.D/M area <A.B.C.D|area-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# network 5.5.5.4/24 area 1
sonic(config-router)# network 6.6.6.6/24 area 10.1.1.1
sonic(config-router)# no network 5.5.5.4/24 area 1
sonic(config-router)# no network 6.6.6.6/24 area 10.1.1.1
```

ospf abr-type

Configures OSPF abr-type.

Syntax	`ospf abr-type cisco|ibm|shortcut|standard`
Command mode	Router OSPF
Parameters	None
Usage	Use `no ospf abr-type cisco|ibm|shortcut|standard` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# ospf abr-type cisco
sonic(config-router)# ospf abr-type ibm
sonic(config-router)# ospf abr-type shortcut
sonic(config-router)# ospf abr-type standard
sonic(config-router)# no ospf abr-type cisco
sonic(config-router)# no ospf abr-type ibm
sonic(config-router)# no ospf abr-type shortcut
sonic(config-router)# no ospf abr-type standard
```

passive-interface

Suppresses routing updates on an interface.

Syntax	`passive-interface <IFNAME>|default [A.B.C.D]`
Command mode	Router OSPF
Parameters	▪ `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1). ▪ `A.B.C.D` – IPv4 address.

Usage	Use `no passive-interface <IFNAME>|default [A.B.C.D]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# passive-interface default
sonic(config-router)# passive-interface default 1.1.1.1
sonic(config-router)# no passive-interface default 1.1.1.1
sonic(config-router)# no passive-interface default
sonic(config-router)#
sonic(config-router)# passive-interface Ethernet8
sonic(config-router)# passive-interface Ethernet8 1.1.1.1
sonic(config-router)# no passive-interface Ethernet8 1.1.1.1
sonic(config-router)# no passive-interface Ethernet8
```

proactive-arp

Allows sending ARP requests proactively.

Syntax	`proactive-arp`
Command mode	Router OSPF
Parameters	None
Usage	Use `no proactive-arp` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# proactive-arp
sonic(config-router)# no proactive-arp
```

redistribute

Redistributes information from another routing protocol.

Syntax	`redistribute kernel|connected|static|rip|isis|bgp|eigrp|nhrp|table|vnc|babel|sharp|openfabric|ospf <instance-id> [{metric <metric>|metric-type <type>|route-map <rmap>}]`
Command mode	Router OSPF
Parameters	• `instance-id` – Instance ID. Range: 0 – 65535. • `metric` – OSPF metric. Range: 0 – 16777214. • `type` – Set OSPF External Type 1/2 metrics (1-2). • `rmap` – Route map reference.
Usage	Use `no redistribute kernel|connected|static|rip|isis|bgp|eigrp|nhrp|table|vnc|babel|sharp|openfabric|ospf <instance-id> [{metric <metric>|metric-type <type>|route-map <rmap>}]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# redistribute bgp
sonic(config-router)# redistribute bgp metric 1 metric-type 1 route-map
```

```
rmap1
sonic(config-router)# redistribute connected
sonic(config-router)# redistribute connected metric 1 metric-type 1
route-map rmap1
sonic(config-router)# redistribute eigrp
sonic(config-router)# redistribute eigrp metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute isis
sonic(config-router)# redistribute isis metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute kernel
sonic(config-router)# redistribute kernel metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute nhrp
sonic(config-router)# redistribute nhrp metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute openfabric
sonic(config-router)# redistribute openfabric metric 1 metric-type 1
route-map rmap1
sonic(config-router)# redistribute rip
sonic(config-router)# redistribute rip metric 1 metric-type 1 route-map
rmap1
sonic(config-router)# redistribute sharp
sonic(config-router)# redistribute sharp metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute static
sonic(config-router)# redistribute static metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute table
sonic(config-router)# redistribute table metric 1 metric-type 1 route-
map rmap1
sonic(config-router)# redistribute vnc
sonic(config-router)# redistribute vnc metric 1 metric-type 1 route-map
rmap1
```

refresh

Adjusts refresh parameters.

Syntax	`refresh timer <time>`

Command mode	Router OSPF
Parameters	▪ `time` – Timer value in seconds. Range: 10 – 1800.
Usage	Use `no refresh timer <time>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# refresh timer 10
sonic(config-router)# no refresh timer 10
```

router-info

Configures OSPF Router Information specific commands.

Syntax	`router-info area|as`
Command mode	Router OSPF
Parameters	None
Usage	Use `no router-info area|as` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# router-info area
sonic(config-router)# router-info as
sonic(config-router)# no router-info
```

Timers Commands

timers lsa min-arrival

Adjusts OSPF LSA timers.

Syntax	`timers lsa min-arrival <delay>`
Command mode	Router OSPF
Parameters	▪ `delay` – Delay in milliseconds. Range: 0 – 600000.
Usage	Use `no timers lsa min-arrival <delay>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# timers lsa min-arrival 1
sonic(config-router)# no timers lsa min-arrival 1
```

timers throttle lsa all

Adjusts OSPF Throttle LSA timers.

Syntax	`timers throttle lsa all <delay>`
Command mode	Router OSPF
Parameters	▪ `delay` – Delay between sending LSAs in milliseconds. Range: 0 – 5000.
Usage	Use `no timers throttle lsa all <delay>` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# timers throttle lsa all 1
sonic(config-router)# no timers throttle lsa all 1
```

timers throttle spf

Adjusts OSPF Throttle SPF timers.

Syntax	`timers throttle spf <delay> <hold> <maxhold>`
Command mode	Router OSPF
Parameters	▪ `delay` – Delay from first change received till SPF calculation in milliseconds. Range: 0 – 600000. ▪ `hold` – Initial hold time between consecutive SPF calculations in milliseconds. Range: 0 – 600000. ▪ `maxhold` – Maximum hold time in milliseconds. Range: 0 – 600000.
Usage	Use `no timers throttle spf <delay> <hold> <maxhold>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# timers throttle spf 1 1 1
sonic(config-router)# no timers throttle spf 1 1 1
```

write-multiplier

Configures write multiplier.

Syntax	`write-multiplier <num>`
Command mode	Router OSPF
Parameters	• `num` – Maximum number of interface serviced per write. Range: 1 – 100.
Usage	Use `no write-multiplier <num>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-router)# write-multiplier 10
sonic(config-router)# no write-multiplier 10
```

OSPF Interface Commands

Area Commands

ospf area with Instance ID

Configures OSPF Interface Area configs.

Syntax	`ip ospf <instance-id> area <A.B.C.D|area-id>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	• `instance-id` – OSPF Instance ID. Range: 1 – 65535. • `A.B.C.D` – OSPF area ID in IP address format.

	▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no ip ospf <instance-id> area <A.B.C.D|area-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

ospf area without Instance ID

Configures OSPF Area without instance ID.

Syntax	`ip ospf area <A.B.C.D|area-id>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `A.B.C.D` – OSPF area ID in IP address format. ▪ `area-id` – OSPF area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no ip ospf area <A.B.C.D|area-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf area 1
sonic(conf-if-Ethernet8)# no ip ospf area 1
sonic(conf-if-Ethernet8)# ip ospf area 10.1.1.1
sonic(conf-if-Ethernet8)# no ip ospf area 10.1.1.1
```

Authentication Commands

Authentication

Enables authentication on this interface.

Syntax	`ip ospf authentication [null|message-digest]`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ip ospf authentication [null|message-digest]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf authentication
sonic(conf-if-Ethernet8)# ip ospf authentication message-digest
sonic(conf-if-Ethernet8)# ip ospf authentication null
sonic(conf-if-Ethernet8)# no ip ospf authentication null
sonic(conf-if-Ethernet8)# no ip ospf authentication message-digest
sonic(conf-if-Ethernet8)# no ip ospf authentication
```

authentication password (key)

Configures authentication password.

Syntax	`ip ospf authentication-key <KEY>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `KEY` – OSPF password key.

Usage	Use `no ip ospf authentication-key <KEY>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf authentication-key key1
sonic(conf-if-Ethernet8)# no ip ospf authentication-key key1
```

message digest authentication password (key)

Configures message digest authentication password.

Syntax	`ip ospf message-digest-key <key-id> md5 <KEY>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `key-id` – Message digest key ID. Range: 1 – 255. ▪ `KEY` – OSPF password key.
Usage	Use `no ip ospf message-digest-key <key-id> md5 <KEY>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf message-digest-key 1 md5 key2
sonic(conf-if-Ethernet8)# no ip ospf message-digest-key 1 md5 key2
```

bfd

Enables BFD support.

Syntax	`ip ospf bfd`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ip ospf bfd` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-if-Ethernet8)# ip ospf bfd
sonic(conf-if-Ethernet8)# no ip ospf bfd
```

cost

Sets the interface cost.

Syntax	`ip ospf cost <cost-id>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `cost-id` – Interface cost. Range: 0 – 65535.
Usage	Use `no ip ospf cost <cost-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-if-Ethernet8)# ip ospf cost 1
sonic(conf-if-Ethernet8)# no ip ospf cost 1
```

dead interval

Sets the interval time after which a neighbor is declared down.

Syntax	`ip ospf dead-interval <dinterval>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `dinterval` – Delay interval in seconds. Range: 1 – 65535.
Usage	Use `no ip ospf dead-interval <dinterval>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf dead-interval 10
sonic(conf-if-Ethernet8)# no ip ospf dead-interval 10
```

hello-multiplier

Sets the delay interval minimal config.

Minimal 1s dead-interval with fast sub-second hellos.

Syntax	`ip ospf dead-interval minimal hello-multiplier <num>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)

Parameters	▪ `num` – Number of Hellos to send each second. Range: 1 – 10.
Usage	Use `no ip ospf dead-interval minimal hello-multiplier <num>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf dead-interval minimal hello-
multiplier 5
sonic(conf-if-Ethernet8)# no ip ospf dead-interval minimal hello-
multiplier 5
```

hello-interval

Sets the time between HELLO packets.

Syntax	`ip ospf hello-interval <hinterval>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `hinterval` – Hello interval in seconds. Range: 1 – 65535.
Usage	Use `no ip ospf hello-interval <hinterval>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-if-Ethernet8)# ip ospf hello-interval 5
sonic(conf-if-Ethernet8)# no ip ospf hello-interval 5
```

---

retransmit-interval

Sets the time between retransmitting lost link state advertisements.

Syntax	`ip ospf retransmit-interval <rtinterval>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `rtinterval` – Retransmit interval in seconds. Range: 1 – 65535.
Usage	Use `no ip ospf retransmit-interval <rtinterval>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf retransmit-interval 3
sonic(conf-if-Ethernet8)# no ip ospf retransmit-interval 3
```

---

transmit-delay

Sets the link state transmit delay.

Syntax	`ip ospf transmit-delay <transdelay>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)

Parameters	▪ `transdelay` – Transmit delay in seconds. Range: 1 – 65535.
Usage	Use `no ip ospf transmit-delay <transdelay>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf transmit-delay 4
sonic(conf-if-Ethernet8)# no ip ospf transmit-delay 4
```

mtu-ignore

Disables MTU mismatch detection on this interface.

Syntax	`ip ospf mtu-ignore`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ip ospf mtu-ignore` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf mtu-ignore
sonic(conf-if-Ethernet8)# no ip ospf mtu-ignore
```

network type

Sets the network type.

Syntax	`ip ospf network broadcast|non-broadcast|point-to-multipoint|point-to-point`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ip ospf network broadcast|non-broadcast|point-to-multipoint|point-to-point` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf network broadcast
sonic(conf-if-Ethernet8)# no ip ospf network broadcast
sonic(conf-if-Ethernet8)# ip ospf network point-to-point
sonic(conf-if-Ethernet8)# no ip ospf network point-to-point
```

priority

Sets the router priority.

Syntax	`ip ospf priority <prio>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `prio` – Priority. Range: 0 – 255.
Usage	Use `no ip ospf priority <prio>` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ip ospf priority 2
sonic(conf-if-Ethernet8)# no ip ospf priority 2
```

OSPF Show Commands

show running-config ospf

Displays OSPF running configs.

Syntax	`show running-config ospf`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show running-config ospf
!
frr log syslog
frr log facility local4
!
interface Ethernet 8
 vrf Vrf-20
 ip ospf area 0
!
```

```
router ospf vrf Vrf-20
 ospf router-id 10.10.10.2
sonic# show running-config interface Ethernet 8
!
interface Ethernet 8
 fec none
 mtu 9100
 no shutdown
 speed auto
 vrf Vrf-20
 ip address 20.20.20.2/24
 ip ospf area 0
sonic#
```

---

show ip ospf

Displays OSPF configs.

Syntax	`show ip ospf [<instance-id>|vrf <vrfname>|all]`
Command mode	EXEC
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf
 OSPF Routing Process, Router ID: 10.10.10.2
 Supports only single TOS (TOS0) routes
```

```
 This implementation conforms to RFC2328
 RFC1583Compatibility flag is disabled
 OpaqueCapability flag is disabled
 Initial SPF scheduling delay 0 millisec(s)
 Minimum hold time between consecutive SPFs 50 millisec(s)
 Maximum hold time between consecutive SPFs 5000 millisec(s)
 Hold time multiplier is currently 1
 SPF algorithm last executed 4.407s ago
 Last SPF duration 29 usecs
 SPF timer is inactive
 LSA minimum interval 5000 msecs
 LSA minimum arrival 1000 msecs
 Write Multiplier set to 20
 Refresh timer 10 secs
 Number of external LSA 0. Checksum Sum 0x00000000
 Number of opaque AS LSA 0. Checksum Sum 0x00000000
 Number of areas attached to this router: 1
 Area ID: 0.0.0.0 (Backbone)
   Number of interfaces in this area: Total: 1, Active: 1
   Number of fully adjacent neighbors in this area: 1
   Area has no authentication
   SPF algorithm executed 3 times
   Number of LSA 3
   Number of router LSA 2. Checksum Sum 0x00005f03
   Number of network LSA 1. Checksum Sum 0x00001e9e
   Number of summary LSA 0. Checksum Sum 0x00000000
   Number of ASBR summary LSA 0. Checksum Sum 0x00000000
   Number of NSSA LSA 0. Checksum Sum 0x00000000
   Number of opaque link LSA 0. Checksum Sum 0x00000000
   Number of opaque area LSA 0. Checksum Sum 0x00000000

sonic# show ip ospf vrf Vrf-20
VRF Name: Vrf-20
 OSPF Routing Process, Router ID: 10.10.10.2
 Supports only single TOS (TOS0) routes
 This implementation conforms to RFC2328
 RFC1583Compatibility flag is disabled
 OpaqueCapability flag is disabled
 Initial SPF scheduling delay 0 millisec(s)
 Minimum hold time between consecutive SPFs 50 millisec(s)
 Maximum hold time between consecutive SPFs 5000 millisec(s)
 Hold time multiplier is currently 1
```

```
SPF algorithm last executed 1m50s ago
Last SPF duration 140 usecs
SPF timer is inactive
LSA minimum interval 5000 msecs
LSA minimum arrival 1000 msecs
Write Multiplier set to 20
Refresh timer 10 secs
Number of external LSA 0. Checksum Sum 0x00000000
Number of opaque AS LSA 0. Checksum Sum 0x00000000
Number of areas attached to this router: 1
Area ID: 0.0.0.0 (Backbone)
  Number of interfaces in this area: Total: 1, Active: 1
  Number of fully adjacent neighbors in this area: 1
  Area has no authentication
  SPF algorithm executed 5 times
  Number of LSA 4
  Number of router LSA 2. Checksum Sum 0x00008415
  Number of network LSA 1. Checksum Sum 0x00004393
  Number of summary LSA 1. Checksum Sum 0x0000757f
  Number of ASBR summary LSA 0. Checksum Sum 0x00000000
  Number of NSSA LSA 0. Checksum Sum 0x00000000
  Number of opaque link LSA 0. Checksum Sum 0x00000000
  Number of opaque area LSA 0. Checksum Sum 0x00000000
```

show ip ospf border-routers

Displays all the ABRs and ASBRs.

Syntax	`show ip ospf [<instance-id>|vrf <vrfname>|all] border-routers`
Command mode	EXEC
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf.
Usage	None

Supported Releases	1.1.0 or later
Click command	None

show ip ospf database

Displays OSPF database summary.

Syntax	`show ip ospf [{<instance-id>|vrf <vrfname>}] database [asbr-summary|external|network|router|summary|nssa-external|opaque-link|opaque-area|opaque-as [A.B.C.D [self-originate|adv-router <A.B.C.D>]]|[adv-router <E.F.G.H>|self-originate]]`
Command mode	EXEC
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf. ▪ `A.B.C.D` – Link State ID as an IP address. ▪ `E.F.G.H` – Advertising Router as an IP address.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf database

       OSPF Router with ID (10.10.10.2)

                Router Link States (Area 0.0.0.0)
```

```
Link ID         ADV Router      Age  Seq#       CkSum  Link count
10.10.10.1      10.10.10.1       123 0x80000007 0x2e01 1
10.10.10.2      10.10.10.2       271 0x80000003 0x31ff 1

                Net Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum
20.20.20.2      10.10.10.2       271 0x80000001 0x1e9e

                Summary Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Route
30.30.30.0      10.10.10.1       123 0x80000001 0x9c3d 30.30.30.0/24

sonic#
sonic# show ip ospf database network 20.20.20.2

       OSPF Router with ID (10.10.10.2)


                Net Link States (Area 0.0.0.0)

  LS age: 352
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x3
  LS Type: network-LSA
  Link State ID: 20.20.20.2 (address of Designated Router)
  Advertising Router: 10.10.10.2
  LS Seq Number: 80000001
  Checksum: 0x1e9e
  Length: 32

  Network Mask: /24
        Attached Router: 10.10.10.1
        Attached Router: 10.10.10.2

sonic#
sonic# show ip ospf vrf Vrf-20 database router
VRF Name: Vrf-20

       OSPF Router with ID (10.10.10.2)
```

```
              Router Link States (Area 0.0.0.0)

LS age: 213
Options: 0x2  : *|-|-|-|-|-|E|-
LS Flags: 0x6
Flags: 0x1 : ABR
LS Type: router-LSA
Link State ID: 1.1.1.1
Advertising Router: 1.1.1.1
LS Seq Number: 80000004
Checksum: 0x5216
Length: 36

 Number of Links: 1

  Link connected to: a Transit Network
   (Link ID) Designated Router address: 20.20.20.2
   (Link Data) Router Interface address: 20.20.20.1
    Number of TOS metrics: 0
     TOS 0 Metric: 100


LS age: 316
Options: 0x2  : *|-|-|-|-|-|E|-
LS Flags: 0x3
Flags: 0x0
LS Type: router-LSA
Link State ID: 10.10.10.2
Advertising Router: 10.10.10.2
LS Seq Number: 80000003
Checksum: 0x31ff
Length: 36

 Number of Links: 1

  Link connected to: a Transit Network
   (Link ID) Designated Router address: 20.20.20.2
   (Link Data) Router Interface address: 20.20.20.2
    Number of TOS metrics: 0
     TOS 0 Metric: 100
```

show ip ospf vrf all database

Displays OSPF database summary for all VRFs.

Syntax	`show ip ospf vrf all database [asbr-summary|external|network|router|summary|nssa-external|opaque-link|opaque-area|opaque-as [A.B.C.D [self-originate|adv-router <A.B.C.D>]]|[adv-router <E.F.G.H>|self-originate]]`
Command mode	EXEC
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf. ▪ `A.B.C.D` – Link State ID as an IP address. ▪ `E.F.G.H` – Advertising Router as an IP address.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf vrf all database
VRF Name: Vrf-20

       OSPF Router with ID (10.10.10.2)

                Router Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
1.1.1.1         1.1.1.1          512 0x80000004 0x5216 1
10.10.10.2      10.10.10.2       614 0x80000003 0x31ff 1

                Net Link States (Area 0.0.0.0)
```

```
Link ID         ADV Router      Age  Seq#       CkSum
20.20.20.2      10.10.10.2       614 0x80000002 0x4393

                Summary Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Route
30.30.30.0      1.1.1.1          512 0x80000001 0x757f 30.30.30.0/24

VRF Name: Vrf-2

       OSPF Router with ID (11.11.11.2)

                Router Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
11.11.11.1      11.11.11.1       143 0x80000003 0xbadf 1
11.11.11.2      11.11.11.2       143 0x80000003 0xb8de 1

                Net Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum
2.2.2.2         11.11.11.2       143 0x80000001 0xcc1d
```

show ip ospf database - max-age | self-originated

Displays OSPF database summary for MaxAge and Self-originated link states.

Syntax	`show ip ospf [<instance-id>|vrf <vrfname>|all] database [max-age|self-originated]`
Command mode	EXEC
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf.
Usage	None

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf database self-originate

       OSPF Router with ID (10.10.10.2)

                Router Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
10.10.10.2      10.10.10.2       388 0x80000003 0x31ff 1

                Net Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum
20.20.20.2      10.10.10.2       388 0x80000001 0x1e9e

sonic# show ip ospf vrf all database self-originate
VRF Name: Vrf-20

       OSPF Router with ID (10.10.10.2)

                Router Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
10.10.10.2      10.10.10.2       719 0x80000003 0x31ff 1

                Net Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum
20.20.20.2      10.10.10.2       719 0x80000002 0x4393


VRF Name: Vrf-2

       OSPF Router with ID (11.11.11.2)

                Router Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
```

```
11.11.11.2      11.11.11.2       103 0x80000003 0xb8de 1

                Net Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum
2.2.2.2         11.11.11.2       103 0x80000001 0xcc1d
```

Interface Show Commands

show ip ospf interface

Displays OSPF interface information.

Syntax	`show ip ospf [vrf <vrfname>|all] interface [<IFNAME>]|[traffic <IFNAME>]`
Command mode	EXEC
Parameters	▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf. ▪ `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1).
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf interface
Ethernet8 is up
  ifindex 106, MTU 9100 bytes, BW 1000 Mbit
<UP,BROADCAST,RUNNING,MULTICAST>
  Internet Address 20.20.20.2/24, Broadcast 20.20.20.255, Area 0.0.0.0
  MTU mismatch detection: enabled
```

```
  Router ID 10.10.10.2, Network Type BROADCAST, Cost: 100
  Transmit Delay is 1 sec, State DR, Priority 1
  Backup Designated Router (ID) 10.10.10.1, Interface Address 20.20.20.1
  Multicast group memberships: OSPFAllRouters OSPFDesignatedRouters
  Timer intervals configured, Hello 10s, Dead 40s, Wait 40s, Retransmit
5
    Hello due in 0.698s
  Neighbor Count is 1, Adjacent neighbor count is 1


sonic#
sonic# show ip ospf interface traffic

Interface       HELLO            DB-Desc         LS-Req           LS-
Update        LS-Ack
                Rx/Tx            Rx/Tx            Rx/Tx            Rx/
Tx            Rx/Tx
--------------------------------------------------------------------------
--------------------
Ethernet8        53/60             3/2             1/1             5/
2             2/3

sonic# show ip ospf vrf Vrf-20 interface
VRF Name: Vrf-20
Ethernet8 is up
  ifindex 106, MTU 9100 bytes, BW 1000 Mbit
<UP,BROADCAST,RUNNING,MULTICAST>
  Internet Address 20.20.20.2/24, Broadcast 20.20.20.255, Area 0.0.0.0
  MTU mismatch detection: enabled
  Router ID 10.10.10.2, Network Type BROADCAST, Cost: 100
  Transmit Delay is 1 sec, State DR, Priority 1
  Backup Designated Router (ID) 1.1.1.1, Interface Address 20.20.20.1
  Saved Network-LSA sequence number 0x80000002
  Multicast group memberships: OSPFAllRouters OSPFDesignatedRouters
  Timer intervals configured, Hello 10s, Dead 40s, Wait 40s, Retransmit
5
    Hello due in 9.041s
  Neighbor Count is 1, Adjacent neighbor count is 1
```

---

show ip ospf interface (specific Instance)

Displays OSPF interface information for specific instance.

Syntax	`show ip ospf <instance-id> interface [<IFNAME>]`
Command mode	EXEC
Parameters	• `instance-id` – OSPF Instance ID. Range: 1 – 65535. • `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1).
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Neighbor Show Commands

show ip ospf neighbor

Displays OSPF neighbor list.

Syntax	`show ip ospf [<instance-id>] neighbor [<A.B.C.D>|detail [all]|all|<IFNAME> [detail]]`
Command mode	EXEC
Parameters	• `instance-id` – OSPF Instance ID. Range: 1 – 65535. • `A.B.C.D` – Neighbor ID as an IP address. • `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1).
Usage	None
Supported Releases	1.1.0 or later

Click command	None

Example

```
sonic# show ip ospf neighbor

Neighbor ID     Pri State           Dead Time Address
Interface                         RXmtL RqstL DBsmL
10.10.10.1        1 Full/Backup       33.481s 20.20.20.1
Ethernet8:20.20.20.2                  0     0     0


sonic# show ip ospf neighbor detail
 Neighbor 10.10.10.1, interface address 20.20.20.1
    In the area 0.0.0.0 via interface Ethernet8
    Neighbor priority is 1, State is Full, 4 state changes
    Most recent state change statistics:
      Progressive change 10m42s ago
    DR is 20.20.20.2, BDR is 20.20.20.1
    Options 2 *|-|-|-|-|-|E|-
    Dead timer due in 38.638s
    Database Summary List 0
    Link State Request List 0
    Link State Retransmission List 0
    Thread Inactivity Timer on
    Thread Database Description Retransmision off
    Thread Link State Request Retransmission on
    Thread Link State Update Retransmission on
```

show ip ospf vrf neighbor

Displays OSPF neighbor list for specific VRF.

Syntax	`show ip ospf vrf <vrfname> neighbor [<A.B.C.D>|detail [all]|all|<IFNAME>]`
Command mode	EXEC
Parameters	▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf.

- `A.B.C.D` – Neighbor ID as an IP address.
- `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1).

Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf vrf Vrf-20 neighbor
VRF Name: Vrf-20

Neighbor ID     Pri State           Dead Time Address
Interface                         RXmtL RqstL DBsmL
1.1.1.1           1 Full/Backup       37.394s 20.20.20.1
Ethernet8:20.20.20.2                  0     0     0
```

---

show ip ospf vrf all neighbor

Displays OSPF neighbor list for all VRFs.

Syntax	`show ip ospf vrf all neighbor [<A.B.C.D>|detail|all|<IFNAME>]`
Command mode	EXEC
Parameters	• `A.B.C.D` – Neighbor ID as an IP address. • `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1).
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf vrf all neighbor
VRF Name: Vrf-20

Neighbor ID     Pri State           Dead Time Address
Interface                         RXmtL RqstL DBsmL
1.1.1.1           1 Full/Backup       37.766s 20.20.20.1
Ethernet8:20.20.20.2                  0     0     0

VRF Name: Vrf-2

Neighbor ID     Pri State           Dead Time Address
Interface                         RXmtL RqstL DBsmL
11.11.11.1        1 Full/Backup       31.650s 2.2.2.1
Ethernet9:2.2.2.2                     0     0     0

OSPF instance not found
```

show ip ospf route

Displays OSPF routing table.

Syntax	`show ip ospf [<instance-id>|vrf <vrfname>|all] route`
Command mode	EXEC
Parameters	▪ `instance-id` – OSPF Instance ID. Range: 1 – 65535. ▪ `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf.
Usage	None
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# show ip ospf route
============ OSPF network routing table ============
N    20.20.20.0/24          [100] area: 0.0.0.0
                            directly attached to Ethernet8
N IA 30.30.30.0/24          [110] area: 0.0.0.0
                            via 20.20.20.1, Ethernet8

============ OSPF router routing table =============
R    10.10.10.1             [100] area: 0.0.0.0, ABR
                            via 20.20.20.1, Ethernet8

============ OSPF external routing table ===========

sonic#
sonic# show ip ospf vrf Vrf-20 route
VRF Name: Vrf-20
============ OSPF network routing table ============
N    20.20.20.0/24          [100] area: 0.0.0.0
                            directly attached to Ethernet8
N IA 30.30.30.0/24          [110] area: 0.0.0.0
                            via 20.20.20.1, Ethernet8

============ OSPF router routing table =============
R    1.1.1.1                [100] area: 0.0.0.0, ABR
                            via 20.20.20.1, Ethernet8

============ OSPF external routing table ===========
```

show ip ospf router-info

Displays OSPF router information.

Syntax	`show ip ospf router-info`
Command mode	EXEC
Parameters	None
Usage	None

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf router-info
--- Router Information parameters ---
  Router Capabilities: 0x10000000
```

show ip ospf vrfs

Displays OSPF VRFs information.

Syntax	`show ip ospf vrfs`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ip ospf vrfs
Name                        Id     RouterId
Vrf-20                      134    10.10.10.2
Vrf-2                       135    11.11.11.2

Total number of OSPF VRFs: 2
```

OSPF Clear Commands

clear ip ospf interface

Clears OSPF interface information.

Syntax	`clear ip ospf interface [<L3intf>]`
Command mode	EXEC
Parameters	• `L3intf` – L3 interface name.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# clear ip ospf interface
sonic# clear ip ospf interface Ethernet8
```

clear ip ospf vrf interface

Clears OSPF interface information.

Syntax	`clear ip ospf vrf <vrfname> interface [<L3intf>]`
Command mode	EXEC
Parameters	• `vrfname` – VRF Name. Maximum: 15 characters, prefixed with Vrf. • `L3intf` – L3 interface name.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# clear ip ospf vrf Vrf-1 interface
sonic# clear ip ospf vrf Vrf-1 interface Ethernet8
```

clear ip ospf process

Clears OSPF interface information.

Syntax	`clear ip ospf process`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# clear ip ospf process
```

OSPF Debug Commands

debug ospf event | nssa

Enables debugs for OSPF event and nssa information.

Syntax	`debug ospf [<instance-id>] event|nssa`
Command mode	EXEC
Parameters	▪ `instance-id` – Instance ID. Range: 1 – 65535.

Usage	Use `no debug ospf <instance-id> event|nssa` or `no debug ospf [event|nssa]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf event
sonic# no debug ospf event
sonic# debug ospf 1 event
sonic# no debug ospf 1 event
sonic#
sonic# debug ospf nssa
sonic# no debug ospf nssa
sonic# debug ospf 1 nssa
sonic# no debug ospf 1 nssa
sonic#
sonic# no debug ospf
```

---

debug ospf ism | nsm

Enables debugs for OSPF Interface State Machine and Neighbor State Machine.

Syntax	`debug ospf [<instance-id>] ism|nsm [status|events|timers]`
Command mode	EXEC
Parameters	▪ `instance-id` – Instance ID. Range: 1 – 65535.
Usage	Use `no debug ospf <instance-id> ism|nsm [status|events|timers]` or `no debug ospf [ism|nsm [status|events|timers]]`

	to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# debug ospf ism  events
sonic# no debug ospf ism  events
sonic#
sonic# debug ospf nsm events
sonic# no debug ospf nsm events
```

debug ospf lsa

Enables debugs for OSPF Link State Advertisement.

Syntax	`debug ospf [<instance-id>] lsa [generate|flooding|install|refresh]`
Command mode	EXEC
Parameters	▪ `instance-id` – Instance ID. Range: 1 – 65535.

Usage	Use
	`no debug ospf <instance-id> lsa [generate|flooding|install|refresh]`
	or
	`no debug ospf [lsa [generate|flooding|install|refresh]]`
	to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# debug ospf lsa flooding
sonic# no debug ospf lsa flooding
sonic#
```

debug ospf packet

Enables debugs for OSPF packet.

Syntax	`debug ospf [<instance-id>] packet hello|dd|ls-request|ls-update|ls-ack|all [send [detail]|recv [detail]|detail]`
Command mode	EXEC
Parameters	▪ `instance-id` – Instance ID. Range: 1 – 65535.
Usage	Use `no debug ospf <instance-id> packet hello|dd|ls-request|ls-update|ls-ack|all [send [detail]|recv [detail]|detail]` or `no debug ospf [packet hello|dd|ls-request|ls-update|ls-ack|all [send [detail]|recv [detail]|detail]]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf packet ls-request send detail
sonic# no debug ospf packet ls-request send detail
sonic#
```

debug ospf zebra

Enables debugs for zebra information.

Syntax	`debug ospf [<instance-id>] zebra [interface|redistribute]`
Command mode	EXEC
Parameters	• `instance-id` – Instance ID. Range: 1 – 65535.

Usage	Use
	`no debug ospf <instance-id> zebra [interface|redistribute]`
	or
	`no debug ospf [zebra [interface|redistribute]]`
	to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf zebra interface
sonic# no debug ospf zebra interface
sonic#
```

debug ospf default-information | sr | te

Enables debugs for OSPF SR, TE and default information.

Syntax	`debug ospf default-information|sr|te`
Command mode	EXEC
Parameters	None

Usage	Use `no debug ospf [default-information|sr|te]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf default-information
sonic# no debug ospf default-information
sonic#
sonic# debug ospf sr
sonic# no debug ospf sr
sonic#
sonic# debug ospf te
sonic# no debug ospf te
```

OSPF6 Config Commands

router ospf6

Enables a OSPF protocol process for IPv6.

Syntax	`router ospf6`
Command mode	CONFIG
Parameters	None
Usage	Use `no router ospf6` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(config)# router ospf6
sonic(config)# no router ospf6
```

Area Commands

export-list

Sets the filter for networks announced to other areas.

Syntax	`area <A.B.C.D|area-id> export-list <NAME>`
Command mode	Router OSPF6
Parameters	▪ `A.B.C.D` – OSPF6 area ID in IP address format. ▪ `area-id` – OSPF6 area ID as a decimal value. Range: 0 – 4294967295. ▪ `NAME` – Name of the access-list.
Usage	Use `no area <A.B.C.D|area-id> export-list <NAME>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# area 1 export-list explst
sonic(config-ospf6)# no area 1 export-list explst
sonic(config-ospf6)#
sonic(config-ospf6)# area 1.1.1.1 export-list explst
sonic(config-ospf6)# no area 1.1.1.1 export-list explst
```

---

filter-list

Filters networks between OSPF6 areas.

Syntax	`area <A.B.C.D|area-id> filter-list prefix <NAME> in|out`
Command mode	Router OSPF6
Parameters	▪ `A.B.C.D` – OSPF6 area ID in IP address format. ▪ `area-id` – OSPF6 area ID as a decimal value. Range: 0 – 4294967295. ▪ `NAME` – Name of an IP prefix-list.
Usage	Use `no area <A.B.C.D|area-id> filter-list prefix <NAME> in|out` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# area 1 filter-list prefix prflst in
sonic(config-ospf6)# area 1 filter-list prefix prflst out
sonic(config-ospf6)# no area 1 filter-list prefix prflst in
sonic(config-ospf6)# no area 1 filter-list prefix prflst out
sonic(config-ospf6)#
sonic(config-ospf6)# area 1.1.1.1 filter-list prefix prflst in
sonic(config-ospf6)# area 1.1.1.1 filter-list prefix prflst out
sonic(config-ospf6)# no area 1.1.1.1 filter-list prefix prflst in
sonic(config-ospf6)# no area 1.1.1.1 filter-list prefix prflst out
```

import-list

Sets the filter for networks from other areas announced to the specified one.

Syntax	`area <A.B.C.D|area-id> import-list <NAME>`

Command mode	Router OSPF6
Parameters	▪ `A.B.C.D` – OSPF6 area ID in IP address format. ▪ `area-id` – OSPF6 area ID as a decimal value. Range: 0 – 4294967295. ▪ `NAME` – Name of the access-list.
Usage	Use `no area <A.B.C.D|area-id> import-list <NAME>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# area 1 import-list implst
sonic(config-ospf6)# no area 1 import-list implst
sonic(config-ospf6)#
sonic(config-ospf6)# area 1.1.1.1 import-list implst
sonic(config-ospf6)# no area 1.1.1.1 import-list implst
```

address range

Configures address range.

Syntax	`area <A.B.C.D|area-id> range [advertise|cost <cost-id>|not-advertise]`
Command mode	Router OSPF6
Parameters	▪ `A.B.C.D` – OSPF6 area ID in IP address format. ▪ `area-id` – OSPF6 area ID as a decimal value. Range: 0 – 4294967295. ▪ `cost-id` – Advertised metric for this range. Range: 0 – 16777215.

- `A::B/M` – IPv6 address.

Usage	Use `no area <A.B.C.D|area-id> range [advertise|cost <cost-id>|not-advertise]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# area 1 range 121::1/64
sonic(config-ospf6)# area 1 range 121::1/64 advertise
sonic(config-ospf6)# area 1 range 121::1/64 cost 2
sonic(config-ospf6)# area 1 range 121::1/64 not-advertise
sonic(config-ospf6)# no area 1 range 121::1/64
sonic(config-ospf6)# no area 1 range 121::1/64 advertise
sonic(config-ospf6)# no area 1 range 121::1/64 cost 2
sonic(config-ospf6)# no area 1 range 121::1/64 not-advertise
```

stub

Configures OSPF6 area as stub.

Syntax	`area <A.B.C.D|area-id> stub [no-summary]`
Command mode	Router OSPF6
Parameters	• `A.B.C.D` – OSPF6 area ID in IP address format. • `area-id` – OSPF6 area ID as a decimal value. Range: 0 – 4294967295.
Usage	Use `no area <A.B.C.D|area-id> stub [no-summary]` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# area 1 stub
sonic(config-ospf6)# area 1 stub no-summary
sonic(config-ospf6)# no area 1 stub no-summary
sonic(config-ospf6)# no area 1 stub
```

auto-cost

Calculates OSPF6 interface cost according to bandwidth.

Syntax	`auto-cost reference-bandwidth <bandwidth>`
Command mode	Router OSPF6
Parameters	▪ `bandwidth` – Reference bandwidth in terms of Mbits per second. Range: 1 – 4294967.
Usage	Use `no auto-cost reference-bandwidth <bandwidth>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# auto-cost reference-bandwidth 1
sonic(config-ospf6)# no auto-cost reference-bandwidth 1
```

Distance Commands

distance

Sets administrative distance.

Syntax	`distance <dist>`
Command mode	Router OSPF6
Parameters	• `dist` – OSPF6 Administrative distance. Range: 1 – 255.
Usage	Use `no distance <dist>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(config-ospf6)# distance 1
sonic(config-ospf6)# no distance 1
```

distance ospf6

Sets administrative distance for intra-area, inter-area and external routes.

Syntax	`distance ospf6 {intra-area <intra>|inter-area <inter>)|external <ext>}`
Command mode	Router OSPF6
Parameters	• `intra` – Distance for intra-area routes. Range: 1 – 255. • `inter` – Distance for inter-area routes. Range: 1 – 255. • `ext` – Distance for external routes. Range: 1 – 255.
Usage	Use `no distance ospf6 {intra-area <intra>|inter-area <inter>)|external <ext>}` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# distance ospf6 external 1 inter-area 1 intra-area 1
sonic(config-ospf6)# no distance ospf6 external 1 inter-area 1 intra-
area 1
```

interface area

Enables routing on an IPv6 interface.

Syntax	`interface <IFNAME> area <A.B.C.D|area-id>`
Command mode	Router OSPF6
Parameters	▪ `A.B.C.D` – OSPF6 area ID in IP address format. ▪ `area-id` – OSPF6 area ID as a decimal value. Range: 0 – 4294967295. ▪ `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1).
Usage	Use `no interface <IFNAME> area <A.B.C.D|area-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# interface Ethernet8 area 1
sonic(config-ospf6)# no interface Ethernet8 area 1
sonic(config-ospf6)#
```

```
sonic(config-ospf6)# interface Ethernet8 area 1.1.1.1
sonic(config-ospf6)# no interface Ethernet8 area 1.1.1.1
```

log-adjacency changes

Logs changes in adjacency state.

Syntax	`log-adjacency-changes [detail]`
Command mode	Router OSPF6
Parameters	None
Usage	Use `no log-adjacency-changes [detail]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# log-adjacency-changes
sonic(config-ospf6)# log-adjacency-changes detail
sonic(config-ospf6)# no log-adjacency-changes detail
sonic(config-ospf6)# no log-adjacency-changes
```

ospf6 router-id

Configures OSPF6 router-id.

Syntax	`ospf6 router-id <A.B.C.D>`
Command mode	Router OSPF6

Parameters	▪ `A.B.C.D` – IPv4 address notation (Example: 0.0.0.0).
Usage	Use `no ospf6 router-id <A.B.C.D>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic(config-ospf6)# ospf6 router-id 1.1.1.1
sonic(config-ospf6)# no ospf6 router-id 1.1.1.1
```

redistribute

Redistributes information from another routing protocol.

Syntax	`redistribute kernel|connected|static|ripng|isis|bgp|nhrp|table|vnc|babel|sharp|openfabric [route-map <rmap>]`
Command mode	Router OSPF6
Parameters	▪ `rmap` – Route map reference.
Usage	Use `no redistribute kernel|connected|static|ripng|isis|bgp|nhrp|table|vnc|babel|sharp|openfabric [route-map <rmap>]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# redistribute babel
sonic(config-ospf6)# redistribute babel route-map rmap1
sonic(config-ospf6)# redistribute bgp
sonic(config-ospf6)# redistribute bgp route-map rmap1
sonic(config-ospf6)# redistribute connected
sonic(config-ospf6)# redistribute connected route-map rmap1
sonic(config-ospf6)# redistribute isis
sonic(config-ospf6)# redistribute isis route-map rmap1
sonic(config-ospf6)# redistribute kernel
sonic(config-ospf6)# redistribute kernel  route-map rmap1
sonic(config-ospf6)# redistribute nhrp
sonic(config-ospf6)# redistribute nhrp route-map rmap1
sonic(config-ospf6)# redistribute openfabric
sonic(config-ospf6)# redistribute openfabric route-map rmap1
sonic(config-ospf6)# redistribute ripng
sonic(config-ospf6)# redistribute ripng route-map rmap1
sonic(config-ospf6)# redistribute sharp
sonic(config-ospf6)# redistribute sharp route-map rmap1
sonic(config-ospf6)# redistribute static
sonic(config-ospf6)# redistribute static route-map rmap1
sonic(config-ospf6)# redistribute table
sonic(config-ospf6)# redistribute table route-map rmap1
sonic(config-ospf6)# redistribute vnc
sonic(config-ospf6)# redistribute vnc route-map rmap1
```

stub-router

Makes router a stub router.

Syntax	`stub-router administrative`
Command mode	Router OSPF6
Parameters	None
Usage	Use `no stub-router administrative` to remove the configuration.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# stub-router administrative
sonic(config-ospf6)# no stub-router administrative
```

Timers Commands

timers lsa min-arrival

Adjusts OSPF6 LSA timers.

Syntax	`timers lsa min-arrival <delay>`
Command mode	Router OSPF6
Parameters	▪ `delay` – Delay in milliseconds. Range: 0 – 600000.
Usage	Use `no timers lsa min-arrival <delay>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# timers lsa min-arrival 1
sonic(config-ospf6)# no timers lsa min-arrival 1
```

---

timers throttle spf

Adjusts OSPF6 Throttle SPF timers.

Syntax	`timers throttle spf <delay> <hold> <maxhold>`
Command mode	Router OSPF6
Parameters	▪ `delay` – Delay from first change received till SPF calculation in milliseconds. Range: 0 – 600000. ▪ `hold` – Initial hold time between consecutive SPF calculations in milliseconds. Range: 0 – 600000. ▪ `maxhold` – Maximum hold time in milliseconds. Range: 0 – 600000.
Usage	Use `no timers throttle spf <delay> <hold> <maxhold>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config-ospf6)# timers throttle spf 1 1 1
sonic(config-ospf6)# no timers throttle spf 1 1 1
```

OSPF6 Interface Commands

advertise

Sets advertising options.

Syntax	`ipv6 ospf6 advertise prefix-list <NAME>`
Command mode	Router OSPF6
Parameters	▪ `NAME` – Name of an IP prefix-list.

Usage	Use `no ipv6 ospf6 advertise prefix-list <NAME>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# ipv6 ospf6 advertise prefix-list prflst
sonic(conf-if-Ethernet8)# no ipv6 ospf6 advertise prefix-list prflst
```

---

bfd

Enables BFD support.

Syntax	`ipv6 ospf6 bfd`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ipv6 ospf6 bfd` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 bfd
sonic(conf-if-Ethernet8)# no ipv6 ospf6 bfd
```

---

cost

Sets the interface cost.

Syntax	`ipv6 ospf6 cost <cost-id>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `cost-id` – Interface cost. Range: 0 – 65535.
Usage	Use `no ipv6 ospf6 cost <cost-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 cost 1
sonic(conf-if-Ethernet8)# no ipv6 ospf6 cost 1
```

dead interval

Sets the interval time after which a neighbor is declared down.

Syntax	`ipv6 ospf6 dead-interval <dinterval>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `dinterval` – Delay interval in seconds. Range: 1 – 65535.
Usage	Use `no ipv6 ospf6 dead-interval <dinterval>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 dead-interval 10
sonic(conf-if-Ethernet8)# no ipv6 ospf6 dead-interval 10
```

hello-interval

Sets the time between HELLO packets.

Syntax	`ipv6 ospf6 hello-interval <hinterval>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `hinterval` – Hello interval in seconds. Range: 1 – 65535.
Usage	Use `no ipv6 ospf6 hello-interval <hinterval>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 hello-interval 2
sonic(conf-if-Ethernet8)# no ipv6 ospf6 hello-interval 2
```

retransmit-interval

Sets the time between retransmitting lost link state advertisements.

Syntax	`ipv6 ospf6 retransmit-interval <rtinterval>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `rtinterval` – Retransmit interval in seconds. Range: 1

– 65535.

Usage	Use `no ipv6 ospf6 retransmit-interval <rtinterval>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 retransmit-interval 3
sonic(conf-if-Ethernet8)# no ipv6 ospf6 retransmit-interval 3
```

transmit-delay

Sets the link state transmit delay.

Syntax	`ipv6 ospf6 transmit-delay <transdelay>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `transdelay` – Transmit delay in seconds. Range: 1 – 65535.
Usage	Use `no ipv6 ospf6 transmit-delay <transdelay>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 transmit-delay 5
sonic(conf-if-Ethernet8)# no ipv6 ospf6 transmit-delay 5
```

instance-id

Configures instance ID for this interface.

Syntax	`ipv6 ospf6 instance-id <instance-id>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `instance-id` – Instance ID. Range: 0 – 255.
Usage	Use `no ipv6 ospf6 instance-id <instance-id>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 instance-id 1
sonic(conf-if-Ethernet8)# no ipv6 ospf6 instance-id 1
```

ifmtu

Sets the interface MTU.

Syntax	`ipv6 ospf6 ifmtu <mtu>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `mtu` – OSPFv3 interface MTU. Range: 1 – 65535.
Usage	Use `no ipv6 ospf6 ifmtu <mtu>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 ifmtu 9100
sonic(conf-if-Ethernet8)# no ipv6 ospf6 ifmtu 9100
```

mtu-ignore

Disables MTU mismatch detection on this interface.

Syntax	`ipv6 ospf6 mtu-ignore`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ipv6 ospf6 mtu-ignore` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 mtu-ignore
sonic(conf-if-Ethernet8)# no ipv6 ospf6 mtu-ignore
```

network type

Sets the network type.

Syntax	`ipv6 ospf6 network broadcast|point-to-point`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None

Usage	Use `no ipv6 ospf6 network broadcast|point-to-point` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 network broadcast
sonic(conf-if-Ethernet8)# no ipv6 ospf6 network broadcast
sonic(conf-if-Ethernet8)# ipv6 ospf6 network point-to-point
sonic(conf-if-Ethernet8)# no ipv6 ospf6 network point-to-point
```

passive

Sets the passive interface.

No adjacency will be formed on this interface.

Syntax	`ipv6 ospf6 passive`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	None
Usage	Use `no ipv6 ospf6 passive` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 passive
sonic(conf-if-Ethernet8)# no ipv6 ospf6 passive
```

priority

Sets the router priority.

Syntax	`ipv6 ospf6 priority <prio>`
Command mode	Interface (Ethernet, PortChannel, VLAN and Loopback)
Parameters	▪ `prio` – Priority. Range: 0 – 255.
Usage	Use `no ipv6 ospf6 priority <prio>` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(conf-if-Ethernet8)# ipv6 ospf6 priority 5
sonic(conf-if-Ethernet8)# no ipv6 ospf6 priority 5
```

OSPF6 Show Commands

show running-config ospf6

Displays OSPF6 running configs.

Syntax	`show running-config ospf6`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show running-config ospf6
!
router ospf6
 ospf6 router-id 194.0.0.2
 interface Vlan50 area 1
sonic# show running-config interface Vlan 50
!
interface Vlan 50
 ipv6 address 50::2/64
 ipv6 use-link-local-only
sonic# show running-config interface Ethernet 47
!
interface Ethernet 47
 fec none
 mtu 9100
 no shutdown
 speed auto
 switchport trunk allowed vlan add 50
sonic#
```

show ipv6 ospf6

Displays OSPF6 information.

Syntax	`show ipv6 ospf6`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# show ipv6 ospf6
 OSPFv3 Routing Process (0) with Router-ID 194.0.0.2
 Running 00:12:07
 LSA minimum arrival 1000 msecs
 Initial SPF scheduling delay 0 millisec(s)
 Minimum hold time between consecutive SPFs 50 millsecond(s)
 Maximum hold time between consecutive SPFs 5000 millsecond(s)
 Hold time multiplier is currently 1
 SPF algorithm last executed 00:11:12 ago, reason R+, R-
 Last SPF duration 0 sec 197 usec
 SPF timer is inactive
 Number of AS scoped LSAs is 0
 Number of areas in this router is 1

 Area 1
     Number of Area scoped LSAs is 4
     Interface attached to this area: Vlan50
SPF last executed 672.574877s ago

sonic#
```

---

show ipv6 ospf6 area

Displays area information.

Syntax	`show ipv6 ospf6 area <A.B.C.D> spf tree`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – Area ID as an IPv4 notation.
Usage	None
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# show ipv6 ospf6 area 0.0.0.1 spf tree
+-194.0.0.2 [0]
   +-194.0.0.2 Net-ID: 0.0.0.66 [10]
      +-194.0.0.1 [10]
```

show ipv6 ospf6 border-routers

Displays routing table for ABR and ASBR.

Syntax	`show ipv6 ospf6 border-routers [<A.B.C.D>|detail]`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – Router ID.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

show ipv6 ospf6 database

Displays link state database.

Syntax	`show ipv6 ospf6 database [router|network|inter-prefix|inter-router|as-external|group-membership|type-7|link|intra-prefix [[* <E.F.G.H>|<A.B.C.D> self-originated|linkstate-id <A.B.C.D>] [detail|dump|internal]] | [<A.B.C.D> <E.F.G.H>|adv-router <E.F.G.H> linkstate-id <A.B.C.D> [dump|internal]]]`

Command mode	EXEC
Parameters	▪ `A.B.C.D` – Link State ID as an IP address. ▪ `E.F.G.H` – Advertising Router as an IP address.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 database

        Area Scoped Link State Database (Area 1)

Type LSId            AdvRouter       Age   SeqNum
Payload
Rtr  0.0.0.0         194.0.0.1        12 80000003             194.0.0.2/
0.0.0.66
Rtr  0.0.0.0         194.0.0.2        11 80000009             194.0.0.2/
0.0.0.66
Net  0.0.0.66        194.0.0.2        11 80000001
194.0.0.2
Net  0.0.0.66        194.0.0.2        11 80000001
194.0.0.1
INP  0.0.0.0         194.0.0.2      3600 8000000a
50::/64
INP  0.0.0.66        194.0.0.2        11 80000001
50::/64

        I/F Scoped Link State Database (I/F Vlan50 in Area 1)

Type LSId            AdvRouter       Age   SeqNum
Payload
Lnk  0.0.0.1         194.0.0.1        22 80000001
fe80::213:1ff:fe00:1
Lnk  0.0.0.66        194.0.0.2       392 8000000e
fe80::36ad:61ff:fef1:a56c
Lnk  0.0.0.66        194.0.0.2       392
8000000e                            50::
```

```
        AS Scoped Link State Database

Type LSId            AdvRouter       Age   SeqNum
Payload


sonic# show ipv6 ospf6 database router
  *                 Any Link state ID
  A.B.C.D           Specify Link state ID as IPv4 address notation
  adv-router        Search by Advertising Router
  detail            Display details of LSAs
  dump              Dump LSAs
  internal          Display LSA's internal information
  linkstate-id      Search by Link state ID
  self-originated   Display Self-originated LSAs
  |                 Pipe through a command
  <cr>

sonic# show ipv6 ospf6 database router detail

        Area Scoped Link State Database (Area 1)

Age:   27 Type: Router
Link State ID: 0.0.0.0
Advertising Router: 194.0.0.1
LS Sequence Number: 0x80000003
CheckSum: 0x3513 Length: 40
Duration: 00:00:20
    Bits: -------- Options: --|R|-|--|E|V6
    Type: Transit-Network Metric: 10
    Interface ID: 0.0.0.1
    Neighbor Interface ID: 0.0.0.66
    Neighbor Router ID: 194.0.0.2

Age:   26 Type: Router
Link State ID: 0.0.0.0
Advertising Router: 194.0.0.2
LS Sequence Number: 0x80000009
CheckSum: 0xb44b Length: 40
Duration: 00:00:25
    Bits: -------- Options: --|R|-|--|E|V6
```

```
    Type: Transit-Network Metric: 10
    Interface ID: 0.0.0.66
    Neighbor Interface ID: 0.0.0.66
    Neighbor Router ID: 194.0.0.2

sonic#
```

show ipv6 ospf6 database - self-originated | adv-router

Displays any link state, self-originated and advertising router database.

Syntax	`show ipv6 ospf6 database [[[* <A.B.C.D> <E.F.G.H>|self-originated|adv-router <E.F.G.H> linkstate-id <A.B.C.D>] [detail|dump|internal]] | [ * * <E.F.G.H>|adv-router * <E.F.G.H>> detail|dump|internal]]`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – Link State ID as an IP address. ▪ `E.F.G.H` – Advertising Router as an IP address.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 database * 0.0.0.66 194.0.0.2

        Area Scoped Link State Database (Area 1)

Type LSId            AdvRouter       Age   SeqNum
Payload
```

```
Net  0.0.0.66       194.0.0.2       170 80000001
194.0.0.2
Net  0.0.0.66       194.0.0.2       170 80000001
194.0.0.1
INP  0.0.0.66       194.0.0.2       170 80000001
50::/64

        I/F Scoped Link State Database (I/F Vlan50 in Area 1)

Type LSId           AdvRouter       Age   SeqNum
Payload
Lnk  0.0.0.66       194.0.0.2       551 8000000e
fe80::36ad:61ff:fef1:a56c
Lnk  0.0.0.66       194.0.0.2       551
8000000e                           50::

        AS Scoped Link State Database

Type LSId           AdvRouter       Age   SeqNum
Payload

sonic#
```

---

show ipv6 ospf6 interface

Displays interface information.

Syntax	`show ipv6 ospf6 interface [[<IFNAME>|traffic] [prefix [<A::B>|<A::B/M match [detail]]]] | [traffic <IFNAME>]>`
Command mode	EXEC
Parameters	▪ `IFNAME` – Interface name (Example: Ethernet1, Vlan1, PortChannel1). ▪ `A::B` – Displays the route bestmatches the address (IPv6 address). ▪ `A::B/M` – Displays the route matches address and

mask (IPv6 address).

Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 interface traffic Vlan50

Interface       HELLO            DB-Desc         LS-Req           LS-
Update        LS-Ack
                Rx/Tx            Rx/Tx            Rx/Tx            Rx/
Tx            Rx/Tx
-------------------------------------------------------------------------
--------------------
Vlan50          133/1127          10/5             0/2              6/
2             2/0

sonic# show ipv6 ospf6 interface prefix detail
Destination: 50::/64
Destination type: Network
Installed Time: 01:40:00 ago
  Changed Time: 01:40:00 ago
Lock: 2 Flags: BA--
Memory: prev: 0x0 this: 0x5563573cb910 next: 0x0
Associated Area: 0.0.0.1
Path Type: Intra-Area
LS Origin: 0x0000 Id: 0.0.0.0 Adv: 0.0.0.0
Options: --|-|-|--|-|--
Router Bits: --------
Prefix Options: xxx
Metric Type: 0
Metric: 10 (0)
Paths count: 0
Nexthop count: 1
Nexthop:
  ::1 Vlan50
sonic#
```

show ipv6 ospf6 linkstate

Displays link state routing table.

Syntax	`show ipv6 ospf6 linkstate detail|network <A.B.C.D> <E.F.G.H>|router <A.B.C.D>`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – Router ID as an IPv4 address notation. ▪ `E.F.G.H` – Link state ID as an IPv4 address notation.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 linkstate router 194.0.0.1

        SPF Result in Area 1

Destination: 194.0.0.1
Destination type: Linkstate
Installed Time: 00:04:37 ago
  Changed Time: 00:04:37 ago
Lock: 2 Flags: BA--
Memory: prev: 0x0 this: 0x5563573ca0a0 next: 0x5563573be300
Associated Area: 0.0.0.0
Path Type: Intra-Area
LS Origin: Router Id: 0.0.0.0 Adv: 194.0.0.1
Options: --|R|-|--|E|V6
Router Bits: --------
Prefix Options: xxx
Metric Type: 1
Metric: 10 (1)
Paths count: 0
Nexthop count: 1
Nexthop:
  fe80::213:1ff:fe00:1 Vlan50
```

```
sonic#
```

show ipv6 ospf6 neighbor

Displays neighbor list.

Syntax	`show ipv6 ospf6 neighbor [<A.B.C.D>|detail|drchoice]`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – Router ID as IPv4 address notation.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 neighbor
Neighbor ID     Pri    DeadTime    State/IfState         Duration I/
F[State]
194.0.0.1         0    00:00:31     Full/DROther         00:05:08
Vlan50[DR]

sonic#
```

show ipv6 ospf6 redistribute

Displays redistributing external information.

Syntax	`show ipv6 ospf6 redistribute`

Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

show ipv6 ospf6 route

Displays routing table.

Syntax	`show ipv6 ospf6 route [external-1|external-2|inter-area|intra-area [detail]] | [<A::B>|summary] | [<A::B/M> [longer|match [detail]]] | [detail]`
Command mode	EXEC
Parameters	▪ `A::B` – IPv6 address. ▪ `A::B/M` – IPv6 prefix.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 route
*N IA 50::/64                          ::                                Vlan50
00:05:31

sonic#
sonic# show ipv6 ospf6 route summary
Number of OSPFv3 routes: 1
```

```
Number of Destination: 1
Number of Alternative routes: 0
Number of Equal Cost Multi Path: 0
Number of Intra-Area routes: 1
Number of Inter-Area routes: 0
Number of External-1 routes: 0
Number of External-2 routes: 0

sonic#
```

SPF Show Commands

show ipv6 ospf6 spf tree

Displays shortest path first calculation.

Syntax	`show ipv6 ospf6 spf tree`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Click command

```
sonic# show ipv6 ospf6 spf tree
+-194.0.0.2 [0]
   +-194.0.0.2 Net-ID: 0.0.0.66 [10]
      +-194.0.0.1 [10]

sonic#
```

---

show ipv6 ospf6 simulate spf-tree

Displays SPF calculation for another router.

Syntax	`show ipv6 ospf6 simulate spf-tree <A.B.C.D> area <E.F.G.H>`
Command mode	EXEC
Parameters	• `A.B.C.D` – Root's router ID to calculate another router's SPF tree. • `E.F.G.H` – Area ID as an IPv4 notation.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show ipv6 ospf6 simulate spf-tree 194.0.0.2 area 0.0.0.1
+-194.0.0.2 [0]
   +-194.0.0.2 Net-ID: 0.0.0.66 [10]
      +-194.0.0.1 [10]

sonic#
```

show ipv6 ospf6 zebra

Displays zebra information.

Syntax	`show ipv6 ospf6 zebra`
Command mode	EXEC
Parameters	None
Usage	None

Supported Releases	1.1.0 or later
Click command	None

Click command

```
sonic# show ipv6 ospf6 zebra
Zebra Information
  fail: 0
  redistribute default: 0
  redistribute: ospf6

sonic#
```

OSPF6 Clear Commands

clear ipv6 ospf6 interface

Clears OSPF6 interface information.

Syntax	`clear ipv6 ospf6 interface [<L3intf>]`
Command mode	EXEC
Parameters	▪ `L3intf` – L3 interface name.
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# clear ipv6 ospf6 interface
sonic# clear ipv6 ospf6 interface Vlan10
sonic# clear ipv6 ospf6 interface Ethernet8
```

---

clear ipv6 ospf6 process

Clears OSPF6 interface information.

Syntax	`clear ipv6 ospf6 process`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# clear ipv6 ospf6 process
```

OSPF6 Debug Commands

debug ospf6 abr|asbr|flooding|interface

Enables debugs for OSPF6 ABR, ASBR, flooding function and interface information.

Syntax	`debug ospf6 abr|asbr|flooding|interface`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [abr|asbr|flooding|interface]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf6 abr
sonic# no debug ospf6 abr
sonic#
sonic# debug ospf6 asbr
sonic# no debug ospf6 asbr
sonic#
sonic# debug ospf6 flooding
sonic# no debug ospf6 flooding
sonic#
sonic# debug ospf6 interface
sonic# no debug ospf6 interface
sonic#
sonic# no debug ospf6
sonic#
```

debug ospf6 border-routers

Enables debugs for OSPF6 border router.

Syntax	`debug ospf6 border-routers [area-id <A.B.C.D>|router-id <E.F.G.H>]`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – Area ID. ▪ `E.F.G.H` – Border-router's router ID.
Usage	Use `no debug ospf6 [border-routers [area-id|router-id]]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# debug ospf6 border-routers area-id 0.0.0.1
sonic# no debug ospf6 border-routers area-id
sonic#
```

debug ospf6 lsa router

Enables debugs for OSPF6 Link State Advertisement.

Syntax	`debug ospf6 lsa router|network|inter-prefix|inter-router|as-external|link|intra-prefix|unknown [originate|examine|flooding]`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [lsa router|network|inter-prefix|inter-router|as-external|link|intra-prefix|unknown [originate|examine|flooding]]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf6 lsa intra-prefix examine
sonic# no debug ospf6 lsa intra-prefix examine
sonic#
```

debug ospf6 message

Enables debugs for OSPF6 message.

Syntax	`debug ospf6 message unknown|hello|dbdesc|lsreq|lsupdate|lsack|all [send|recv]`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [message unknown|hello|dbdesc|lsreq|lsupdate|lsack|all [send|recv]]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf6 message dbdesc recv
sonic# no debug ospf6 message dbdesc recv
sonic#
```

debug ospf6 neighbor

Enables debugs for OSPF6 neighbor.

Syntax	`debug ospf6 neighbor [event|state]`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [neighbor [event|state]]` to remove the configuration.
Supported Releases	1.1.0 or later

Click command	None

Example

```
sonic# debug ospf6 neighbor state
sonic# no debug ospf6 neighbor state
sonic#
```

debug ospf6 route

Enables debugs for OSPF6 routes.

Syntax	`debug ospf6 route table|intra-area|inter-area|memory`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [route table|intra-area|inter-area|memory]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# debug ospf6 route inter-area
sonic# no debug ospf6 route inter-area
sonic#
```

debug ospf6 spf

Enables debugs for OSPF6 SPF calculation.

Syntax	`debug ospf6 spf database|process|time`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [spf database|process|time]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# debug ospf6 spf database
sonic# no debug ospf6 spf database
sonic#
```

debug ospf6 zebra

Enables debugs for zebra information.

Syntax	`debug ospf6 zebra [send|recv]`
Command mode	EXEC
Parameters	None
Usage	Use `no debug ospf6 [zebra [send|recv]]` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None
Example	

```
sonic# debug ospf6 zebra send
sonic# no debug ospf6 zebra send
sonic#
```

BGP Config Commands

router bgp ASN

Enables a BGP protocol process with the specified ASN.

Syntax	`router bgp <ASN>`
Command mode	Configure-view
Parameters	▪ `ASN` – AS Number.
Usage	Use `no router bgp <ASN>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

router bgp ASN vrf VRFNAME

Enables a BGP protocol process with the specified ASN that targets a specific VRF.

Syntax	`router bgp <ASN> vrf <VRFNAME>`
Command mode	Configure-view
Parameters	▪ `ASN` – AS Number. ▪ `VRFNAME` – VRF Name.
Usage	Use `no router bgp <ASN> vrf <VRFNAME>` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

router bgp ASN view NAME

Enables a BGP protocol process with the specified ASN that targets a specific VRF.

Syntax	`router bgp <ASN> view <NAME>`
Command mode	Configure-view
Parameters	▪ `ASN` – AS Number. ▪ `NAME` – Name.
Usage	Use `no router bgp <ASN> view <NAME>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp as-path

Configures graceful restart commands.

Syntax	`bgp as-path access-list <alist_name> permit|deny <AS_path_regex>`
Command mode	Configure-router-bgp-view
Parameters	▪ `alist_name` – Access list name. ▪ `AS_path_regex` – BGP AS Path regular-expression.
Usage	Use

	`no bgp as-path access-list <alist_name> permit|deny <AS_path_regex>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp always-compare-med

Uses MED to compare for routes even when received across ASes.

Syntax	`bgp always-compare-med`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp always-compare-med` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp bestpath as-path confed

Matches length of confederation path set and sequence.

Syntax	`bgp bestpath as-path confed`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp bestpath as-path confed` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

bgp bestpath as-path multipath-relax

Allows load sharing across routes that have different AS paths.

Syntax	`bgp bestpath as-path multipath-relax [as-set|no-as-set]`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp bestpath as-path multipath-relax [as-set|no-as-set]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp bestpath bandwidth

Links the bandwidth attribute.

Syntax	`bgp bestpath bandwidth default-weight-for-missing | ignore | skip-missing`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use

	`no bgp bestpath bandwidth default-weight-for-missing | ignore | skip-missing` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp bestpath compare-routerid

Allows Uses router ID as tie-breaker for bestpath selection.

Syntax	`bgp bestpath compare-routerid`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp bestpath compare-routerid` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp bestpath med

Configures the MED attribute.

Syntax	`bgp bestpath med confed [missing-as-worst]`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp bestpath med confed [missing-as-worst]`

	to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp bestpath peer-type multipath-relax

Uses router ID as tie-breaker for bestpath selection.

Syntax	`bgp bestpath peer-type multipath-relax`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp bestpath peer-type multipath-relax` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp community-list

Configures community list.

Syntax	`bgp community-list <clst_sno>|<clst_exno>|{expanded|standard <clst_name>} {seq <seq_no> deny|permit <com_no>}|{deny|permit <com_no>}`
Command mode	Configure-router-bgp-view
Parameters	▪ `clst_sno` – Community list number (standard). ▪ `clst_exno` – Community list number (expanded). ▪ `clst_name` – Community list name.

- `seq_no` – Sequence number.
- `com_no` – Community number in AA:NN format (where AA and NN are (0-65535)) or local-AS|no-advertise|no-export|internet or additive (comma separated Community list).

Usage	Use `no bgp community-list <clst_sno>|<clst_exno>|{expanded|standard <clst_name>} {seq <seq_no> deny|permit <com_no>}|{deny|permit <com_no>}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp extcommunity-list

Configures extended community list.

Syntax	`bgp extcommunity-list <clst_sno>|<clst_exno>|{expanded|standard <clst_name>} {seq <seq_no> deny|permit <com_no>}|{deny|permit <com_no>}`
Command mode	Configure-router-bgp-view
Parameters	• `clst_sno` – Extended Community list number (standard). • `clst_exno` – Extended Community list number (expanded). • `clst_name` – Extended Community list name. • `seq_no` – Sequence number. • `com_no` – Extended Community number in rt:aa:nn_or_IPaddr:nn or soo:aa:nn_or_IPaddr:nn format.

Usage	Use `no bgp extcommunity-list <clst_sno>|<clst_exno>|{expanded|standard <clst_name>} {seq <seq_no> deny|permit <com_no>}|{deny|permit <com_no>}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp large-community-list

Configures large community list.

Syntax	`bgp large-community-list <clst_sno>|<clst_exno>|{expanded|standard <clst_name>} {seq <seq_no> deny|permit <AA:BB:CC>}|{deny|permit <AA:BB:CC>}`
Command mode	Configure-router-bgp-view
Parameters	▪ `clst_sno` – Extended Community list number (standard). ▪ `clst_exno` – Extended Community list number (expanded). ▪ `clst_name` – Extended Community list name. ▪ `seq_no` – Sequence number. ▪ `AA:BB:CC` – Large community attribute in comma separated list.
Usage	Use `no bgp large-community-list <clst_sno>|<clst_exno>|{expanded|standard <clst_name>} {seq <seq_no> deny|permit <AA:BB:CC>}|{deny|permit <AA:BB:CC>}` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

bgp client-to-client reflection

Configures client to client route reflection.

Syntax	`bgp client-to-client reflection`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp client-to-client reflection` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp cluster-id

Configures Route-Reflector Cluster ID.

Syntax	`bgp cluster-id <cluster_id> | <A.B.C.D>`
Command mode	Configure-router-bgp-view
Parameters	▪ `cluster_id` – Cluster-id as 32 bit quantity. ▪ `A.B.C.D` – Cluster-id in IP address format.
Usage	Use `no bgp cluster-id <cluster_id> | <A.B.C.D>` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

bgp confederation

Configures AS confederation parameters.

Syntax	`bgp confederation {identifier <conf_ASN> | peers <peer_ASN>}`
Command mode	Configure-router-bgp-view
Parameters	▪ `conf_ASN` – Routing domain confederation AS. ▪ `peer_ASN` – Peer AS's number in BGP confederation.
Usage	Use `no bgp confederation {identifier <conf_ASN> | peers <peer_ASN>}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp dampening

Enables route-flap dampening.

Syntax	`bgp dampening [<HL_time> <reuse_val> <suppress_val> <max_val>]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `HL_time` – Half-life time for the penalty. ▪ `reuse_val` – Value to start reusing a route.

	▪ `suppress_val` – Value to start suppressing a route. ▪ `max_val` – Maximum duration to suppress a stable route.
Usage	Use `no bgp dampening [<HL_time> <reuse_val> <suppress_val> <max_val>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp default

BGP default setting for its config parameters.

Syntax	`bgp default {ipv4-unicast | local_preference <value> | show-hostname | show-nexthop-hostname | shutdown}`
Command mode	Configure-router-bgp-view
Parameters	▪ `value` – Local preference value.
Usage	Use `no bgp default {ipv4-unicast | local_preference <value> | show-hostname | show-nexthop-hostname | shutdown}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp deterministic-med

Deterministic Route selection with MED.

Syntax	`bgp deterministic-med`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp deterministic-med` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp disable-ebgp-connected-route-check

Disables connection verification process for EBGP peers.

Syntax	`bgp disable-ebgp-connected-route-check`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp disable-ebgp-connected-route-check` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp ebgp-requires-policy

Applies Incoming/Outgoing Filters to the eBGP session.

Syntax	`bgp ebgp-requires-policy`

Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp ebgp-requires-policy` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp fast-external-failover

Resets session immediately if a link to a directly connected external peer goes down.

Syntax	`bgp fast-external-failover`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp fast-external-failover` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp graceful-restart

Configures graceful restart commands.

Syntax	`bgp graceful-restart [disable-eor | preserve-fw-state | restart-time <rt_val> | rib-stale-time <rst_val> | select-defer-time <sdt_val> | stalepath-time <st_val>]`

Command mode	Configure-router-bgp-view
Parameters	▪ `rt_val` – Restart time (0-4095). ▪ `rst_val` – Rib stale time (1-3600). ▪ `sdt_val` – Select defer time (0-3600). ▪ `st_val` – Stalepath time (1-4095).
Usage	Use `no bgp graceful-restart [disable-eor | preserve-fw-state | restart-time <rt_val> | rib-stale-time <rst_val> | select-defer-time <sdt_val> | stalepath-time <st_val>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp graceful-restart-disable

Undo Global Graceful Restart.

Syntax	`bgp graceful-restart-disable`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp graceful-restart-disable` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp graceful-shutdown

Configures graceful shutdown as per RFC 8326.

Syntax	`bgp graceful-shutdown`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp graceful-shutdown` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp listen

Configures graceful restart commands.

Syntax	`bgp listen {limit <limit_val> | {range <ipv4_neigh_addr> | ipv6_neigh_addr> peer-group <pg_name>}}`
Command mode	Configure-router-bgp-view
Parameters	▪ `limit_val` – Limit value of Dynamic Neighbors listen. ▪ `ipv4_neigh_addr` – IPv4 Neighbor address range. ▪ `ipv6_neigh_addr` – IPv6 Neighbor address range. ▪ `pg_name` – Peer group name.
Usage	Use `no bgp listen {limit <limit_val> | {range <ipv4_neigh_addr> | ipv6_neigh_addr> peer-group <pg_name>}}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp log-neighbor-changes

Logs neighbor up/down and reset reason.

Syntax	`bgp log-neighbor-changes`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp log-neighbor-changes` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp max-med

Logs neighbor up/down and reset reason.

Syntax	`bgp max-med administrative|on-startup [<med_val>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `med_val` – Maximum MED value to be used.
Usage	Use `no bgp max-med administrative|on-startup [<med_val>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp network

Configures network must exist in RIB.

Syntax	`bgp network import-check`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp network import-check` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp reject-as-sets

Discards routes incoming/outgoing with AS_SET or CONFED_SET.

Syntax	`bgp reject-as-sets`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp reject-as-sets` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp route-map

BGP route-map delay timer. Time in secs to wait before processing route-map changes.

Syntax	`bgp route-map delay-timer <dt_val>`

Command mode	Configure-router-bgp-view
Parameters	▪ `dt_val` – Delay timer. 0 disables the timer.
Usage	Use `no bgp route-map delay-timer <dt_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp route-reflector

Allows modifications made by out route-map.

Syntax	`bgp route-reflector allow-outbound-policy`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no bgp route-reflector allow-outbound-policy` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp router-id A.B.C.D

Configures the router identifier.

Syntax	`bgp router-id <A.B.C.D>`
Command mode	Configure-router-bgp-view

Parameters	▪ `A.B.C.D` – Manually configured router identifier.
Usage	Use `no bgp router-id <bgp-router-id>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp session-dscp

Overrides default (C0) bgp TCP session DSCP value.

Syntax	`bgp session-dscp <dscp_val>`
Command mode	Configure-router-bgp-view
Parameters	▪ `dscp_val` – DSCP Value.
Usage	Use `no bgp session-dscp <dscp_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

bgp shutdown

Administrative shutdown of all BGP peers.

Syntax	`bgp shutdown [message <msg>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `msg` – Shutdown message (RCS 8203).
Usage	Use `no bgp shutdown [message <msg>]` to remove the

	configuration.
Supported Releases	1.0.0 or later
Click command	None

address-family

Enters the Address Family command mode.

Syntax	`address-family ipv4|ipv6 unicast`
Command mode	Configure-router-bgp-view
Parameters	None
Usage	Use `no address-family ipv4|ipv6 unicast` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

aggregate-address

Configures BGP aggregate entries.

Syntax	`aggregate-address <A.B.C.D><E.F.G.H>|<A.B.C.D/mask> [as-set | {origin egp|igp|incomplete} | route-map | summary-only]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view

Parameters	▪ `A.B.C.D` – Aggregate address. ▪ `E.F.G.H` – Aggregate mask. ▪ `A.B.C.D/mask` – Aggregate prefix.
Usage	Use `no aggregate-address <A.B.C.D><E.F.G.H>|<A.B.C.D/mask> [as-set | {origin egp|igp|incomplete} | route-map | summary-only]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

coalesce-time

Configures subgroup coalesce timer.

Syntax	`coalesce-time <timer_val>`
Command mode	Configure-router-bgp-view
Parameters	▪ `timer_val` – Subgroup coalesce timer value in ms.
Usage	Use `no coalesce-time <timer_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

exit-address-family

Exits from the Address Family command mode.

Syntax	`exit-address-family`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

distance

Changes the administrative distance of BGP routes.

Syntax	`distance {<metric> <A.B.C.D/mask>|<aclist_name>} | {bgp <ext-metric> <int-metric> <local_metric>}`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `ext-metric` – Metric for External BGP routes. ▪ `int-metric` – Metric for Internal BGP routes. ▪ `local-metric` – Metric for local BGP routes.
Usage	Use `no distance {<metric> <A.B.C.D/mask>|<aclist_name>} | {bgp <ext-metric> <int-metric> <local_metric>}` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

maximum-paths

Configures the maximum paths value for ECMP in EBGP for this BGP instance.

Syntax	`maximum-paths <maxpaths> | {ibgp <ibgp_maxpaths> [equal-cluster-length]}`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `maxpaths` – Maximum paths in EBGP ECMP. ▪ `ibgp_maxpaths` – Maximum paths in IBGP ECMP.
Usage	Use `no maximum-paths <maxpaths> | {ibgp <ibgp_maxpaths> [equal-cluster-length]}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor activate

Enables the Address Family for this Neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> activate`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view

Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> activate` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor addpath-tx-all-paths

Uses addpath to advertise all paths to a neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> addpath-tx-all-paths`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> addpath-tx-all-paths` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor addpath-tx-bestpath-per-AS

Uses addpath to advertise all bestpath per each neighboring AS.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> addpath-tx-bestpath-per-AS`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> addpath-tx-bestpath-per-AS` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor advertisement-interval

Specifies neighbor router; Minimum interval between sending BGP routing updates.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> advertisement-interval <adv_interval>`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `adv_interval` – Advertisement interval time in

seconds.

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> advertisement-interval <adv_interval>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor allowas-in

Specifies neighbor router; Accept as-path with my AS present in it.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> allowas-in [<occur_num> | origin]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `occur_num` – Number of occurrences of AS number.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> allowas-in [<occur_num> | origin]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor as-override

Specifies neighbor router; Override ASNs in outbound updates if aspath equals remote-as.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> as-override`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> as-override` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor attribute-unchanged

Specifies neighbor router; BGP attribute is propagated unchanged to this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> attribute-unchanged [as-path | med | next-hop]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address.

- `l3_intf` – L3 Interface.
- `neigh_tag` – Neighbor tag.

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> attribute-unchanged [as-path | med | next-hop]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor capability

Specifies neighbor router; Advertise capability to the peer.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> capability dynamic|extended-nexthop|{orf prefix-list both|send|receive}`
Command mode	- Configure-router-bgp-view - Configure-router-bgp-af4-view - Configure-router-bgp-af6-view
Parameters	- `neigh_addr` – IPv4 or IPv6 Neighbor address. - `l3_intf` – L3 Interface. - `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> capability dynamic|extended-nexthop|{orf prefix-list both|send|receive}` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

neighbor default-originate

Specifies neighbor router; Originate default route to this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> default-originate [route-map <rmap_name>]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `rmap_name` – Route map name.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> default-originate [route-map <rmap_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor description

Specifies neighbor router; Neighbor specific description.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> description <desc>`

Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `desc` – Brief Neighbor description.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> description <desc>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor disable-connected-check

Specifies neighbor router; one-hop away EBGP peer using loopback address.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> disable-connected-check`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> disable-connected-check` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor distribute-list

Filters updates to/from this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> distribute-list <alst_num>|<alst_num_exp>|<dist_alst> in|out`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `alst_num` – IP access-list number. ▪ `alst_num_exp` – IP access-list number (expanded range). ▪ `dist_alst` – IP access-list name.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> distribute-list <alst_num>|<alst_num_exp>|<dist_alst> in|out` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor dont-capability-negotiate

Specifies neighbor router; Do not perform capability negotiation.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> dont-capability-negotiate`
Command mode	Configure-router-bgp-view

Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> dont-capability-negotiate` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor ebgp-multihop

Specifies neighbor router; Allow EBGP neighbors not on directly connected networks.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> ebgp-multihop [<hop_count>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `hop_count` – Maximum hop count.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> ebgp-multihop [<hop_count>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor enforce-first-as

Specifies neighbor router; Enforce the first AS for EBGP routes.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> enforce-first-as`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> enforce-first-as` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor enforce-multihop

Specifies neighbor router; Enforce EBGP neighbors perform multihop.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> enforce-multihop`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> enforce-multihop`

	to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor filter-list

Establishes BGP filters.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> filter-list <aspath_alst> in|out`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `aspath_alst` – AS path access-list name.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> filter-list <aspath_alst> in|out` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor graceful-restart

Specifies neighbor router; Enable BGP graceful restart functionality at the peer level.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> graceful-restart`

Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> graceful-restart` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor graceful-restart-disable

Specifies neighbor router; Disable the entire BGP graceful restart functionality at the peer level.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> graceful-restart-disable`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> graceful-restart-disable` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor local-as

Specifies neighbor router; Specify the local-as number.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> local-as <local_asn> [no-prepend [replace-as]]`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `local_asn` – AS number used as local AS.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> local-as <local_asn> [no-prepend [replace-as]]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor maximum-prefix

Specifies neighbor router; Maximum number of prefixes that can be received from this peer.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> maximum-prefix <max_prefix> [<thrsh_val>] [force|{restart <rst_intvl>}|warning-only]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view

Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `max_prefix` – Maximum number of prefix limit. ▪ `thrsh_val` – Threshold value (%) at which to generate a warning message. ▪ `rst_intvl` – Restart value in minutes.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> maximum-prefix <max_prefix> [<thrsh_val>] [force|{restart <rst_intvl>}|warning-only]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor maximum-prefix-out

Specifies neighbor router; Maximum number of prefixes to be sent to this peer.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> maximum-prefix-out <max_prefix>`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `max_prefix` – Maximum number of prefix limit.
Usage	Use

	`no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> maximum-prefix-out <max_prefix>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor next-hop-self

Specifies neighbor router; Disable the next hop calculation for this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> next-hop-self [force]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> next-hop-self [force]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor nexthop-local

Specifies neighbor router; Configure treatment of outgoing link-local nexthop attribute.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> nexthop-local [unchanged]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> nexthop-local [unchanged]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor override-capability

Specifies neighbor router; Override capability negotiation result.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> override-capability`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> override-capability` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

neighbor passive

Specifies neighbor router; Don't send open messages to this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> passive`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> passive` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor password

Specifies neighbor router; Set an MD5 password.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> password <passwd>`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address.

	• `l3_intf` – L3 Interface. • `neigh_tag` – Neighbor tag. • `passwd` – Password string.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> password <passwd>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor peer-group

Specifies neighbor router; Member of Peer Group.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> peer-group <peergrp_name>`
Command mode	Configure-router-bgp-view
Parameters	• `neigh_addr` – IPv4 or IPv6 Neighbor address. • `l3_intf` – L3 Interface. • `neigh_tag` – Neighbor tag. • `peergrp_name` – Peer Group Name.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> peer-group <peergrp_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor port

Specifies neighbor router; Neighbor's BGP port.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> port <port_num>`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `port_num` – TCP port number.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> port <port_num>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor prefix-list

Filters updates to/from this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> prefix-list <prfxlst_name> in|out`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `prfxlst_name` – Name of prefix list.

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> prefix-list <prfxlst_name> in|out` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor remote-as

Specifies neighbor router; Specify Peer's ASN.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> remote-as <peer_asn>|external|internal`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> remote-as <peer_asn>|external|internal` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor remove-private-as

Specifies neighbor router; Remove private ASNs in outbound updates.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> remove-private-as [{all replace-as}|replace-as]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> remove-private-as [{all replace-as}|replace-as]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor route-map

Specifies neighbor router; Apply route map to neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> route-map <rmap_name> in|out`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.

- `rmap_name` – Name of route map.

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> route-map <rmap_name> in|out` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor route-reflector-client

Configures a neighbor as Route Reflector client.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> route-map <rmap_name> in|out`
Command mode	- Configure-router-bgp-af4-view - Configure-router-bgp-af6-view
Parameters	- `neigh_addr` – IPv4 or IPv6 Neighbor address. - `l3_intf` – L3 Interface. - `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> route-reflector-client` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor route-server-client

Configures a neighbor as Route Server client.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> route-server-client`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> route-server-client` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor send-community

Specifies neighbor router; Send Community attribute to this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> send-community [all|both|extended|large|extended]`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> send-community [all|both|extended|large|extended]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor sender-as-path-loop-detection

Specifies neighbor router; Detect AS loops before sending to neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> sender-as-path-loop-detection`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> sender-as-path-loop-detection` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor shutdown

Specifies neighbor router; Administratively shutdown this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> shutdown [message <msg>|rtt <rt_time>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `msg` – Shutdown message (RFC 8203). ▪ `rt_time` – Shutdown if round-trip-time is higher than expected.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> shutdown [message <msg>|rtt <rt_time>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor soft-reconfiguration

Specifies neighbor router; Per neighbor soft reconfiguration.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> soft-reconfiguration inbound`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface.

- `neigh_tag` – Neighbor tag.

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> soft-reconfiguration inbound` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor solo

Specifies neighbor router; Solo peer - part of its own update group.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> solo`
Command mode	Configure-router-bgp-view
Parameters	• `neigh_addr` – IPv4 or IPv6 Neighbor address. • `l3_intf` – L3 Interface. • `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> solo` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor strict-capability-match

Specifies neighbor router; Strict capability negotiation match.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> strict-capability-match`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> strict-capability-match` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor timers

Specifies neighbor router; BGP per neighbor timers.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> timers [{<keepalive_time> <hold_time>}|{connect <connect_timer>}]`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `keepalive_time` – Keepalive interval. ▪ `hold_time` – Holdtime. ▪ `connect_timer` – Connect timer.
Usage	Use

	`no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> timers [{<keepalive_time> <hold_time>}|{connect <connect_timer>}]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor ttl-security

Specifies neighbor router; BGP ttl-security parameters.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> ttl-security [hops <hops_num>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `hops_num` – Number of hops to BGP peer.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> ttl-security [hops <hops_num>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor unsuppress-map

Route-map to selectively unsuppress suppressed routes.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> unsuppress-map <rmap_name>`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `rmap_name` – Name of route map.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> unsuppress-map <rmap_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor update-source

Specifies neighbor router; Source of routing updates.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> update-source [<A.B.C.D>|<A::B>|<l3_intf>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `A.B.C.D` – IPv4 address. ▪ `A::B` – IPv6 address. ▪ `l3_intf` – L3 Interface name (requires zebra to be

running).

Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> update-source [<A.B.C.D>|<A::B>|<l3_intf>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

neighbor weight

Specifies neighbor router; Set default weight for routes from this neighbor.

Syntax	`neighbor <neigh_addr> | <l3_intf> | <neigh_tag> weight <def_weight>`
Command mode	▪ Configure-router-bgp-view ▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `neigh_addr` – IPv4 or IPv6 Neighbor address. ▪ `l3_intf` – L3 Interface. ▪ `neigh_tag` – Neighbor tag. ▪ `def_weight` – Default weight.
Usage	Use `no neighbor <neigh_addr> | <l3_intf> | <neigh_tag> weight <def_weight>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

network

Specifies a network to announce via BGP.

Syntax	`network {<A.B.C.D> mask <E.F.G.H>} | <A.B.C.D/mask> [backdoor | route-map <rmap_name>]`
Command mode	Configure-router-bgp-view
Parameters	▪ `A.B.C.D` – Network address. ▪ `E.F.G.H` – Network mask. ▪ `A.B.C.D/mask` – IPv4 prefix. ▪ `rmap_name` – Route map name.
Usage	Use `no network {<A.B.C.D> mask <E.F.G.H>} | <A.B.C.D/mask> [backdoor | route-map <rmap_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

redistribute

Redistributes information from another routing protocol.

Syntax	`redistribute connected | kernel | ospf <ospf_id> | static | table <table_id> [metric <def_metric>] [route-map <rmap_ref>]`
Command mode	▪ Configure-router-bgp-af4-view ▪ Configure-router-bgp-af6-view
Parameters	▪ `ospf_id` – OSPF Instance ID.

- `table_id` – Table ID.
- `def_metric` – Default Metric.
- `rmap_name` – Name of route map.

Usage	Use `no redistribute connected | kernel | ospf <ospf_id> | static | table <table_id> [metric <def_metric>] [route-map <rmap_ref>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

table-map

Configures BGP table to RIB route download filter.

Syntax	`table-map <route_map>`
Command mode	• Configure-router-bgp-view • Configure-router-bgp-af4-view • Configure-router-bgp-af6-view
Parameters	• `rmap_name` – Name of route map.
Usage	Use `no table-map <route_map>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

timers

Configures BGP table to RIB route download filter.

Syntax	`timers bgp <keepalive_time> <hold_time>`
Command mode	Configure-router-bgp-view
Parameters	▪ `keepalive_time` – Keepalive interval. ▪ `hold_time` – Holdtime.
Usage	Use `no timers bgp <keepalive_time> <hold_time>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

update-delay

Forces initial delay for best-path and updates.

Syntax	`update-delay <max_delay> <wait_time>`
Command mode	Configure-router-bgp-view
Parameters	▪ `max_delay` – Maximum delay in seconds. ▪ `wait_time` – Establish wait in seconds.
Usage	Use `no update-delay <max_delay> <wait_time>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Access-List Config Commands

ip-accesslist

Configures the FRR Routing Protocol Access list entry.

Syntax	`ip-accesslist <alst_name> remark | {deny|permit <A.B.C.D>|<A.B.C.D/mask>|any}`
Command mode	Configure-view
Parameters	▪ `alst_name` – Access list entry name. ▪ `A.B.C.D` – Address to match. ▪ `A.B.C.D/mask` – Prefix to match. Example: 10.0.0.0/8
Usage	Use `no ip-accesslist <alst_name> remark | {deny|permit <A.B.C.D>|<A.B.C.D/mask>|any}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ip-accesslist seq

Configures the FRR Routing Protocol Access list entry.

Syntax	`ip-accesslist <alst_name> seq <seq_no> remark | {deny|permit <A.B.C.D>|<A.B.C.D/mask>|any}`
Command mode	Configure-view
Parameters	▪ `alst_name` – Access list entry name. ▪ `seq_no` – Sequence number. ▪ `A.B.C.D` – Address to match. ▪ `A.B.C.D/mask` – Prefix to match. Example: 10.0.0.0/8
Usage	Use `no ip-accesslist <alst_name> seq <seq_no> remark | {deny|permit <A.B.C.D>|<A.B.C.D/mask>|any}`

	to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6-accesslist

Configures the FRR Routing Protocol V6 Access list entry.

Syntax	`ipv6-accesslist <alst_name> remark | {deny|permit <A::B/mask>|any}`
Command mode	Configure-view
Parameters	▪ `alst_name` – Access list entry name. ▪ `A::B/mask` – IPv6 prefix.
Usage	Use `no ipv6-accesslist <alst_name> remark | {deny|permit <A::B/mask>|any}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6-accesslist seq

Configures the FRR Routing Protocol V6 Access list entry.

Syntax	`ipv6-accesslist <alst_name> seq <seq_no> remark | {deny|permit <A.B.C.D>|<A.B.C.D/mask>|any}`
Command mode	Configure-view

Parameters	▪ `alst_name` – Access list entry name. ▪ `seq_no` – Sequence number. ▪ `A::B/mask` – IPv6 prefix.
Usage	Use `no ipv6-accesslist <alst_name> seq <seq_no> remark | {deny|permit <A::B/mask>|any}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Prefix-List Config Commands

ip prefix-list

Builds a prefix list.

Syntax	`ip prefix-list <prfx_name> {deny|permit <A.B.C.D/mask>|any} | seq <seq_no> {deny|permit <A.B.C.D/mask>|any}`
Command mode	Configure-view
Parameters	▪ `prfx_name` – Prefix list entry name. ▪ `A.B.C.D/mask` – IP Prefix. Example: 10.0.0.0/8 ▪ `seq_no` – Sequence number.
Usage	Use `no ip prefix-list <prfx_name> {deny|permit <A.B.C.D/mask>|any} | seq <seq_no> {deny|permit <A.B.C.D/mask>|any}` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

ip prefix-list sequence-number

Builds a prefix list.

Syntax	`ip prefix-list <prfx_name> sequence-number [description <desc>]`
Command mode	Configure-view
Parameters	▪ `prfx_name` – Prefix list entry name. ▪ `desc` – Description.
Usage	Use `no ip prefix-list <prfx_name> sequence-number [description <desc>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 prefix-list

Builds a prefix list.

Syntax	`ipv6 prefix-list <prfx_name> {deny|permit <A.B.C.D/mask>|any} | seq <seq_no> {deny|permit <A::B/mask>|any}`
Command mode	Configure-view
Parameters	▪ `prfx_name` – Prefix list entry name. ▪ `A::B` – IPv6 prefix. Example: 3ffe::/16 ▪ `seq_no` – Sequence number.

Usage	Use `no ipv6 prefix-list <prfx_name> {deny|permit <A.B.C.D/mask>|any} | seq <seq_no> {deny|permit <A::B/mask>|any}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 prefix-list sequence-number

Builds a prefix list.

Syntax	`ipv6 prefix-list <prfx_name> sequence-number [description <desc>]`
Command mode	Configure-view
Parameters	▪ `prfx_name` – Prefix list entry name. ▪ `desc` – Prefix list entry commands.
Usage	Use `no ipv6 prefix-list <prfx_name> sequence-number [description]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Route-Map Config Commands

route-map

Creates route-map or enter route-map command mode.

Syntax	`route-map <rmap_name> deny|permit <rmap_entry>`
Command mode	Configure-view
Parameters	▪ `rmap_name` – Route map tag name. ▪ `rmap_entry` – Sequence to insert into an existing route-map entry.
Usage	Use `no route-map <rmap_name> deny|permit <rmap_entry>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

call

Jumps to another Route-map after match+set.

Syntax	`call <trmap_name>`
Command mode	Configure-route-map
Parameters	▪ `trmap_name` – Target route map name.
Usage	Use `no call <trmap_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

continue

Continues on a different entry within the route-map.

Syntax	`continue <seq_no>`
Command mode	Configure-route-map
Parameters	▪ `seq_no` – Route-map entry sequence number.
Usage	Use `no continue <seq_no>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match as-path

Matches BGP AS path list.

Syntax	`match as-path <alst_name>`
Command mode	Configure-route-map
Parameters	▪ `alst_name` – AS path access-list name.
Usage	Use `no match as-path <alst_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match community

Matches BGP community list.

Syntax	`match community <clst_sno>|<clst_exno>|<clst_name> [exact-match]`

Command mode	Configure-route-map
Parameters	▪ `clst_sno` – Community-list number (standard). ▪ `clst_ex` – Community-list number (expanded). ▪ `clst_name` – Community-list name.
Usage	Use `no match community <clst_sno>|<clst_exno>|<clst_name> [exact-match]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match extcommunity

Matches BGP/VPN extended community list.

Syntax	`match extcommunity <eclst_sno>|<eclst_exno>|<eclst_name>`
Command mode	Configure-route-map
Parameters	▪ `clst_sno` – Extended Community-list number (standard). ▪ `clst_ex` – Extended Community-list number (expanded). ▪ `clst_name` – Extended Community-list name.
Usage	Use `no match extcommunity <clst_sno>|<clst_exno>|<clst_name>` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

match interface

Matches first hop interface of route.

Syntax	`match interface <l3_intf>`
Command mode	Configure-route-map
Parameters	• `l3_intf` – L3 Interface name.
Usage	Use `no match interface <l3_intf>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match ip address

Matches IP information.

Syntax	`match ip address <ipacl_no>|<ipacl_exno>|{prefix-len <prfx_len>}| {prefix-list <prfx_name>}|<ipacl_name>`
Command mode	Configure-route-map
Parameters	• `ipacl_no` – IP access list number. • `ipacl_exno` – IP access list number (expanded range). • `prfx_len` – Prefix length. • `prfx_name` – Prefix name. • `ipacl_name` – IP access list name.

Usage	Use `no match ip address <ipacl_no>|<ipacl_exno>|{prefix-len <prfx_len>}|{prefix-list <prfx_name>}|<ipacl_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match ip next-hop

Matches IP information.

Syntax	`match ip next-hop <ipacl_no>|<ipacl_exno>|{address <A.B.C.D>}|{prefix-len <prfx_len>}|{prefix-list <prfx_name>}|<ipacl_name>|{type blackhole}`
Command mode	Configure-route-map
Parameters	▪ `ipacl_no` – IP access list number. ▪ `ipacl_exno` – IP access list number (expanded range). ▪ `A.B.C.D` – IP address. ▪ `prfx_len` – Prefix length. ▪ `prfx_name` – Prefix name. ▪ `ipacl_name` – IP access list name.
Usage	Use `no match ip next-hop <ipacl_no>|<ipacl_exno>|{address <A.B.C.D>}|{prefix-len <prfx_len>}|{prefix-list <prfx_name>}|<ipacl_name>|{type blackhole}` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

match ipv6 address

Matches IPv6 information.

Syntax	`match ipv6 address {prefix-len <prfx_len>}|{prefix-list <prfx_name>}|<ipacl_name>`
Command mode	Configure-route-map
Parameters	▪ `prfx_len` – Prefix length. ▪ `prfx_name` – Prefix name. ▪ `ipacl_name` – IPv6 access list name.
Usage	Use `no match ip address {prefix-len <prfx_len>}|{prefix-list <prfx_name>}|<ipacl_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match ipv6 next-hop

Matches IPv6 information.

Syntax	`match ipv6 next-hop <A::B>|{type blackhole}`
Command mode	Configure-route-map

Parameters	▪ `A::B` – IP address of nexthop.
Usage	Use `no match ipv6 next-hop <A::B>|{type blackhole}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match large-community

Matches BGP large community list.

Syntax	`match large-community <lc_sno>|<lc_exno>|<lc_name> [exact-match]`
Command mode	Configure-route-map
Parameters	▪ `lc_sno` – Large Community-list number (standard). ▪ `lc_ex` – Large Community-list number (expanded). ▪ `lc_name` – Large Community-list name.
Usage	Use `no match large-community <lc_sno>|<lc_exno>|<lc_name> [exact-match]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match local-preference

Matches local-preference of route.

Syntax	`match local-preference <metric_val>`
Command mode	Configure-route-map
Parameters	▪ `metric_val` – Metric value.
Usage	Use `no match local-preference <metric_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match metric

Matches metric of route.

Syntax	`match metric <metric_val>`
Command mode	Configure-route-map
Parameters	▪ `metric_val` – Metric value.
Usage	Use `no match metric <metric_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match origin

Matches BGP origin code.

Syntax	`match origin egp|igp|incomplete`
Command mode	Configure-route-map

Parameters	None
Usage	Use `no match origin egp|igp|incomplete` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match peer

Matches peer address.

Syntax	`match peer <A.B.C.D>|<A::B>|<l3_intf>|local`
Command mode	Configure-route-map
Parameters	▪ `A.B.C.D` – IP address of peer. ▪ `A::B` – IPv6 address of peer. ▪ `l3_intf` – L3 Interface name of peer.
Usage	Use `no match metric <metric_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match source-instance

Matches the protocol's instance number.

Syntax	`match source-instance <inst_no>`
Command mode	Configure-route-map
Parameters	▪ `inst_no` – Instance number.

Usage	Use `no match source-instance <inst_no>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match source-protocol

Matches protocol via which the route was learnt.

Syntax	`match source-protocol bgp|connected|kernel|ospf|ospf6|static|table`
Command mode	Configure-route-map
Parameters	None
Usage	Use `no match source-protocol bgp|connected|kernel|ospf|ospf6|static|table` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match source-vrf

Matches source vrf.

Syntax	`match source-vrf <vrf_name>`
Command mode	Configure-route-map
Parameters	▪ `vrf_name` – VRF name.

Usage	Use `no match source-vrf <vrf_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

match tag

Matches tag of route.

Syntax	`match tag <tag_val>`
Command mode	Configure-route-map
Parameters	▪ `tag_val` – Tag value.
Usage	Use `no match tag <tag_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

on-match

Matches values from routing table.

Syntax	`on-match next | {goto <num>}`
Command mode	Configure-route-map
Parameters	▪ `num` – Goto number.
Usage	Use `no on-match next | {goto <num>}` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

route-map optimization

Matches values from routing table.

Syntax	`route-map optimization`
Command mode	Configure-route-map
Parameters	None
Usage	Use `no route-map optimization` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set aggregator

Sets AS number of aggregator.

Syntax	`set aggregator as <asn> <A.B.C.D>`
Command mode	Configure-route-map
Parameters	▪ `asn` – AS number. ▪ `A.B.C.D` – IP address of aggregator.
Usage	Use `no set aggregator as <asn> <A.B.C.D>` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

set as-path

Transforms BGP AS-path attribute.

Syntax	`set as-path exclude|prepend <asn_lst>`
Command mode	Configure-route-map
Parameters	▪ `asn_lst` – BGP AS path list (comma separated AS number).
Usage	Use `no set as-path exclude|prepend <asn_lst>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set atomic-aggregate

Sets BGP atomic aggregate attribute.

Syntax	`set atomic-aggregate`
Command mode	Configure-route-map
Parameters	None
Usage	Use `no set atomic-aggregate` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set comm-list

Sets BGP community list for deletion.

Syntax	`set comm-list <clst_sno>|<clst_exno>|<clst_name> delete`
Command mode	Configure-route-map
Parameters	▪ `clst_sno` – Community-list number (standard). ▪ `clst_ex` – Community-list number (expanded). ▪ `clst_name` – Community-list name.
Usage	Use `no set comm-list <clst_sno>|<clst_exno>|<clst_name> delete` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set community

Sets BGP community attribute.

Syntax	`set community none|{<clst> [addictive]}`
Command mode	Configure-route-map
Parameters	▪ `clst` – BGP Community-list (comma separated AA::NN or keyword community name).
Usage	Use `no set community none|{<clst> [addictive]}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set distance

Sets BGP administrative distance to use.

Syntax	`set distance <dist>`
Command mode	Configure-route-map
Parameters	▪ `dist` – Distance value.
Usage	Use `no set distance <dist>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set extcommunity

Sets BGP extended community attribute.

Syntax	`set extcommunity rt|soo <clst_no>`
Command mode	Configure-route-map
Parameters	▪ `clst_no` – BGP Extended Community-list number (VPN extended community).
Usage	Use `no set extcommunity rt|soo <clst_no>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set extcommunity bandwidth

Sets BGP extended community attribute.

Syntax	`set extcommunity bandwidth <band_val>|cumulative|num-mulipaths [non-tranitive]`
Command mode	Configure-route-map
Parameters	▪ `band_val` – Bandwidth value in Mbps.
Usage	Use `no set extcommunity bandwidth <band_val>|cumulative|num-mulipaths [non-tranitive]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set forwarding-address

Sets forwarding address.

Syntax	`set forwarding-address <A::B>`
Command mode	Configure-route-map
Parameters	▪ `A::B` – IPv6 address.
Usage	Use `no set forwarding-address <A::B>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set ip next-hop

Sets nexthop IP address.

Syntax	`set ip next-hop <A.B.C.D>|peer-address|unchanged`
Command mode	Configure-route-map
Parameters	▪ `A.B.C.D` – IP address of next hop.
Usage	Use `no set ip next-hop <A.B.C.D>|peer-address|unchanged` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set ipv4 vpn

Sets VPN information.

Syntax	`set ipv4 vpn next-hop <A.B.C.D>|<A::B>`
Command mode	Configure-route-map
Parameters	▪ `A.B.C.D` – IP address of VPN next hop. ▪ `A::B` – IPv6 address of VPN next hop. ▪ `ipacl_name` – IPv6 access list name.
Usage	Use `no set ipv4 vpn next-hop <A.B.C.D>|<A::B>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set ipv6 next-hop

Sets IPv6 next-hop address.

Syntax	`set ipv6 next-hop {global <A::B>}|{local <C::D>} |peer-address|prefer-global`
Command mode	Configure-route-map
Parameters	▪ `A::B` – IPv6 address of nexthop. ▪ `C::D` – IPv6 link-local address of next hop.
Usage	Use `no set ipv6 next-hop {global <A::B>}|{local <C::D>} |peer-address|prefer-global` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set ipv6 vpn

Sets VPN information.

Syntax	`set ipv6 vpn next-hop <A.B.C.D>|<A::B>`
Command mode	Configure-route-map
Parameters	▪ `A.B.C.D` – IP address of VPN next hop. ▪ `A::B` – IPv6 address of VPN next hop. ▪ `ipacl_name` – IPv6 access list name.
Usage	Use `no set ipv6 vpn next-hop <A.B.C.D>|<A::B>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set large-comm-list

Sets BGP large community list for deletion.

Syntax	`set large-comm-list <clst_sno>|<clst_exno>|<clst_name> delete`
Command mode	Configure-route-map
Parameters	▪ `clst_sno` – Community-list number (standard). ▪ `clst_ex` – Community-list number (expanded). ▪ `clst_name` – Community-list name.
Usage	Use `no set large-comm-list <clst_sno>|<clst_exno>|<clst_name> delete` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set large-community

Sets BGP large community attribute.

Syntax	`set large-community none|{<lc_list> [addictive]}`
Command mode	Configure-route-map
Parameters	▪ `lc_list` – BGP Large Community List (comma separated AA:BB:CC or none).
Usage	Use `no set large-community none|{<lc_list> [addictive]}` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

set local-preference

Sets BGP local preference path attribute.

Syntax	`set local-preference <prf_val>`
Command mode	Configure-route-map
Parameters	▪ `prf_val` – Preference value.
Usage	Use `no set local-preference <prf_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set metric

Sets metric value for destination routing protocol.

Syntax	`set metric <metric_val>|+rtt|-rtt|rtt`
Command mode	Configure-route-map
Parameters	▪ `metric_val` – Metric value.
Usage	Use `no set metric <metric_val>|+rtt|-rtt|rtt` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set metric-type

Sets type of metric.

Syntax	`set metric-type type-1|type-2`
Command mode	Configure-route-map
Parameters	None
Usage	Use `no set metric-type type-1|type-2` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set origin

Sets BGP origin code.

Syntax	`set origin egp|igp|incomplete`
Command mode	Configure-route-map
Parameters	None
Usage	Use `no set origin egp|igp|incomplete` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set originator-id

Sets BGP originator ID attribute.

Syntax	`set originator-id <A.B.C.D>`
Command mode	Configure-route-map
Parameters	▪ `A.B.C.D` – IP address of originator.
Usage	Use `no set originator-id <A.B.C.D>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set src

Sets source address for route.

Syntax	`set src <A.B.C.D>|<A::B>`
Command mode	Configure-route-map
Parameters	▪ `A.B.C.D` – IPv4 source address. ▪ `A::B` – IPv6 source address.
Usage	Use `no src <A.B.C.D>|<A::B>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set table

Sets export route to non-main kernel table.

Syntax	`set table <table_id>`

Command mode	Configure-route-map
Parameters	▪ `table_id` – Kernel routing table ID.
Usage	Use `no set table <table_id>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set tag

Sets tag of route.

Syntax	`set tag <tag_val>`
Command mode	Configure-route-map
Parameters	▪ `tag_val` – Tag value.
Usage	Use `no set tag <tag_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

set weight

Sets weight of route.

Syntax	`set weight <weight_val>`
Command mode	Configure-route-map
Parameters	▪ `weight_val` – Weight value.

Usage	Use `no set weight <weight_val>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Router-ID Config Commands

ip router-id

Configures router-ID.

Syntax	`ip router-id <A.B.C.D> [vrf <vrf_name>]`
Command mode	Configure-view
Parameters	▪ `A.B.C.D` – IP address to use for router-ID. ▪ `vrf_name` – Specify the VRF.
Usage	Use `no ip router-id <A.B.C.D> [vrf <vrf_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 router-id

Configures IPv6 router-ID.

Syntax	`ipv6 router-id <A::B> [vrf <vrf_name>]`
Command mode	Configure-view
Parameters	▪ `A::B` – IPv6 address to use for router-ID.

	• `vrf_name` – Specify the VRF.
Usage	Use `no ipv6 router-id <A::B> [vrf <vrf_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Static Route Config Commands

ip route

Configures static routes.

Syntax	`ip route {<A.B.C.D> <m1.m2.m3.m4>} | <A.B.C.D/mask> {<g1.g2.g3.g4> [<l3_intf> [onlink]]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [vrf <vrf_name> nexthop-vrf <nhp_vrf>]`
Command mode	Configure-view
Parameters	• `A.B.C.D` – IP destination prefix. • `m1.m2.m3.m4` – IP destination prefix mask. • `A.B.C.D/mask` – IP destination prefix/mask. • `g1.g2.g3.g4` – IP gateway address. • `l3_intf` – L3 Interface (IP gateway interface name). • `dist` – Distance value for this route. • `tag_val` – Tag value. • `vrf_name` – VRF name. • `nhp_vrf` – Specify the VRF of nexthop.
Usage	Use

	`no ip route {<A.B.C.D> <m1.m2.m3.m4>} | <A.B.C.D/mask> {<g1.g2.g3.g4> [<l3_intf> [onlink]]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [vrf <vrf_name> nexthop-vrf <nhp_vrf>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 route

Configures static routes.

Syntax	`ipv6 route <A::B/mask> {<g1::g2> [<l3_intf>]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [vrf <vrf_name> nexthop-vrf <nhp_vrf>]`
Command mode	Configure-view
Parameters	▪ `A::B/mask` – IPv6 destination prefix/mask. ▪ `g1::g2` – IPv6 gateway address. ▪ `l3_intf` – L3 Interface (IP gateway interface name). ▪ `dist` – Distance value for this route. ▪ `tag_val` – Tag value. ▪ `vrf_name` – VRF name. ▪ `nhp_vrf` – Specify the VRF of nexthop.
Usage	Use `no ipv6 route <A::B/mask> {<g1::g2> [<l3_intf>]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [vrf <vrf_name> nexthop-vrf <nhp_vrf>]` to remove the configuration.

Supported Releases	1.0.0 or later
Click command	None

VRF Config Commands

vrf

Configures a VRF.

Syntax	`vrf <vrf_name>`
Command mode	▪ Configure-if-view ▪ Configure-lag-view ▪ Configure-vlan-view ▪ Configure-mgmt-view ▪ Configure-view
Parameters	▪ `vrf_name` – VRF name.
Usage	Use `no vrf <vrf_name>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

exit-vrf

Exists from vrf mode.

Syntax	`exit-vrf`
Command mode	Configure-vrf-view
Parameters	None

Usage	None
Supported Releases	1.0.0 or later
Click command	None

ip route

Configures static routes.

Syntax	`ip route {<A.B.C.D> <m1.m2.m3.m4>} | <A.B.C.D/mask> {<g1.g2.g3.g4> [<l3_intf> [onlink]]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [nexthop-vrf <nhp_vrf>]`
Command mode	Configure-vrf-view
Parameters	▪ `A.B.C.D` – IP destination prefix. ▪ `m1.m2.m3.m4` – IP destination prefix mask. ▪ `A.B.C.D/mask` – IP destination prefix/mask. ▪ `g1.g2.g3.g4` – IP gateway address. ▪ `l3_intf` – L3 Interface (IP gateway interface name). ▪ `dist` – Distance value for this route. ▪ `tag_val` – Tag value. ▪ `nhp_vrf` – Specify the VRF of nexthop.
Usage	Use `no ip route {<A.B.C.D> <m1.m2.m3.m4>} | <A.B.C.D/mask> {<g1.g2.g3.g4> [<l3_intf> [onlink]]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [nexthop-vrf <nhp_vrf>]` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

ipv6 route

Configures static routes.

Syntax	`ipv6 route <A::B/mask> {<g1::g2> [<l3_intf>]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [nexthop-vrf <nhp_vrf>]`
Command mode	Configure-vrf-view
Parameters	▪ `A::B/mask` – IPv6 destination prefix/mask. ▪ `g1::g2` – IPv6 gateway address. ▪ `l3_intf` – L3 Interface (IP gateway interface name). ▪ `dist` – Distance value for this route. ▪ `tag_val` – Tag value. ▪ `nhp_vrf` – Specify the VRF of nexthop.
Usage	Use `no ipv6 route <A::B/mask> {<g1::g2> [<l3_intf>]} | blackhole | <l3_intf> | Null0 [<dist> [tag <tag_val>]] [nexthop-vrf <nhp_vrf>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ip router-id

Configures router-ID.

Syntax	`ip router-id <A.B.C.D>`

Command mode	Configure-vrf-view
Parameters	▪ `A.B.C.D` – IP address to use for router-ID.
Usage	Use `no ip router-id <A.B.C.D>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 router-id

Configures IPv6 router-ID.

Syntax	`ipv6 router-id <A::B>`
Command mode	Configure-vrf-view
Parameters	▪ `A::B` – IPv6 address to use for router-ID.
Usage	Use `no ipv6 router-id <A::B>` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Filter Config Commands

ip nht

Filters Next Hop tracking route resolution.

Syntax	`ip nht any | bgp | connected | kernel | ospf | resolve-via-default | static | table [route-map <rmap_name>]`
Command mode	Configure-view
Parameters	▪ `rmap_name` – Route map name.
Usage	Use `no ip nht any | bgp | connected | kernel | ospf | resolve-via-default | static | table [route-map <rmap_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 nht

Filters Next Hop tracking route resolution.

Syntax	`ipv6 nht any | bgp | connected | kernel | ospf6 | resolve-via-default | static | table [route-map <rmap_name>]`
Command mode	Configure-view
Parameters	▪ `rmap_name` – Route map name.
Usage	Use `no ipv6 nht any | bgp | connected | kernel | ospf6 | resolve-via-default | static | table [route-map <rmap_name>]` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

ip protocol

Filters routing info exchanged between zebra and protocol.

Syntax	`ip protocol any | bgp | connected | kernel | ospf | static | table [route-map <rmap_name>]`
Command mode	Configure-view
Parameters	▪ `rmap_name` – Route map name.
Usage	Use `no ip protocol any | bgp | connected | kernel | ospf | static | table [route-map <rmap_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

ipv6 protocol

Filters Next Hop tracking route resolution.

Syntax	`ipv6 protocol any | bgp | connected | kernel | ospf6 | static | table [route-map <rmap_name>]`
Command mode	Configure-view
Parameters	▪ `rmap_name` – Route map name.
Usage	Use

	`no ipv6 protocol any | bgp | connected | kernel | ospf6 | static | table [route-map <rmap_name>]` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

Miscellaneous Config Commands

frr fpm

Configures Forwarding Plane Manager.

Syntax	`frr fpm use-next-hop-groups`
Command mode	Configure-view
Parameters	None
Usage	Use `no frr fpm use-next-hop-groups` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

frr zebra

Configures zebra dataplane and route-map information.

Syntax	`frr zebra {dplane limit <num>} | {route-map delay-timer <dl_timer>}`
Command mode	Configure-view

Parameters	None
Usage	Use `no frr zebra {dplane limit <num>} | {route-map delay-timer <dl_timer>}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

frr log - 1

Sets stdout, syslog logging level. And logs to file.

Syntax	`frr log {file <filename>}|stdout|syslog [alerts|critical|debugging|emergencies|informational|notifications|warnings]`
Command mode	Configure-view
Parameters	▪ `filename` – Filename to log.
Usage	Use `no frr log {file <filename>}|stdout|syslog [alerts|critical|debugging|emergencies|informational|notifications|warnings` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

frr log - 2

Logs all commands; log the priority of the message within the message; timestamp configuration.

Syntax	`frr log commands|record-priority|{timestamp precision <subsecond>}`
Command mode	Configure-view
Parameters	▪ `subsecond` – Number of subsecond digits.
Usage	Use `no frr log commands|record-priority|{timestamp precision <subsecond>}` to remove the configuration.
Supported Releases	1.0.0 or later
Click command	None

frr log facility

Facility parameter for syslog messages.

Syntax	`frr log facility auth|cron|daemon|kern|local0|local1|local2|local3|local4|local5|local6|local7|lpr|mail|news|syslog|user|uucp`
Command mode	Configure-view
Parameters	None
Usage	Use `no frr log facility auth|cron|daemon|kern|local0|local1|local2|local3|local4|local5|local6|local7|lpr|mail|news|syslog|user|uucp to remove the configuration.` to remove the configuration.
Supported Releases	1.0.0 or later

Click command	None

debug bgp

BGP debug log configuration.

Syntax	`debug bgp`
Command Mode	Enable-view
Parameters	None
Usage	Use `no debug bgp` to remove the configuration.
Supported Releases	1.0.0 or later
Click Command	None

Example

```
sonic# debug bgp
  allow-martians    BGP allow martian next hops
  as4               BGP AS4 actions
  evpn              BGP EVPN debug options
  graceful-restart  Graceful Restart - Enable Debug Logs
  keepalives        BGP keepalives
  labelpool         label pool
  neighbor-events   BGP Neighbor Events
  nht               BGP nexthop tracking events
  update-groups     BGP update-groups
  updates           BGP updates
  vpn               VPN routes
  zebra             BGP Zebra messages
```

debug zebra

Zebra debug log configuration.

Syntax	`debug zebra`
Command Mode	Enable-view
Parameters	None
Usage	Use `no debug zebra` to remove the configuration.
Supported Releases	1.0.0 or later
Click Command	None

Example

```
sonic# debug zebra
  dplane       Debug zebra dataplane events
  events       Debug option set for zebra events
  evpn         Debug zebra dataplane EVPN
  fpm          Debug zebra FPM events
  kernel       Debug option set for zebra between kernel interface
  mlag         Debug option set for mlag events
  mpls         Debug option set for zebra MPLS LSPs
  nexthop      Debug zebra nexthop events
  nht          Debug option set for zebra next hop tracking
  packet       Debug option set for zebra packet
  pseudowires  Debug option set for zebra pseudowires
  rib          Debug RIB events
  vxlan        Debug option set for zebra VxLAN (EVPN)
```

FRR Clear Commands

clear arp

Clears IP ARP table information.

Syntax	`clear arp [vrf <vrf_name>] [<A.B.C.D>|<l3_intf>]`

Command mode	Enable-view
Parameters	• `vrf_name` – Clear per VRF. • `A.B.C.D` – IP address. • `l3_intf` – L3 interface (ARP Egress Interface).
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear bgp - 1

Clears BGP information.

Syntax	`clear bgp *|<asn>|<A.B.C.D>|<A::B>|external|<l3_intf>|{peer-group <pgrp_name>}|{prefix <A.B.C.D/mask>}|{view <view_name>}|{vrf <vrf_name> [{in [prefix-filter]}|out|{soft [in|out]]`
Command mode	Enable-view
Parameters	• `asn` – Clear peers with the AS number. • `A.B.C.D` – BGP IPv4 neighbor to clear. • `A::B` – BGP IPv6 neighbor to clear. • `l3_intf` – L3 interface (BGP neighbor on interface to clear). • `pgrp_name` – BGP peer group name. • `A.B.C.D/mask` – IPv4 prefix. • `view_name` – BGP VIEW name. • `vrf_name` – VRF name.
Usage	None

Supported Releases	1.0.0 or later
Click command	None

clear bgp - 2

Clears BGP information.

Syntax	`clear bgp ipv4|ipv6 {*|<asn>|<A.B.C.D>|<A::B>|external|<l3_intf>| {peer-group <pgrp_name>}} [{in [prefix-filter]}|out|{soft [in|out]]`
Command mode	Enable-view
Parameters	▪ `asn` – Clear peers with the AS number. ▪ `A.B.C.D` – BGP IPv4 neighbor to clear. ▪ `A::B` – BGP IPv6 neighbor to clear. ▪ `l3_intf` – L3 interface (BGP neighbor on interface to clear). ▪ `pgrp_name` – BGP peer group name.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear bgp - 3

Clears BGP information.

Syntax	`clear bgp ipv4|ipv6 {evpn|labeled-unicast|multicast|unicast|vpn} {*|<asn>|<A.B.C.D>|<A::B>|external|<l3_intf>|{peer-group <pgrp_name>}} [{in [prefix-filter]}|out|{soft [in|out]]`
Command mode	Enable-view
Parameters	▪ `asn` – Clear peers with the AS number. ▪ `A.B.C.D` – BGP IPv4 neighbor to clear. ▪ `A::B` – BGP IPv6 neighbor to clear. ▪ `l3_intf` – L3 interface (BGP neighbor on interface to clear). ▪ `pgrp_name` – BGP peer group name.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear ip interface

Clears interface information.

Syntax	`clear ip interface [vrf <vrf_name>]`
Command mode	Enable-view
Parameters	▪ `vrf_name` – Clear per VRF.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear ip prefix-list

Clears IP prefix-list information.

Syntax	`clear ip prefix-list [<prfxlst_name> [<A.B.C.D/mask>]]`
Command mode	Enable-view
Parameters	▪ `prfxlst_name` – Name of a prefix list. ▪ `A.B.C.D/mask` – IPv4 prefix/mask.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear ipv6 prefix-list

Clears IP prefix-list information.

Syntax	`clear ip prefix-list [<prfxlst_name> [<A::B/mask>]]`
Command mode	Enable-view
Parameters	▪ `prfxlst_name` – Name of a prefix list. ▪ `A::B/mask` – IPv6 prefix/mask.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear ndp

Clears IPv6 ND table information.

Syntax	`clear ip prefix-list [<prfxlst_name> [<A::B/mask>]]`
Command mode	Enable-view
Parameters	▪ `vrf_name` – Clear per VRF. ▪ `A::B` – IPv6 address. ▪ `l3_intf` – L3 interface or Management (IPv6 ND Egress Interface).
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear route-map

Clears route-map information.

Syntax	`clear route-map counters [<rmap_name>]`
Command mode	Enable-view
Parameters	▪ `rmap_name` – Route MAP name.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear vrf

Clears VRF information.

Syntax	`clear vrf <vrf_name> [all|{prefix <A.B.C.D/mask>|<A::B/mask>}]`
Command mode	Enable-view
Parameters	• `vrf_name` – VRF name. • `A.B.C.D/mask` – IPv4 prefix. • `A::B/mask` – IPv6 prefix.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

clear zebra

Clears Zebra information.

Syntax	`clear zebra fpm stats`
Command mode	Enable-view
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

FRR Show Commands

show debugging frr

Displays the debugging config status for various FRR daemons.

Syntax	`show debugging frr [ hashtable [ statistics ]]`
Command mode	Enable-view
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show frr interface

Displays the configured FRR L3 Interfaces.

Syntax	`show frr interface [ vrf <VRFNAME> [ brief ] ] [ brief | description [ vrf <VRFNAME> ] | <L3IFNAME> [ [ vrf <VRFNAME>] | nexthop-group ] ] | [ nexthop-group ]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF name. ▪ `L3IFNAME` – Layer 3 Interface Name.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show frr nexthop-group

Displays the FRR nexthop-group, which displays the Linux Nexthop Group IDs created by FRR Stack for learnt nexthops.

Syntax	`show frr nexthop-group [ rib [ <NHG_GRP_ID> | singleton [ip | ipv6 ] ] ]`
Command mode	Enable-view
Parameters	▪ `NHG_GRP_ID` – Nexthop Group ID.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip-accesslist

Displays FRR IPv4 access-lists information that are used in the match condition in a route-map to match IPv4 Address Prefixes.

Syntax	`show ip-accesslist [ <accesslist-name> ]`
Command mode	Enable-view
Parameters	▪ `access-list-name` – Access list name.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip fib

Displays FRR IP Forwarding Table.

Syntax	`show ip fib [ vrf <VRFNAME> ][ <A.B.C.D> | <A.B.C.D/Mask> | bgp | connected | kernel | ospf | static | table | tag ]`

Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name for which the FIB is to be displayed. ▪ `A.B.C.D` – The specific IP Address in the FIB to be displayed. ▪ `A.B.C.D/Mask` – The specific IP Prefix in the FIB to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip import-check

Displays import-check Tracking Table.

Syntax	`show ip import-check [ vrf <VRFNAME> ][ <A.B.C.D> | <A:B::C:D> ]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name for which the import-check Tracking Table is to be displayed. ▪ `A.B.C.D` – The specific IP Address in the import-check tracking table to be displayed. ▪ `A:B::C:D` – The specific IPv6 Address in the import-check tracking table to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip nht

Displays IP NextHop Tracking Table.

Syntax	`show ip nht [ [ vrf <VRFNAME> ][ <A.B.C.D> | <A:B::C:D> ] ] | [ route-map [ vrf <VRFNAME> ] ]`
Command mode	Enable-view
Parameters	• `VRFNAME` – VRF Name for which the IP NextHop tracking table is to be displayed. • `A.B.C.D` – The specific IP Address in the IP NextHop tracking table to be displayed. • `A:B::C:D` – The specific IPv6 Address in the IP NextHop tracking table to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip prefix-list

Displays IP Prefix-List used to match in route-map match condition, in either a detail or a summary display.

Syntax	`show ip prefix-list [ detail | summary]`
Command mode	Enable-view
Parameters	• `Keyword` – [detail | summary]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip protocol

Displays every configured IP Protocol's route filtering status through the usage of a route-map to inject routes into Zebra.

Syntax	`show ip protocol [ vrf <VRFNAME> | vrf all]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name. ▪ `Keyword` – [all]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ip route

Displays FRR IP Forwarding Table.

Syntax	`show ip route [ vrf <VRFNAME> ][ <A.B.C.D> | <A.B.C.D/Mask> | bgp | connected | kernel | ospf | static | table | tag ]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name for which the IP Route Table is to be displayed. ▪ `A.B.C.D` – The specific IP Address in the IP Route Table to be displayed. ▪ `A.B.C.D/Mask` – The specific IP Prefix in the IP Route Table to be displayed.
Usage	None
Supported Releases	1.0.0 or later

Click command	None

show ip router-id

Displays the FRR Configured IP Router-ID.

Syntax	`show ip router-id [ vrf <VRFNAME> ]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name for which the IP Router ID is to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6-accesslist

Displays FRR IPv6 access-lists information that are used in the match condition in a route-map to match IPv6 Address Prefixes.

Syntax	`show ipv6-accesslist [ <accesslist-name> ]`
Command mode	Enable-view
Parameters	▪ `access-list-name` – IPv6 Access list.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 fib

Displays FRR IPv6 Forwarding Table.

Syntax	`show ipv6 fib [ vrf <VRFNAME> ][ <A:B::C:D> | <A:B::C:D/Mask> | bgp | connected | kernel | ospf6 | static | table | tag ]`
Command mode	Enable-view
Parameters	• `VRFNAME` – VRF Name for which the FIB is to be displayed. • `A:B::C:D` – The specific IPv6 Address in the FIB to be displayed. • `A:B::C:D/Mask` – The specific IPv6 Prefix in the FIB to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 import-check

Displays import-check Tracking Table.

Syntax	`show ipv6 import-check [ vrf <VRFNAME> ][ <A.B.C.D> | <A:B::C:D> ]`
Command mode	Enable-view
Parameters	• `VRFNAME` – VRF Name for which the import-check Tracking Table is to be displayed. • `A.B.C.D` – The specific IP Address in the import-check tracking table to be displayed. • `A:B::C:D` – The specific IPv6 Address in the import-check tracking table to be displayed.

Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 nht

Displays IPv6 NextHop Tracking Table.

Syntax	`show ipv6 nht [ [ vrf <VRFNAME> ][ <A.B.C.D> | <A:B::C:D> ] ] | [ route-map [ vrf <VRFNAME> ] ] ]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name for which the IPv6 NextHop tracking table is to be displayed. ▪ `A.B.C.D` – The specific IP Address in the IPv6 NextHop tracking table to be displayed. ▪ `A:B::C:D` – The specific IPv6 Address in the IPv6 NextHop tracking table to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 prefix-list

Displays IPv6 Prefix-List used to match in route-map match condition, in either a detail or a summary display.

Syntax	`show ipv6 prefix-list [ detail | summary]`
Command mode	Enable-view

Parameters	▪ `Keyword` – [detail | summary]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 protocol

Displays every configured IPv6 Protocol's route filtering status through the usage of a route-map to inject routes into Zebra.

Syntax	`show ipv6 protocol [ vrf <VRFNAME> | vrf all]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name. ▪ `Keyword` – [all]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 route

Displays FRR IPv6 Forwarding Table.

Syntax	`show ipv6 route [ vrf <VRFNAME> ][ <A:B::C:D> | <A:B::C:D/Mask> | bgp | connected | kernel | ospf6 | static | table | tag ]`
Command mode	Enable-view
Parameters	▪ `VRFNAME` – VRF Name for which the IPv6 Route Table is

to be displayed.

- `A:B::C:D` – The specific IPv6 Address in the IPv6 Route Table to be displayed.
- `A:B::C:D/Mask` – The specific IPv6 Prefix in the IPv6 Route Table to be displayed.

Usage	None
Supported Releases	1.0.0 or later
Click command	None

show ipv6 router-id

Displays the FRR Configured IPv6 Router-ID.

Syntax	`show ipv6 router-id [ vrf <VRFNAME> ]`
Command mode	Enable-view
Parameters	• `VRFNAME` – VRF Name for which the IPv6 Router ID is to be displayed.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp <Prefix>

Displays FRR BGP Route Table corresponding to the Network/IP Prefix given.

Syntax	`show bgp [<afi>] [<safi>] [ <A.B.C.D> | <A.B.C.D/Mask> | <A:B::C:D> | <A:B::C:D/Mask> ] [ best-path [json] | multipath [json] | json ]`
Command mode	EXEC
Parameters	▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `A.B.C.D` – IPv4 Network Address. ▪ `A.B.C.D/Mask` – IPv4 Prefix with Mask. ▪ `A:B::C:D` – IPv6 Network Address. ▪ `A:B::C:D/Mask` – IPv6 Prefix with Mask. ▪ `best-path` – Keyword best-path lets user to display only best-path. ▪ `multi-path` – Keyword multi-path lets user to display multi-paths.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp 2010::/64
BGP routing table entry for 2010::/64
Paths: (1 available, best #1, table default)
  Not advertised to any peer
  Local
    :: from :: (1.1.1.1)
      Origin incomplete, metric 0, weight 32768, valid, sourced, best
(First path received)
      Last update: Mon Aug 21 17:35:40 2023
```

show bgp as-path-access-list

Displays the BGP AS PATH Access-List used in the route-map.

Syntax	`show bgp as-path-access-list`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic# show bgp as-path-access-list
AS path access list Test1
    permit ^12001_11231$
```

show bgp attribute-info

Displays all BGP Attributes for all the known prefixes in RIB.

Syntax	`show bgp attribute-info`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic# show bgp attribute-info
attr[1] nexthop 0.0.0.0
        flags: 15 med: 0 local_pref: 0 origin: 2 weight: 32768 label:
4294836223 sid:
attr[2] nexthop 0.0.0.0
        flags: 15 med: 0 local_pref: 0 origin: 2 weight: 32768 label:
4294836223 sid:
```

show bgp cidr-only

Displays all BGP routes with non-natural netmasks.

Syntax	`show bgp [<afi>] [<safi>] cidr-only`
Command mode	EXEC
Parameters	▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp cidr-only
BGP table version is 7, local router ID is 1.1.1.1, vrf id 0
Default local pref 100, local AS 1
Status codes:  s suppressed, d damped, h history, * valid, > best, =
multipath,
               i internal, r RIB-failure, S Stale, R Removed
Nexthop codes: @NNN nexthop's vrf id, < announce-nh-self
Origin codes:  i - IGP, e - EGP, ? - incomplete
```

```
   Network          Next Hop            Metric LocPrf Weight Path
*> 2010::/64        ::                       0         32768 ?

Displayed  1 routes and 1 total paths
```

show bgp community

Displays all BGP routes with the given community attribute.

Syntax	`show bgp [<afi>] [<safi>] community [<AA:NN> | accept-own | accept-own-nexthop | blackhole | graceful-shutdown | llgr-stale | local-AS | no-advertise | no-export | no-llgr | no-peer | route-filter-translated-v4 | route-filter-translated-v6 | route-filter-v4 | route-filter-v6 | json] | [exact-match]`
Command mode	EXEC
Parameters	▪ `AA:NN` – Community attribute of the form of integer where AA and NN in the range of 0..65535. ▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `Keyword` – Well known community named attribute names to match against the routes.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp community-info

Displays some reference count statistics for each community attribute.

Syntax	`show bgp community-info`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp community-list

Displays the BGP community-list information, if the community-list NAME or number is given information pertaining to the given one is displayed.

Syntax	`show bgp [<afi>] [<safi>] community-list [ <1..500> | <NAME> ] | [ detail | exact-match ]`
Command mode	EXEC
Parameters	▪ `1..500` – Community-list number in the range 1 to 500. ▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `NAME` – Community-list NAME. ▪ `Keyword` – [exact-match | detail]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp community-list
Named Community standard list community1
    permit 10001:1 local-AS
```

show bgp dampening

Displays information on BGP dampening parameters and statistics.

Syntax	`show bgp [<afi>] [<safi>] dampening [ dampened-paths | flap-statistics | parameters ]`
Command mode	EXEC
Parameters	▪ `dampened-path` – Keyword to display BGP AS Path suppressed due to dampening. ▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `flap-statistics` – Keyword to display flap statistics of routes. ▪ `parameters` – Keyword to display BGP configured dampening parameters.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp extcommunity-list

Displays the BGP extcommunity-list information, if the extcommunity-list NAME or number is given information pertaining to the given one is displayed.

Syntax	`show bgp extcommunity-list [ <1..500> | <NAME> ] | [ detail ]`
Command mode	EXEC
Parameters	• `1..500` – Extended Community-list number in the range 1 to 500. • `NAME` – Extended Community-list NAME. • `Keyword` – [detail]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp extcommunity-list extcommunity1 detail
Named extended community standard list extcommunity1
    permit rt 6500:1001
```

show bgp filter-list

Displays the BGP routes conforming to the AS PATH Filter expression, specified in the access-list, where NAME refers to such an access-list name.

Syntax	`show bgp [afi] [safi] filter-list [ <NAME> ]`
Command mode	EXEC
Parameters	• `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. • `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn.

- `NAME` – ASPATH Filter Expression Access-list Name.

Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp large-community

Displays the BGP routes matching the large-community number, specified in the argument.

Syntax	`show bgp [afi] [safi] large-community [ <AA:BB:CC> ]`
Command mode	EXEC
Parameters	• `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. • `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. • `AA:BB:CC` – Large Community Number of the form AA:BB:CC, where AA represents the Autonomous Number (can be a 4-byte ASN), BB, CC are two byte values.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp large-community-list

Displays the BGP large-community-list information, if the large-community-list NAME is given information pertaining to the given one is displayed.

Syntax	`show bgp [<afi>] [<safi>] large-community-list [ <NAME> ] | [ detail | exact-match ]`
Command mode	EXEC
Parameters	• `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. • `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. • `NAME` – Community-list NAME. • `Keyword` – [exact-match | detail]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp large-community-list
Named large community standard list largecommunity1
    permit 65111:100:2001
```

show bgp martian

Displays the BGP martian next-hop database.

Syntax	`show bgp martian next-hop`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later

Click command	None

show bgp memory

Displays the Global BGP memory usage statistics.

Syntax	`show bgp memory`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp memory
8 RIB nodes, using 1536 bytes of memory
3 BGP routes, using 336 bytes of memory
2 Nexthop cache entries, using 320 bytes of memory
2 BGP attributes, using 544 bytes of memory
1 BGP AS-PATH entries, using 40 bytes of memory
0 BGP AS-PATH segments, using 0 bytes of memory
1 BGP community entries, using 32 bytes of memory
1 BGP large-community entries, using 40 bytes of memory
3 peers, using 64 KiB of memory
1 compiled regexes, using 64 bytes of memory
```

show bgp neighbors

Displays the BGP neighbor's information according to the given AFI/SAFI(if specified), and/or for the given neighbor.

Syntax	`show bgp [<afi>] [<safi>] neighbors [ <neighborip> [ advertised-routes | bestpath-routes | dampened-routes | filtered-routes [ route-map [ <RNAME> ] ] | flap-statistics | prefix-counts | received | received-routes [ route-map <RNAME> ] | routes ] ]`
Command mode	EXEC
Parameters	• `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. • `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. • `neighborip` – IPv4 or IPv6 Address of Neighbor. • `RNAME` – Route-MAP Name. • `Keyword` – [advertised-routes | bestpath-routes | dampened-routes | filtered-routes | flap-statistics | prefix-counts | received | received-routes | routes]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp ipv6 neighbors 2010::2
BGP neighbor is 2010::2, remote AS 1, local AS 1, internal link
  BGP version 4, remote router ID 0.0.0.0, local router ID 1.1.1.1
  BGP state = Active
  Last read 01w0d06h, Last write never
  Hold time is 180, keepalive interval is 60 seconds
  Graceful restart information:
    Local GR Mode: Helper*
    Remote GR Mode: NotApplicable
    R bit: False
    Timers:
      Configured Restart Time(sec): 120
      Received Restart Time(sec): 0
```

```
  Message statistics:
    Inq depth is 0
    Outq depth is 0
                         Sent       Rcvd
    Opens:                  0          0
    Notifications:          0          0
    Updates:                0          0
    Keepalives:             0          0
    Route Refresh:          0          0
    Capability:             0          0
    Total:                  0          0
  Minimum time between advertisement runs is 0 seconds

 For address family: IPv4 Unicast
  Not part of any update group
  Community attribute sent to this neighbor(all)
  0 accepted prefixes

 For address family: IPv6 Unicast
  Not part of any update group
  Community attribute sent to this neighbor(all)
  0 accepted prefixes

  Connections established 0; dropped 0
  Last reset 01w0d06h,  Waiting for peer OPEN
BGP Connect Retry Timer in Seconds: 120
```

---

show bgp nexthop

Displays the BGP nexthop cache.

Syntax	`show bgp nexthop [ <A.B.C.D> | <A:B::C:D> ] [ detail ]`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – IPv4 Nexthop Address. ▪ `A:B::C:D` – IPv6 Nexthop Address. ▪ `Keyword` – [detail]

Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp nexthop
Current BGP nexthop cache:
 3.1.1.1 valid [IGP metric 0], #paths 0, peer 3.1.1.1
  if Ethernet5
  Last update: Mon Aug 21 17:35:40 2023

 2010::2 valid [IGP metric 0], #paths 0, peer 2010::2
  if Ethernet5
  Last update: Mon Aug 21 17:35:40 2023
```

show bgp peer-group

Displays the BGP nexthop cache.

Syntax	`show bgp nexthop [ <A.B.C.D> | <A:B::C:D> ] [ detail ]`
Command mode	EXEC
Parameters	▪ `A.B.C.D` – IPv4 Nexthop Address. ▪ `A:B::C:D` – IPv6 Nexthop Address. ▪ `Keyword` – [detail]
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show bgp peer-group

BGP peer-group Pgrp1
  Peer-group type is external
  Configured address-families: IPv4 Unicast;
  Peer-group members:
    1.1.1.1  Active
    1.1.1.10  Active

sonic# show bgp peer-group Pgrp1

BGP peer-group Pgrp1
  Peer-group type is external
  Configured address-families: IPv4 Unicast;
  Peer-group members:
    1.1.1.1  Active
    1.1.1.10  Active
```

---

show bgp prefix-list

Displays the BGP routes that match the prefix list specified.

Syntax	`show bgp prefix-list [ <NAME> ]`
Command mode	EXEC
Parameters	▪ `NAME` – Prefix List name which specifies the list of IP Prefixes.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp regexp

Displays the BGP routes that match the AS_PATH regular expression.

Syntax	`show bgp regexp [ <REGEXP> ]`
Command mode	EXEC
Parameters	▪ `REGEXP` – The RegExp pattern that matches the AS_PATH attribute.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp route-map

Displays the BGP routes matching the criteria, specified in the Route-Map whose name is given as an argument.

Syntax	`show bgp [afi] [safi] route-map <RNAME>`
Command mode	EXEC
Parameters	▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `RNAME` – The Route-Map Name which specifies the match criterion which shall be used here to filter out route prefixes, where the Match criteria can be BGP Attributes, like Weight, Prefix, Prefix-Length, AS-PATH, Community Attributes etc.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp statistics

Displays some statistics for BGP Prefixes and BGP AS_PATH attribute.

Syntax	`show bgp statistics | statistics-all`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp summary

Displays some summary for BGP Neighbors, for which session has been established, or has failed, or all of them.

Syntax	`show bgp [afi] [safi] summary [ established | failed ]`
Command mode	EXEC
Parameters	▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `Keyword` – [failed | established]
Usage	None
Supported Releases	1.0.0 or later
Click command	None
Example	

```
sonic# show bgp summary established

IPv4 Unicast Summary:
BGP router identifier 1.1.1.1, local AS number 1 vrf-id 0
BGP table version 8
RIB entries 3, using 576 bytes of memory
Peers 4, using 85 KiB of memory
Peer groups 1, using 64 bytes of memory
Dampening enabled.

Neighbor        V         AS   MsgRcvd   MsgSent   TblVer  InQ OutQ  Up/
Down State/PfxRcd   PfxSnt

Total number of neighbors 4

IPv6 Unicast Summary:
BGP router identifier 1.1.1.1, local AS number 1 vrf-id 0
BGP table version 7
RIB entries 1, using 192 bytes of memory
Peers 1, using 21 KiB of memory
Peer groups 1, using 64 bytes of memory

Neighbor        V         AS   MsgRcvd   MsgSent   TblVer  InQ OutQ  Up/
Down State/PfxRcd   PfxSnt

Total number of neighbors 1

sonic# show bgp summary failed

IPv4 Unicast Summary:
BGP router identifier 1.1.1.1, local AS number 1 vrf-id 0
BGP table version 8
RIB entries 3, using 576 bytes of memory
Peers 4, using 85 KiB of memory
Peer groups 1, using 64 bytes of memory
Dampening enabled.

Neighbor        EstdCnt DropCnt ResetTime Reason
1.1.1.1               0       0     never Waiting for NHT
1.1.1.10              0       0     never Waiting for NHT
3.1.1.1               0       0     never  Notification sent (Neighbor
Events Error/Unspecific)
```

```
2010::2               0       0     never Waiting for peer OPEN

Total number of neighbors 4

IPv6 Unicast Summary:
BGP router identifier 1.1.1.1, local AS number 1 vrf-id 0
BGP table version 7
RIB entries 1, using 192 bytes of memory
Peers 1, using 21 KiB of memory
Peer groups 1, using 64 bytes of memory

Neighbor        EstdCnt DropCnt ResetTime Reason
2010::2               0       0     never Waiting for peer OPEN

Total number of neighbors 1
```

---

show bgp view

Displays the information from specified BGP view.

Syntax	`show bgp [ view <VNAME> ] [afi] [safi] <CMD>`
Command mode	EXEC
Parameters	▪ `VNAME` – View Name String. ▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `CMD` – It can be any of the previously mentioned command above, Example it can be IPv4 Prefix/Mask, IPv6 Address/Mask, community, community-list, nexthop, neighbor, etc.
Usage	None
Supported Releases	1.0.0 or later

Click command	None

show bgp views

Displays the defined BGP views.

Syntax	`show bgp views`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp vrf

Displays the information for the specified VRF.

Syntax	`show bgp [ vrf <VRFNAME> ] [afi] [safi] <CMD>`
Command mode	EXEC
Parameters	▪ `VRFNAME` – VRF Name String. ▪ `afi` – Address Family Indicator it could take either a value of ipv4 or ipv6. ▪ `safi` – Subsequent Address Family Indicator, it could be either unicast/multicast/labeled-unicast/vpn. ▪ `CMD` – It can be any of the previously mentioned command above, Example it can be IPv4 Prefix/Mask, IPv6 Address/Mask, community, community-list, nexthop, neighbor, etc.

Usage	None
Supported Releases	1.0.0 or later
Click command	None

show bgp vrfs

Displays the VRFs on which BGP configurations are done (Including the Default VRF).

Syntax	`show bgp vrfs`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show logging frr

Displays the FRR Syslog logging configuration.

Syntax	`show logging frr`
Command mode	Enable-view
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

Example

```
sonic# show logging frr
Logging configuration for zebra:
Syslog logging: level informational, facility local4, ident zebra
Stdout logging: disabled
File logging: disabled
Protocol name: ZEBRA
Record priority: disabled
Timestamp precision: 0

Logging configuration for ospfd:
Syslog logging: level informational, facility local4, ident ospfd
Stdout logging: disabled
File logging: disabled
Protocol name: OSPF
Record priority: disabled
Timestamp precision: 0

Logging configuration for ospf6d:
Syslog logging: level informational, facility local4, ident ospf6d
Stdout logging: disabled
File logging: disabled
Protocol name: OSPF6
Record priority: disabled
Timestamp precision: 0

Logging configuration for bgpd:
Syslog logging: level informational, facility local4, ident bgpd
Stdout logging: disabled
File logging: disabled
Protocol name: BGP
Record priority: disab
```

show route-map

Displays the Route-maps used by various FRR daemons to inject routes into kernel/zebra.

Syntax	`show route-map [ <RNAME> ]`

Command mode	EXEC
Parameters	▪ `RNAME` – RouteMap Name String.
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show route-map-unused

Displays the Unused Route-maps information.

Syntax	`show route-map-unused`
Command mode	EXEC
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

show running-config bgp

Displays FRR running configuration for BGP.

Syntax	`show running-config bgp`
Command mode	Enable-view
Parameters	None
Usage	None

Supported Releases	1.0.0 or later
Click command	None

show running-config zebra

Displays FRR running configuration for Zebra.

Syntax	`show running-config zebra`
Command mode	Enable-view
Parameters	None
Usage	None
Supported Releases	1.0.0 or later
Click command	None

BGP EVPN Config Commands

L2VPN AFI extension

Adds or deletes EVPN Subsequent Address Family Identifier (SAFI) configs to carry routing information for L2VPN EVPN type traffic. Enters into BGP router `config-router-af-l2vpn` mode.

Syntax	`address-family l2vpn evpn`
Command mode	Router BGP
Parameters	None
Usage	Use `exit-address-family` to come out of the EVPN Subsequent Address Family config mode.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config)# router bgp 65100
sonic(config-router)# address-family l2vpn evpn
sonic(config-router-af-l2vpn)# exit-address-family
sonic(config-router)#
```

Neighbor activate

Enables/disables L2VPN address family for a specific neighbor.

> ⓘ NOTE: By default, the BGP speakers transport only IPv4 AFI/SAFI prefixes. In order to transport BGP L2VPN/EVPN prefixes, the respective neighbor should be activated under the corresponding address-family l2vpn evpn.

Syntax	`neighbor <ip-address> activate`
Command mode	L2VPN Address-Family
Parameters	▪ `ip-address` – The address (A.B.C.D) of IPv4 neighbor to enable L2VPN address family.
Usage	Use `no neighbor <ip-address> activate` to disable L2VPN address family for the specific neighbor.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config)# router bgp 65100
sonic(config-router)# address-family l2vpn evpn
```

```
sonic(config-router-af-l2vpn)# neighbor 30.1.1.1 activate

sonic(config-router-af-l2vpn)# no neighbor 30.1.1.1 activate
```

Route Reflector Client

Configures a neighbor as Route Reflector client.

Syntax	`neighbor <ip-address> route-reflector-client`
Command mode	L2VPN Address-Family
Parameters	▪ `ip-address` – Neighbor address (A.B.C.D).
Usage	Use `no neighbor <ip-address> route-reflector-client` to remove the configuration.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config)# router bgp 65100
sonic(config-router)# neighbor 30.1.1.1 remote-as 1
sonic(config-router)# address-family l2vpn evpn
sonic(config-router-af-l2vpn)# neighbor 30.1.1.1 route-reflector-client
sonic(config-router-af-l2vpn)#
sonic(config-router-af-l2vpn)# no neighbor 30.1.1.1 route-reflector-client
```

Advertise all vni

Enables/disables advertising of all configured VNIs in its local VTEP.

Syntax	`advertise-all-vni`
Command mode	L2VPN Address-Family
Parameters	None
Usage	Use `no advertise-all-vni` to disable advertisement of all VNIs configured in its local VTEP.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic(config)# router bgp 65100
sonic(config-router)# address-family l2vpn evpn
sonic(config-router-af-l2vpn)# advertise-all-vni

sonic(config-router-af-l2vpn)# no advertise-all-vni
```

BGP EVPN Show Commands

Show bgp l2vpn evpn

Displays the FRR BGP EVPN routes information.

Syntax	`show bgp l2vpn evpn`
Command mode	EXEC
Parameters	None
Usage	Use this command to get information related EVPN routes.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn
BGP table version is 364, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete
EVPN type-1 prefix: [1]:[ESI]:[EthTag]:[IPlen]:[VTEP-IP]
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]:[IPlen]:[IP]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-4 prefix: [4]:[ESI]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

   Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 2.2.2.2:2
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100010
*> [2]:[0]:[48]:[00:00:01:10:01:02]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100010
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100010
Route Distinguisher: 2.2.2.2:3
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100020
Route Distinguisher: 3.3.3.3:2
*>i[3]:[0]:[32]:[3.3.3.3]
                    3.3.3.3                         100      0 i
                    RT:65100:100010 ET:8

Displayed 5 out of 5 total prefixes

sonic#
```

Show bgp l2vpn evpn all overlay

Displays BGP Overlay Information for all prefixes.

Syntax	`show bgp l2vpn evpn all overlay`
Command mode	EXEC
Parameters	None
Usage	Use this command to get overlay specific information.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn all overlay
   Network          Next Hop      EthTag    Overlay Index   RouterMac
Route Distinguisher: 2.2.2.2:2
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                    2.2.2.2         /2.2.2.2
*> [2]:[0]:[48]:[00:00:01:10:01:02]
                    2.2.2.2         /2.2.2.2
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2         /0.0.0.0
Route Distinguisher: 3.3.3.3:2

Displayed 4 out of 4 total prefixes
sonic#
```

Show bgp l2vpn evpn all tags

Displays BGP tags for all prefixes.

Syntax	`show bgp l2vpn evpn all tags`
Command mode	EXEC
Parameters	None
Usage	Use this command to get tag specific information.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn all tags
   Network          Next Hop      In tag/Out tag
Route Distinguisher: 2.2.2.2:2
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                    2.2.2.2         *> [2]:[0]:[48]:[00:00:01:10:01:02]
                    2.2.2.2         *> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2         Route Distinguisher: 3.3.3.3:2

Displayed 4 out of 4 total prefixes

sonic#
```

Show bgp l2vpn evpn import-rt

Displays all imported route targets.

Syntax	`show bgp l2vpn evpn import-rt [json]`
Command mode	EXEC
Parameters	▪ `json` – To get output in JavaScript Object Notation.
Usage	Use `json` option to get output in json format.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn import-rt
Route-target: 0:100020
List of VNIs importing routes with this route-target:
```

```
  100020
Route-target: 0:100010
List of VNIs importing routes with this route-target:
  100010
sonic#
sonic# show bgp l2vpn evpn import-rt json
{
  "0:100020":{
    "rt":"0:100020",
    "vnis":[
      100020
    ]
  },
  "0:100010":{
    "rt":"0:100010",
    "vnis":[
      100010
    ]
  }
}
sonic#
```

Show bgp l2vpn evpn neighbors advertised-routes

Displays the routes advertised to a given BGP EVPN neighbor.

Syntax	`show bgp l2vpn evpn neighbors <neighbor-ip> advertised-routes [json]`
Command mode	EXEC
Parameters	▪ `neighbor-ip` – Neighbor-IP could be IPv4 (A.B.C.D) or IPv6 (A::B) address. ▪ `json` – To get output in JavaScript Object Notation.
Usage	Use `json` option to get output in json format.
Supported Releases	1.1.0 or later

Click command	None

Example

```
sonic# show bgp l2vpn evpn neighbors 30.1.1.2 advertised-routes
BGP table version is 0, local router ID is 2.2.2.2
Default local pref 100, local AS 65100
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete

   Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 2.2.2.2:2
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                                    100  32768 i
*> [2]:[0]:[48]:[00:00:01:10:01:02]
                                    100  32768 i
*> [3]:[0]:[32]:[2.2.2.2]
                                    100  32768 i
Route Distinguisher: 2.2.2.2:3
*> [3]:[0]:[32]:[2.2.2.2]
                                    100  32768 i

Total number of prefixes 4

sonic#
```

Show bgp l2vpn evpn neighbors routes

Displays the routes learned from a given neighbor.

Syntax	`show bgp l2vpn evpn neighbors <neighbor-ip> routes [json]`
Command mode	EXEC
Parameters	▪ `neighbor-ip` – Neighbor-IP could be IPv4 (A.B.C.D) or IPv6 (A::B) address. ▪ `json` – To get output in JavaScript Object Notation.

Usage	Use `json` option to get output in json format.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn neighbors 30.1.1.2 routes
BGP table version is 1, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete
EVPN type-1 prefix: [1]:[ESI]:[EthTag]:[IPlen]:[VTEP-IP]
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]:[IPlen]:[IP]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-4 prefix: [4]:[ESI]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

   Network          Next Hop            Metric LocPrf Weight Path
Route Distinguisher: 3.3.3.3:2
*>i[3]:[0]:[32]:[3.3.3.3]
                    3.3.3.3                        100      0 i
                    RT:65100:100010 ET:8

Displayed 1 out of 5 total prefixes

sonic#
```

Show bgp l2vpn evpn route

Displays the BGP EVPN route information.

Syntax	`show bgp l2vpn evpn route [type <route-type> [json]] | [json]`
Command mode	EXEC
Parameters	▪ `route-type` – Type of the route queried. It can any one of the values among 1 or EAD, 2 or macip, 3 or multicast,

4 or es, 5 or prefix.

- `json` – To get output in JavaScript Object Notation.

Usage	Use `route-type filter` to get a specific route type information.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn route
BGP table version is 350, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete
EVPN type-1 prefix: [1]:[ESI]:[EthTag]:[IPlen]:[VTEP-IP]
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]:[IPlen]:[IP]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-4 prefix: [4]:[ESI]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

   Network          Next Hop            Metric LocPrf Weight Path
                    Extended Community
Route Distinguisher: 2.2.2.2:2
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100010
*> [2]:[0]:[48]:[00:00:01:10:01:02]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100010
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100010
Route Distinguisher: 2.2.2.2:3
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100020
Route Distinguisher: 3.3.3.3:2
*>i[3]:[0]:[32]:[3.3.3.3]
                    3.3.3.3                         100      0 i
```

```
                    RT:65100:100010 ET:8

Displayed 5 prefixes (5 paths)

sonic#
```

Show bgp l2vpn evpn route detail

Displays the BGP EVPN route detailed information.

Syntax	`show bgp l2vpn evpn route detail [type <route-type> [json]] | [json]`
Command mode	EXEC
Parameters	▪ `route-type` – Type of the route queried. It can any one of the values among 1 or EAD, 2 or macip, 3 or multicast, 4 or es, 5 or prefix. ▪ `json` – To get output in JavaScript Object Notation.
Usage	Use `route-type filter` to get a specific route type information.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn route detail
BGP routing table entry for 2.2.2.2:2:[2]:[0]:[48]:[00:00:00:00:00:00]
Paths: (0 available, no best path)
  Not advertised to any peer
BGP routing table entry for 2.2.2.2:2:[2]:[0]:[48]:[00:00:01:10:01:00]
Paths: (0 available, no best path)
  Not advertised to any peer
Route Distinguisher: 2.2.2.2:2
```

```
BGP routing table entry for 2.2.2.2:2:[2]:[0]:[48]:[00:00:01:10:01:01]
Paths: (1 available, best<span id="md-transform-replacement-34"></span>)
  Advertised to non peer-group peers:
  30.1.1.2
  Route [2]:[0]:[48]:[00:00:01:10:01:01] VNI 100010
  Local
    2.2.2.2 from 0.0.0.0 (2.2.2.2)
      Origin IGP, weight 32768, valid, sourced, local, best (First path
received)
      Extended Community: ET:8 RT:65100:100010
      Last update: Fri Nov 17 12:14:17 2023
BGP routing table entry for 2.2.2.2:2:[2]:[0]:[48]:[00:00:01:10:01:02]
Paths: (1 available, best<span id="md-transform-replacement-35"></span>)
  Advertised to non peer-group peers:
  30.1.1.2
  Route [2]:[0]:[48]:[00:00:01:10:01:02] VNI 100010
  Local
    2.2.2.2 from 0.0.0.0 (2.2.2.2)
      Origin IGP, weight 32768, valid, sourced, local, best (First path
received)
      Extended Community: ET:8 RT:65100:100010
      Last update: Fri Nov 17 12:14:17 2023
BGP routing table entry for 2.2.2.2:2:[3]:[0]:[32]:[2.2.2.2]
Paths: (1 available, best<span id="md-transform-replacement-36"></span>)
  Advertised to non peer-group peers:
  30.1.1.2
  Route [3]:[0]:[32]:[2.2.2.2] VNI 100010
  Local
    2.2.2.2 from 0.0.0.0 (2.2.2.2)
      Origin IGP, weight 32768, valid, sourced, local, best (First path
received)
      Extended Community: ET:8 RT:65100:100010
      Last update: Thu Nov 16 15:03:57 2023
      PMSI Tunnel Type: Ingress Replication, label: 100010
Route Distinguisher: 2.2.2.2:3
BGP routing table entry for 2.2.2.2:3:[3]:[0]:[32]:[2.2.2.2]
Paths: (1 available, best<span id="md-transform-replacement-37"></span>)
  Advertised to non peer-group peers:
  30.1.1.2
  Route [3]:[0]:[32]:[2.2.2.2] VNI 100020
  Local
    2.2.2.2 from 0.0.0.0 (2.2.2.2)
```

```
      Origin IGP, weight 32768, valid, sourced, local, best (First path
received)
      Extended Community: ET:8 RT:65100:100020
      Last update: Fri Nov 17 12:08:30 2023
      PMSI Tunnel Type: Ingress Replication, label: 100020
Route Distinguisher: 3.3.3.3:2
BGP routing table entry for 3.3.3.3:2:[3]:[0]:[32]:[3.3.3.3]
Paths: (1 available, best<span id="md-transform-replacement-38"></span>)
  Not advertised to any peer
  Local
    3.3.3.3 from 30.1.1.2 (3.3.3.3)
      Origin IGP, localpref 100, valid, internal, best (First path
received)
      Extended Community: RT:65100:100010 ET:8
      Last update: Thu Nov 16 15:04:15 2023
      PMSI Tunnel Type: Ingress Replication, label: 100010

Displayed 5 prefixes (5 paths)

sonic#
```

Show bgp l2vpn evpn route vni

Displays the BGP EVPN VNI specific route information with filters such as vtep-ip, mac, mac and ip, source router ip, route type, etc.

Syntax	`show bgp l2vpn evpn route [vni <vnid> [mac <mac-address> [ip <ip-address>]]|[multicast <src-router-ip>]|[type <route-type>]|[vtep <vtep-ip>][json]]|[vni all [vtep <vtep-ip>][json]]`
Command mode	EXEC
Parameters	• `vnid` – VNI number. Range: 1 – 16777215. • `mac-address` – MAC address to be filtered in format xx:xx:xx:xx:xx. • `ip-address` – IP address learned as part of type-2

route in format A:B:C:D.

- `src-router-ip` – Originating Router IP address (A:B:C:D).
- `route-type` – Type of the route queried. It can any one of the values among 1 or EAD, 2 or macip, 3 or multicast.
- `vtep-ip` – Remote VTEP IP address (A:B:C:D).
- `json` – To get output in JavaScript Object Notation.

Usage	Use different filters to get more granular output available in both all vni and specific vni subcommands.
Supported Releases	1.1.0 or later
Click command	None

Example

```
1) sonic# show bgp l2vpn evpn route vni 100010
BGP table version is 309, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete
EVPN type-1 prefix: [1]:[ESI]:[EthTag]:[IPlen]:[VTEP-IP]
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]:[IPlen]:[IP]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-4 prefix: [4]:[ESI]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

   Network          Next Hop            Metric LocPrf Weight Path
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100010
*> [2]:[0]:[48]:[00:00:01:10:01:02]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100010
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                                32768 i
                    ET:8 RT:65100:100010
*>i[3]:[0]:[32]:[3.3.3.3]
                    3.3.3.3                          100      0 i
                    RT:65100:100010 ET:8
```

```
Displayed 4 prefixes (4 paths)
sonic#

2) sonic# show bgp l2vpn evpn route vni 100010 mac 00:00:01:10:01:01
BGP routing table entry for [2]:[0]:[48]:[00:00:01:10:01:01]
Paths: (1 available, best<span id="md-transform-replacement-39"></span>)
  Not advertised to any peer
  Route [2]:[0]:[48]:[00:00:01:10:01:01] VNI 100010
  Local
    2.2.2.2 from 0.0.0.0 (2.2.2.2)
      Origin IGP, weight 32768, valid, sourced, local, best (First path
received)
      Extended Community: ET:8 RT:65100:100010
      Last update: Fri Nov 17 15:26:15 2023

Displayed 1 paths for requested prefix
sonic#

3)sonic# show bgp l2vpn evpn route vni all

VNI: 100020

BGP table version is 1, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete
EVPN type-1 prefix: [1]:[ESI]:[EthTag]:[IPlen]:[VTEP-IP]
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]:[IPlen]:[IP]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-4 prefix: [4]:[ESI]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

   Network          Next Hop            Metric LocPrf Weight Path
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100020

Displayed 1 prefixes (1 paths)


VNI: 100010
```

```
BGP table version is 383, local router ID is 2.2.2.2
Status codes: s suppressed, d damped, h history, * valid, > best, i -
internal
Origin codes: i - IGP, e - EGP, ? - incomplete
EVPN type-1 prefix: [1]:[ESI]:[EthTag]:[IPlen]:[VTEP-IP]
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]:[IPlen]:[IP]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-4 prefix: [4]:[ESI]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

   Network          Next Hop            Metric LocPrf Weight Path
*> [2]:[0]:[48]:[00:00:01:10:01:01]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100010
*> [2]:[0]:[48]:[00:00:01:10:01:02]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100010
*> [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                              32768 i
                    ET:8 RT:65100:100010
*>i[3]:[0]:[32]:[3.3.3.3]
                    3.3.3.3                         100      0 i
                    RT:65100:100010 ET:8

Displayed 4 prefixes (4 paths)

sonic#
```

Show bgp l2vpn evpn statistics

Displays BGP RIB advertisement statistics.

Syntax	`show bgp l2vpn evpn [statistics [json]]`
Command mode	EXEC
Parameters	▪ `json` – To get output in JavaScript Object Notation.

Usage	Use `json` option to get output in json format.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn statistics
BGP L2VPN EVPN RIB statistics (VRF default)
Total Advertisements          :             5
Total Prefixes                :             5
Average prefix length         :        320.00
Unaggregateable prefixes      :             5
Maximum aggregateable prefixes:             0
BGP Aggregate advertisements  :             0
Address space advertised      :             5
                  % announced :          0.00
                /8 equivalent :          0.00
               /24 equivalent :          0.02

Advertisements with paths     :             5
Longest AS-Path (hops)        :             0
Average AS-Path length (hops) :          0.00
Largest AS-Path (bytes)       :             0
Average AS-Path size (bytes)  :          0.00
Highest public ASN            :             0

sonic#
```

Show bgp l2vpn evpn summary

Displays the summary of BGP neighbor status.

Syntax	`show bgp l2vpn evpn [summary [json]]`
Command mode	EXEC
Parameters	▪ `json` – To get output in JavaScript Object Notation.

Usage	Use `json` option to get output in json format.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn summary
BGP router identifier 2.2.2.2, local AS number 65100 vrf-id 0
BGP table version 0
RIB entries 5, using 960 bytes of memory
Peers 1, using 21 KiB of memory

Neighbor        V         AS   MsgRcvd   MsgSent   TblVer  InQ OutQ  Up/
Down State/PfxRcd   PfxSnt
30.1.1.2        4      65100      1487      1656        0    0    0
1d00h37m            1        4

Total number of neighbors 1

sonic#
```

Show bgp l2vpn evpn update-groups

Displays detailed information about dynamic update groups.

Syntax	`show bgp l2vpn evpn [update-groups]`
Command mode	EXEC
Parameters	None
Usage	Use this command to get information specific to dynamic groups.
Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn update-groups
Update-group 3:
  Created: Thu Nov 16 15:01:31 2023
  MRAI value (seconds): 0

  Update-subgroup 3:
    Created: Thu Nov 16 15:01:31 2023
    Join events: 1
    Prune events: 0
    Merge events: 0
    Split events: 0
    Update group switch events: 0
    Peer refreshes combined: 0
    Merge checks triggered: 0
    Coalesce Time: 1100
    Version: 430
    Packet queue length: 0
    Total packets enqueued: 169
    Packet queue high watermark: 1
    Adj-out list count: 4
    Advertise list: empty
    Flags:
    Peers:
      - 30.1.1.2
sonic#
```

Show bgp l2vpn evpn vni

Displays VNI specific information.

Syntax	`show bgp l2vpn evpn [vni <vnid>[json]]`
Command mode	EXEC
Parameters	▪ `vnid` – VNI number. Range: 1 – 16777215. ▪ `json` – To get output in JavaScript Object Notation.
Usage	Use `json` option to get output in json format.

Supported Releases	1.1.0 or later
Click command	None

Example

```
sonic# show bgp l2vpn evpn vni 100010
VNI: 100010 (known to the kernel)
  Type: L2
  Tenant-Vrf: default
  RD: 2.2.2.2:2
  Originator IP: 2.2.2.2
  Mcast group: 0.0.0.0
  Advertise-gw-macip : Disabled
  Advertise-svi-macip : Disabled
  Import Route Target:
    65100:100010
  Export Route Target:
    65100:100010

sonic#
sonic# show bgp l2vpn evpn vni 100020
VNI: 100020 (known to the kernel)
  Type: L2
  Tenant-Vrf: default
  RD: 2.2.2.2:3
  Originator IP: 2.2.2.2
  Mcast group: 0.0.0.0
  Advertise-gw-macip : Disabled
  Advertise-svi-macip : Disabled
  Import Route Target:
    65100:100020
  Export Route Target:
    65100:100020

sonic#
```

Contact Information

Celestica operates a customer service portal.

- Self-support resources (knowledge base, FAQ, common fixes, new firmware) are available.
- Our support teams are connected to the support portal and can receive notifications for requests.
- The portal also tracks and collects customer inputs for further improvements to our products and services.

Customers can register and request support (as well as search information in the knowledge base) at:https://customersupport.celestica.com/csm
In case there are any questions or issues using the customer portal visit: https://www.celestica.com/contact-us. For immediate questions, please feel free to call your responsible account manager.